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CAIIB

PAPER 2

Bank Financial Management

01 International Banking

02 Risk Management

03 Treasury Management

04 Balance Sheet Management

Illustrated study guide

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About this edition

This general-purpose CAIIB Paper 2 guide organises the subject in four modules. Each chapter closes with practice explanations and a one-page recall table.

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A01 Exchange Rates and Forex Business

Practice / Quick Revision

What you will learn

Foreign exchange business connects payments and receipts in different currencies. An Indian importer may owe US dollars while earning rupees; an exporter may receive euros but pay wages in rupees. The exchange rate translates one currency amount into another, while the transaction's timing, purpose and contractual terms determine the banking service required. A correct calculation therefore begins with the customer's actual need. Ask which currency is being delivered, which is required, when settlement occurs and whose buying or selling perspective the quotation represents.

By the end of this chapter, you should be able to read a two-way quotation, select the appropriate side, invert it correctly, construct simple cross rates and convert signed forward points into outright rates. You should also explain why rates change, how dealing-room controls support settlement and how basic derivatives alter exposure. All numerical rates in this lesson are invented teaching inputs, not live quotations. Calculators show their working and conventions. Their output is arithmetic, not confirmation that a transaction is legally permitted, appropriately priced or suitable for a particular customer. These distinctions prevent an apparently accurate number from becoming an incorrect banking decision.



One USD is the base unit. INR83.20 is its quoted rupee price. USD2,000 × INR83.20/USD = INR166,400; the dollar unit cancels.

Currency pairs and quotation language

Write a pair as BASE/QUOTE. The first currency is the base; the second is the quote or terms currency. USD/INR 83.20 means one US dollar costs 83.20 Indian rupees. Thus USD 2,000 corresponds to INR 166,400 at that single rate. Multiplication converts a base-currency amount into quote currency; division converts a quote-currency amount into base currency. Always write the units beside the rate. They provide a quick check: dollars multiplied by rupees per dollar must produce rupees, not more dollars.

A direct quotation, from an Indian domestic-currency perspective, expresses rupees per unit of foreign currency. An indirect quotation expresses foreign-currency units per rupee. These descriptions depend on the observer's domestic currency; base and quote labels are less ambiguous. A rate quoted per hundred units needs another adjustment. If JPY 100 costs INR 55.50, the rate per yen is INR 0.555, not INR 55.50. Before calculating, normalise the quotation or retain the hundred-unit factor explicitly. Many forex errors arise from direction and scale rather than difficult arithmetic. The demo tools deliberately display the currency units and do not infer them from a number alone.

Markets and exchange-rate mechanisms

The foreign exchange market links dealers, customers and other participants through trading and settlement arrangements. Customer transactions and interbank transactions serve different purposes. A bank may execute a customer's payment and then cover the resulting currency position in the market. The customer rate can differ from an interbank reference because of transaction size, timing, service costs, liquidity and the bank's pricing policy. A published reference or midpoint is not automatically an executable price for every customer or amount.

Exchange-rate arrangements range from tightly managed or fixed systems to more flexible market-determined systems, with intermediate arrangements. Under a floating mechanism, demand and supply affect the traded price; intervention and regulation can still influence market conditions. A fixed arrangement requires a policy mechanism to support the announced relationship and is not simply a promise that markets never change. Distinguish a market depreciation from an official devaluation of a fixed or administratively set parity. Similarly, appreciation and revaluation describe different mechanisms. For an examination case, identify the arrangement stated rather than assuming that every currency follows the same system or that a familiar historical description remains unchanged indefinitely.

Why exchange rates move

Currency demand and supply respond to trade payments, investment flows, borrowing, debt repayment and portfolio decisions. Interest-rate expectations, inflation, growth prospects, political uncertainty and market confidence can influence those flows. Relative conditions matter: a change in one country's interest rate has to be considered alongside the other currency, expected inflation and perceived risk. News can affect the current rate before a physical payment occurs because market participants revise their expectations. Liquidity conditions and positioning can amplify short-term movements.

Avoid explanations that treat one factor as a guaranteed forecast. Higher domestic interest rates may attract investment, but the same increase may reflect inflation or risk concerns. An importer's demand for foreign currency can contribute to pressure without determining the whole market. In USD/INR, a movement from 83 to 85 means more rupees are needed for one dollar: the rupee depreciates against the dollar. The percentage increase in the quoted dollar price is 2/83, approximately 2.41%. The percentage change in the reciprocal rate uses a different denominator and is not exactly minus 2.41%. State the currency, quotation direction and starting value whenever describing a percentage movement.

Bid and ask: use the bank's perspective

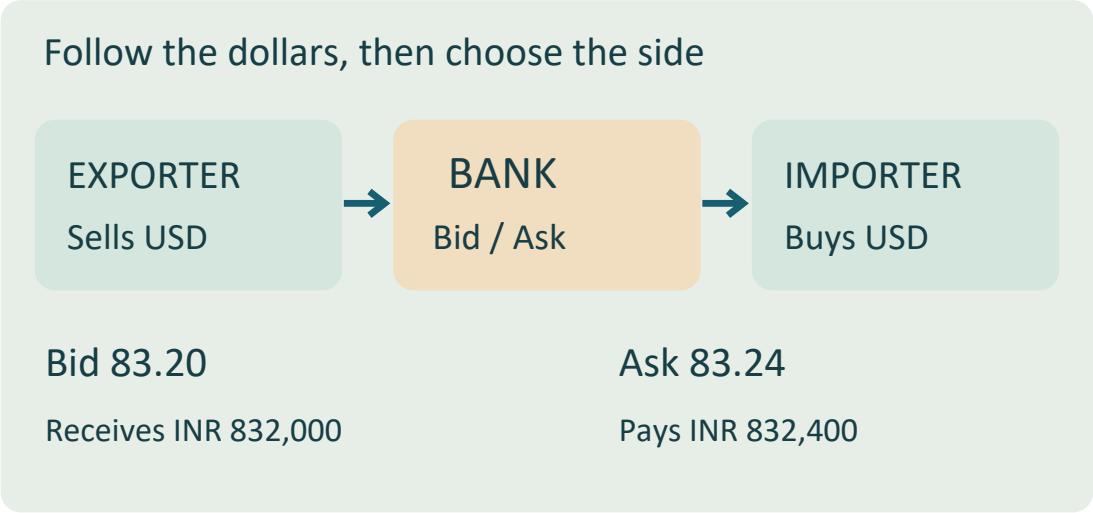
A dealer's two-way USD/INR quote of 83.20/83.24 means the dealer buys the base currency, USD, at 83.20 and sells it at 83.24. The difference, INR 0.04 per dollar, is the spread. A customer receiving dollars from an export and selling them to the dealer uses the bid. An importer buying dollars from the dealer uses the ask. The word buying can otherwise be confusing: customer buying and bank buying describe opposite sides of the same transaction.

Suppose an exporter sells USD 10,000. At the quoted bid, the gross rupee receipt is 10,000 × 83.20 = INR 832,000. An importer buying the same dollars pays 10,000 × 83.24 = INR 832,400 before separately stated charges. If an illustrative INR 500 fee is deducted from the export receipt, net proceeds become INR 831,500. A fee added to the import payment instead increases the rupee cost. The conversion tool makes that distinction explicit. It does not assume a standard bank fee or tax. A midpoint can be useful analytically, but applying it to a customer conversion without authority understates the importance of the executable side and pricing terms.

Inverting a two-way quotation

To invert a quote, take reciprocals and reverse the sides. If A/B is bid b and ask a, then B/A is bid 1/a and ask 1/b. The smaller reciprocal belongs on the bid side. Inverting each number without switching positions produces a bid above the ask and misstates the dealer's economics. For USD/INR 83.20/83.24, INR/USD is approximately 0.0120134551/0.0120192308 USD per INR. The additional decimal places reflect the smaller unit value, not greater commercial certainty.

Understand the transaction behind the rule. A customer selling rupees to obtain dollars is buying dollars at the original dollar ask. Therefore the dollar amount available for one rupee is the reciprocal of that ask. This becomes the dealer's bid when rupees are the new base currency. Keep full precision during intermediate calculations and round the final displayed amount according to the stated convention. Repeatedly rounding intermediate rates can change a large conversion materially. The inversion laboratory displays ten decimal places and retains greater internal precision. Its test cases also invert twice to check that the original quotation is recovered within numerical tolerance.

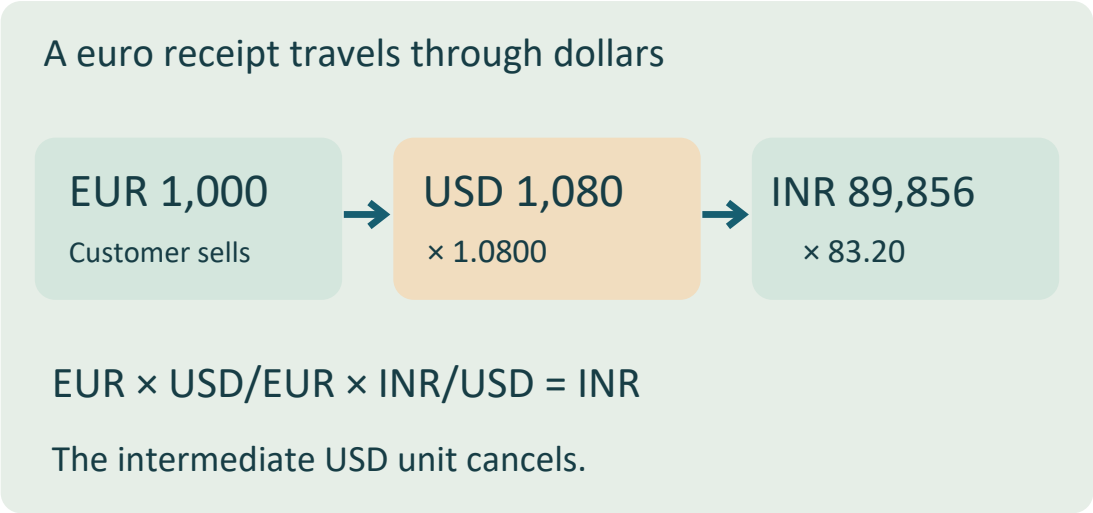


Exporter sells USD10,000 to the bank at bid83.20 and receives INR832,000. Bank sells USD10,000 to importer at ask83.24 and receives INR832,400. Amounts exclude fees.

Cross rates through a common currency

A cross rate derives the relationship between two currencies using quotations involving a third currency. First align the units. With EUR/USD 1.0800/1.0810 and USD/INR 83.20/83.24, multiplying the two quotations produces EUR/INR. For this aligned chain, bid equals bid times bid and ask equals ask times ask. The result is 89.8560/89.98244 INR per EUR. The implied sides represent the respective sell and buy paths through dollars; they are not obtained by multiplying arbitrary midpoints.

A different arrangement requires division. Given USD/INR and USD/JPY, the implied INR per JPY is JPY/INR. Bid equals the USD/INR bid divided by the USD/JPY ask; ask equals the USD/INR ask divided by the USD/JPY bid. With USD/JPY 150.00/150.10, the results are approximately 0.5542971352/0.5549333333 INR per JPY. This crossing of sides follows the conversion path and preserves the spread. The laboratory offers these two explicitly labelled arrangements. It does not claim to solve every currency graph automatically. When the supplied quotes have another orientation, invert the necessary pair first and confirm that the intermediate currency cancels.



Illustrative exporter path: EUR1,000 × EUR/USD bid1.0800 = USD1,080; then × USD/INR bid83.20 = INR89,856. Both legs use dealer bids for this aligned selling path.

Value dates and settlement exposure

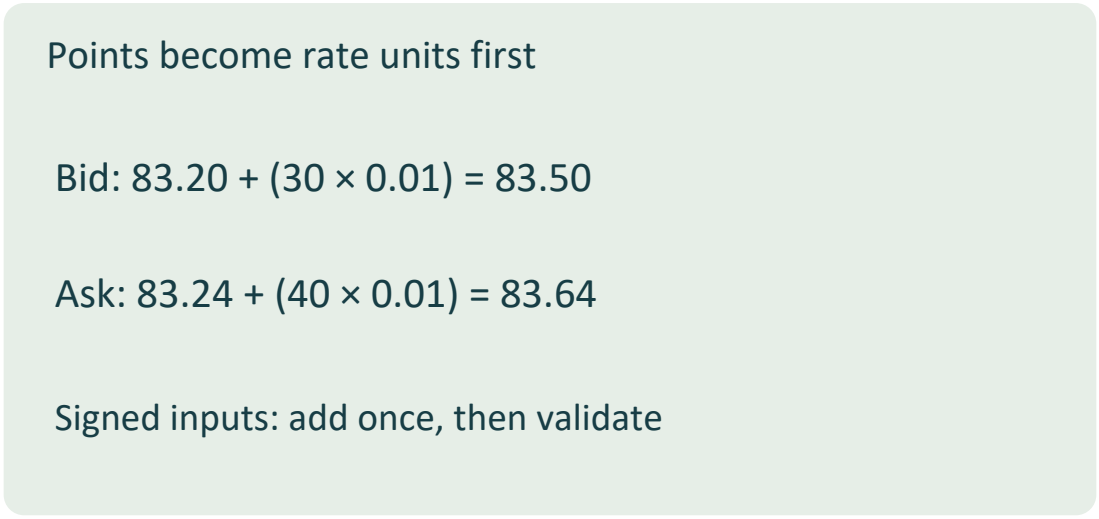
The trade date records when the parties agree; the value date records the agreed settlement date. Cash, tomorrow and spot transactions refer to different settlement conventions. Spot is commonly associated with two business days for many currency pairs, but conventions and currency holidays matter, so it is unsafe to treat every spot transaction as two calendar days. A holiday in a relevant settlement centre can change the valid date. The chapter tools use a supplied tenor for arithmetic and do not act as a live holiday-calendar engine.

Settlement creates risks beyond exchange-rate movement. A bank can face the possibility of paying one currency without receiving the other as expected. Confirmation, validated settlement instructions, reconciliation and appropriate settlement arrangements help manage this exposure. Changing beneficiary or settlement details requires controlled verification, not casual acceptance of an urgent message. A deal that shows a trading profit can still fail operationally if it is booked incorrectly or settled to the wrong account. Distinguish market risk, counterparty risk, settlement risk and operational risk in a case answer. They can interact, but a successful price hedge does not automatically remove all of them.

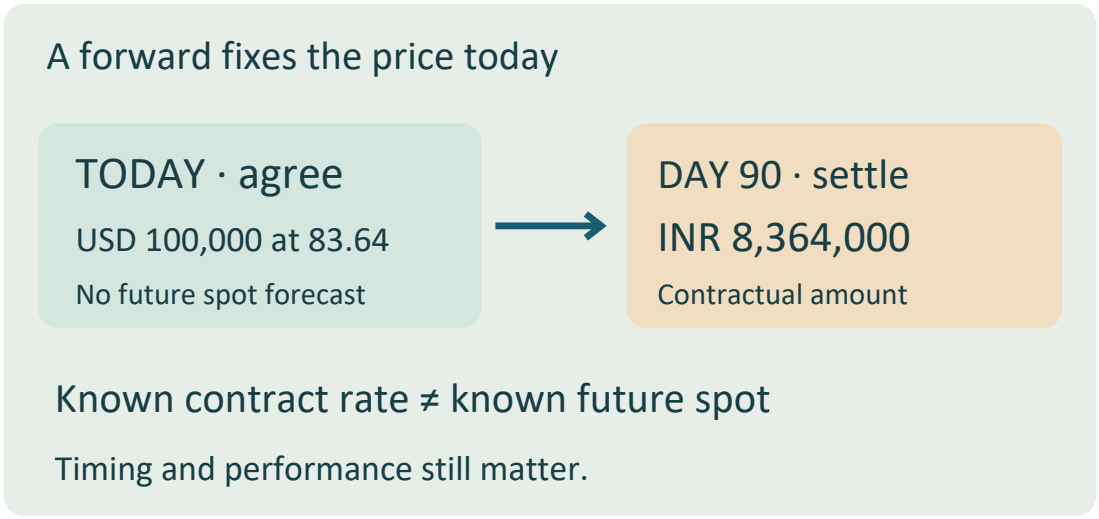
Forward quotations and signed points

A forward contract agrees today the exchange rate for a specified future transaction. An outright forward rate can be expressed as a spot rate plus forward points, after converting the points into rate units. The point size must be stated. In this lesson, the default example uses one point equal to INR 0.01 per USD. Spot 83.20/83.24 plus signed points +30/+40 therefore gives forward 83.50/83.64. The bank would sell dollars at the forward ask under these assumptions.

Negative signed points are subtracted through ordinary addition: using −40/−30 at the same point size gives 82.80/82.94. Do not apply a second subtraction after entering negative values. Traditional shorthand quotations may use conventions that require interpretation before assigning signs; the tool avoids guessing by requiring signed inputs. It rejects nonpositive or crossed resulting rates. A forward premium for the base currency means its forward quoted price exceeds spot; a discount means the opposite, with the pair orientation held fixed. The forward is an agreed exchange price, not a guaranteed prediction of where the future spot market will trade. Contract performance, amendment and cancellation have separate implications.



Each signed point is worth INR0.01/USD in this example. Bid83.20 +30×0.01 =83.50; ask83.24 +40×0.01 =83.64. This point size is an explicit teaching convention.



Today: agree USD100,000 at INR83.64/USD for day90. On the agreed settlement date, exchange USD100,000 for INR8,364,000 under the contract. The future spot price remains unknown today.

Interest differentials and annualised premium

An interest differential helps explain forward pricing through the cost of borrowing one currency and investing another. In a simplified covered-interest illustration with a quote-currency interest rate rq, base-currency rate rb and common year fraction t, forward equals spot × (1 + rq × t)/(1 + rb × t). This model assumes compatible borrowing and investment terms and omits spreads, costs, credit constraints and market frictions. It explains a pricing relationship under assumptions; it is not a universal executable customer quote.

For a simple premium measure, calculate (forward/spot − 1) × annualisation factor × 100. The factor may be 365/days or another explicitly stated basis. Using midpoint spot 83.22, midpoint forward 83.57 and ninety days with a 365-day basis gives approximately 1.7057% per year. That is a simple annualised quotation difference, not an investment return or an assured profit. Changing the tenor or convention changes the result. The forward laboratory labels its day-count basis and computes this descriptive measure separately from the bid and ask. Never mix a 360-day assumption for one component with a 365-day assumption for another without a justified convention and clear explanation.

Derivative products and their differences

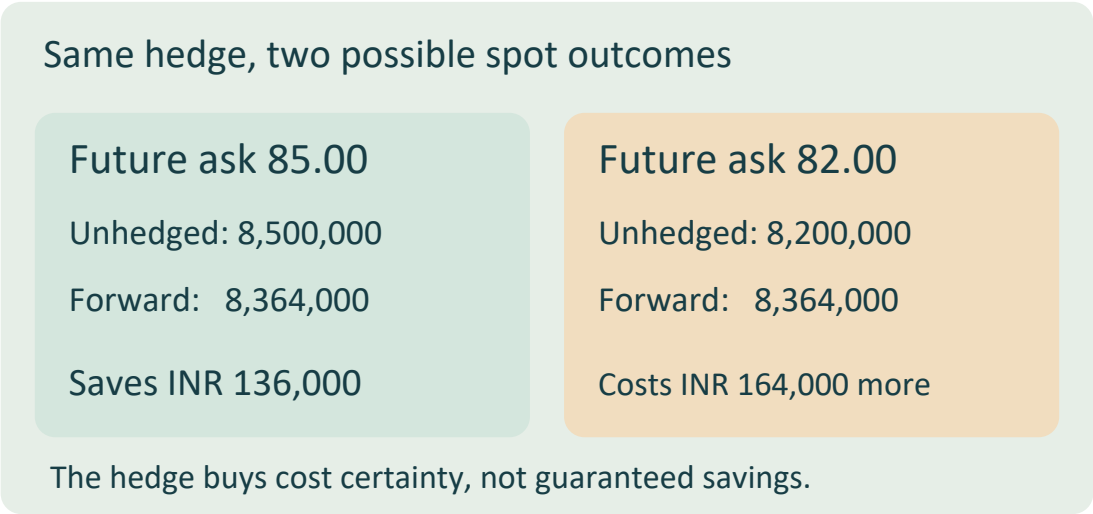
A forward creates an agreed future exchange obligation under its contract. A futures contract has standardised exchange-traded features and typically involves margin and daily settlement arrangements. An option gives its buyer a right, subject to its terms, rather than the same bilateral obligation as a forward; the buyer pays a premium. A currency option can therefore preserve a favourable opportunity while protecting against an adverse move, but that flexibility has a cost. Comparing only exercise rates while ignoring the premium gives an incomplete economic comparison.

An FX swap combines exchanges of the same currencies on two value dates, usually a near and a far leg. It is distinct from treating two unrelated spot trades as a permanent hedge. A cross-currency interest-rate swap involves a different contractual cash-flow structure and should not be confused with the simple near/far FX swap. Product names alone do not establish suitability or regulatory eligibility. The bank must understand exposure, amount, timing, contractual terms, credit implications and applicable permissions. This chapter introduces the mechanisms; later treasury chapters will develop detailed valuation and payoff analysis. In every case, distinguish reducing an existing exposure from creating a new speculative position.

Importer hedge case

An illustrative importer must pay USD 100,000 in ninety days and agrees to buy dollars forward at INR 83.64. The contracted rupee amount is INR 8,364,000 before any additional charges. If the comparable future spot ask is 85.00, an unhedged purchase would cost INR 8,500,000, making the forward cheaper by INR 136,000. If that future ask is 82.00, an unhedged purchase would cost INR 8,200,000, so the forward costs INR 164,000 more than that hindsight alternative.

The second outcome does not automatically mean the hedge failed. The importer exchanged uncertain rupee cost for a specified contractual cost, subject to performance and the stated assumptions. A hedge should be assessed against its risk-management objective, not only the most favourable later price. The laboratory reports future unhedged cost minus forward cost, making a positive value an advantage for the forward purchase. It excludes discounting, fees, collateral, counterparty failure and changes to the underlying payable. If the payable is cancelled or delayed, the original forward may require an authorised amendment or cancellation process. A contract should not be treated as disappearing simply because the underlying business changed.

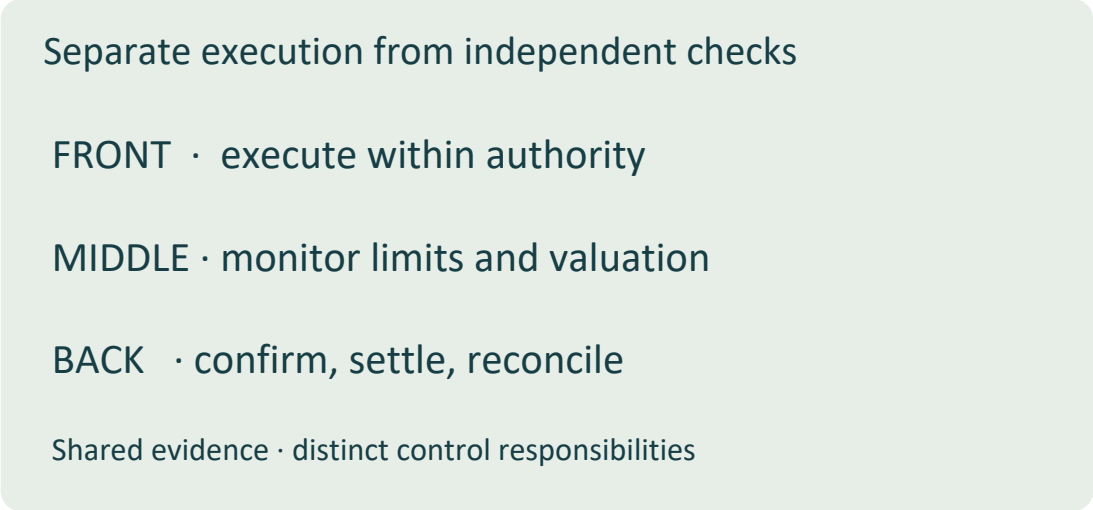


For USD100,000, forward cost remains INR8,364,000. If future spot ask is85, unhedged cost is INR8,500,000: forward saves INR136,000. If future ask is82, unhedged cost is INR8,200,000: forward costs INR164,000 more.

Dealing-room organisation and controls

The front office executes authorised transactions and manages positions within approved limits. The middle-office function provides independent risk measurement and monitoring, while the back office supports confirmation, settlement, accounting and reconciliation. Institutional arrangements differ, but separation and independent checking reduce opportunities for errors to remain concealed. A dealer should not be able to execute a transaction, alter its confirmation and reconcile the resulting account without effective independent control. Access rights and audit trails must support the intended division of responsibility.

A practical workflow starts with the customer's authorised instruction, establishes eligibility and pricing, records the deal and confirms the agreed terms. Settlement then follows verified instructions, with reconciliations and exception follow-up. Important controls include position and counterparty limits, valuation checks, timely confirmations and escalation of unmatched items. A missing confirmation is not harmless because the dealer remembers the deal. Likewise, a favourable position report is unreliable if transactions are omitted or booked with the wrong currency direction. In a branch case, check amount, pair, buy/sell side, rate, value date and settlement instructions before assuming that an arithmetic match means the entire transaction is correct.



Front office executes authorised deals; middle office monitors risk; back office confirms, settles and reconciles. Connected information does not require concentrated authority.

RBI, FEDAI and source-date discipline

RBI's framework governs authorised foreign exchange activity under the relevant legal provisions. FEDAI supplies member-bank market-practice rules and guidance; it should not be described as replacing RBI or FEMA. The retrieved FEDAI rules are the tenth edition updated through 5 April 2024. They support discussion of customer rates, charges and operational practices, but this chapter does not invent a universal spread, fee or cancellation deadline. Detailed live processing requires the applicable current directions, later amendments and the bank's authorised procedures.

Source dates matter. The accessible RBI master-direction page displayed a September 2025 consolidation, while the separately verified circular dated 20 April 2026 explicitly withdrew instructions issued on 1 April 2026 and addressed related-party INR derivatives with stated exceptions. This illustrates why one isolated circular cannot safely be treated as the final rule. This demo does not claim exhaustive verification of all subsequent amendments or provide a live eligibility engine. Its reference register records what was actually retrieved. Examination preparation also uses IIBF's relevant cutoff, which can differ from current operational practice. Keep mathematical examples, dated regulatory observations and bank-specific implementation requirements clearly distinguishable.

Revision method and examination traps

Use a consistent sequence for every calculation: write the pair and units, identify the customer's action, select the dealer's side, align currency paths, apply the stated tenor or point convention, then round the final answer. Check whether the result is economically plausible. An importer should not receive the dealer's lower dollar-buying rate merely because the question says the customer is buying. An inverted quote should not have bid above ask. A cross-rate calculation should cancel the intermediate currency, and a negative forward-point input should not be subtracted twice.

For conceptual questions, distinguish a hedge from a forecast, an option right from a forward obligation and trading profit from successful settlement. For numerical questions, state omitted fees and the rounding basis rather than silently assuming them. Use the five laboratories to change one input at a time and explain the change before looking at the result. Then attempt the twenty-five original MCQs and the additional numeric-entry checks. Review the reasoning for incorrect alternatives, not just the correct letter. The aim is a repeatable decision method that remains useful when the quotation direction, customer role or transaction timing changes.

Worked forex desk cases

Use the historical quotes as exercise inputs. Each margin, premium and rounding rule belongs to its stated case.

Situation	Decision and calculation
1. Importer buys USD forward	USD 100,000 due 15 September 2016. Use the 68.29 ask. Add ₹0.34 and ₹0.07 of ask-side forward premium, then 0.20% of 68.29. The unrounded rate is 68.83658 and the two-decimal quote is ₹68.84 per USD. Settlement at that rate is ₹68,84,000.
2. Correspondent funds a rupee account	For a ₹30 million payment against USD, the local bank buys USD. Use the 68.2550 bid from 68.2550/68.2650. Divide ₹30,000,000 by 68.2550 to get USD 439,528.24. The example excludes the exchange margin.
3. Spot JPY payment via USD	For JPY 100 million, use the USD/INR ask of 68.2600 and USD/JPY bid of 116.50. Then (68.2600 ÷ 116.50) × 100 × 1.0015 gives ₹58.6802 per JPY 100, approximately. At ₹58.68 per JPY 100, debit ₹5,86,80,000.
4. Compare forward sale and purchase	With spot 68.9100/68.9200, the three-month USD sale uses 68.9200 + 0.2850 + 0.002 × 68.9200 = 69.34284. For the second-month purchase window, the example credits the one-month bid premium: 68.9100 + 0.0750 − 0.0015 × 68.9100 = 68.881635. Rounded to ₹0.0025, the quotes are 69.3425 and 68.8825.
5. Cancel and rebook a forward	The bank reverses its purchase of USD 500,000 at 69.2500 using the spot selling side. The 67.5775 ask plus 0.15% rounds to 67.6800. At these rates the customer receives ₹7,85,000. On rebooking, the 67.5675 bid less 0.15% gives about 67.4650 for the window starting at spot. Adding the 0.0900 bid premium gives about 67.5550 for a fixed delivery one month forward. Rates are rounded to ₹0.0025.

Practice with explanations

01. USD/INR 83.20 expresses which relationship?

A. USD 83.20 for INR 1	B. INR 83.20 for USD 100
C. A guaranteed future rate	D. INR 83.20 for USD 1

Answer D. USD is the base currency and INR the quote currency; the rate is rupees per dollar.

02. An Indian observer describes INR per USD as which quotation?

A. Indirect	B. An option premium
C. Direct	D. A cross rate necessarily

Answer C. Domestic-currency units per foreign-currency unit form a direct quotation for that observer.

03. JPY 100 is quoted at INR 55.50. At this single rate, JPY 20,000 converts to what?

A. INR 111	B. JPY 11,100
C. INR 1,110,000	D. INR 11,100

Answer D. There are 200 blocks of 100 yen; 200 × 55.50 equals 11,100 rupees.

04. A dealer quotes USD/INR 83.20/83.24. An exporter sells USD 10,000. Gross receipt is what?

A. INR 832,400	B. INR 83,200
C. INR 832,200	D. INR 832,000

Answer D. The dealer buys dollars at the bid: 10,000 × 83.20.

05. An importer buys USD 10,000 at 83.20/83.24 and pays a separate INR 500 fee. Total cost is what?

A. INR 832,500	B. INR 832,900
C. INR 832,400	D. INR 831,900

Answer B. Use the dealer's ask: 832,400, then add the stated 500 fee.

06. What is the absolute spread in 83.20/83.24?

A. INR 83.22 per USD	B. USD 0.04 per INR
C. INR 0.04 per USD	D. 4% automatically

Answer C. Ask minus bid equals 0.04 rupee for each dollar.

07. Why must buying be qualified by customer or bank perspective?

A. The words do not affect the rate	B. Both parties always buy the same currency
C. The customer always gets the bid	D. The same trade is a purchase for one party and sale for the other

Answer D. A customer buying dollars means the quoting dealer sells dollars at its ask.

08. What is the correct inversion of a two-way A/B quote b/a?

A. B/A bid a and ask b	B. B/A bid 1/b and ask 1/a
C. B/A bid 1/a and ask 1/b	D. B/A uses the same numbers

Answer C. Reciprocation reverses numerical order, so the sides must switch.

09. USD/INR is 80/81. The inverted bid is what?

A. 81 USD per INR	B. 1/81 USD per INR
C. 80 INR per USD	D. 1/80 USD per INR

Answer B. The new bid uses the reciprocal of the original ask.

10. EUR/USD is 1.0800/1.0810 and USD/INR is 83.20/83.24. EUR/INR bid is what?

A. 89.98244	B. 77.0370 approximately
C. 1.0800	D. 89.8560

Answer D. Aligned currencies cancel through multiplication: 1.0800 × 83.20.

11. Using those same aligned quotes, EUR/INR ask is what?

A. 89.90 exactly	B. 89.98244
C. 89.8560	D. 83.24

Answer B. Multiply 1.0810 by 83.24 to follow the customer purchase path through dollars.

12. Given USD/INR b1/a1 and USD/JPY b2/a2, JPY/INR bid is which expression?

A. a1/b2	B. b1/a2
C. b1 × b2	D. b1/b2

Answer B. Selling yen through dollars uses the denominator ask, while the dollar-to-rupee leg uses the numerator bid.

13. USD/INR moves from 83 to 85. Which statement is correct?

A. This is necessarily an official devaluation	B. Both currencies appreciate against each other
C. The rupee depreciates against the dollar	D. The rupee appreciates

Answer C. More rupees are needed per dollar; the dollar's quoted rupee price rises.

14. Why is a higher domestic interest rate not a guaranteed currency forecast?

A. Other expectations, risks and flows also influence the market	B. Interest rates can never matter
C. Trade flows disappear when rates change	D. A forward rate fixes all future spot trades

Answer A. The interest change can interact with inflation, confidence and relative conditions.

15. Which value-date statement is most reliable?

A. Every spot trade settles two calendar days later	B. Trade date and value date are always identical
C. The rate alone determines the settlement date	D. Spot conventions and relevant business-day calendars must be checked

Answer D. A common two-business-day convention is not a universal two-calendar-day rule.

16. Spot 83.20/83.24 has signed forward points +30/+40, each worth 0.01. Forward outright is what?

A. 83.2030/83.2440	B. 82.90/82.84
C. 83.50/83.64	D. 113.20/123.24

Answer C. Add 0.30 to bid and 0.40 to ask after converting points into rate units.

17. With the same spot and point size, signed points –40/–30 give what?

A. 82.80/82.94	B. 43.20/53.24
C. 83.60/83.54	D. 83.20/83.24

Answer A. Add the negative adjustments: 83.20 − 0.40 and 83.24 − 0.30.

18. Which formula measures a simple annualised forward premium on a 365-day basis?

A. (F − S) × days	B. ((F/S) − 1) × (365/days) × 100
C. F/S × 100	D. ((S/F) − 1) × 100 always

Answer B. The price difference is relative to spot and annualised using the stated tenor convention.

19. What does a forward rate represent?

A. An agreed future exchange price under the contract	B. A certain prediction of future spot
C. An option with no obligation by definition	D. A universal rate for all customers

Answer A. Its purpose and pricing differ from a guaranteed forecast of future spot.

20. An importer fixes USD 100,000 at INR 83.64. The contractual rupee amount is what?

A. INR 836,400	B. INR 8,364,000
C. INR 8,500,000	D. USD 8,364,000

Answer B. Multiply the dollar amount by the agreed rupees-per-dollar rate, before omitted charges.

21. For that importer, future spot ask is 85.00. Forward cost advantage before charges is what?

A. INR 164,000	B. INR −136,000
C. INR 1.36	D. INR 136,000

Answer D. Unhedged 8,500,000 less forward 8,364,000 equals 136,000.

22. Future spot ask instead becomes 82.00. Which interpretation is best?

A. The hedge proves misconduct	B. The forward automatically disappears
C. The importer receives free option rights	D. The forward costs INR 164,000 more than hindsight spot but may meet the certainty objective

Answer D. Risk reduction is evaluated against the hedge's purpose, not only the most favourable later price.

23. Which feature distinguishes an option buyer from a forward counterparty?

A. An identical mandatory exchange in every case	B. No cost can ever arise
C. Guaranteed trading profit	D. A contractual right with a premium cost

Answer D. The option's flexibility must be assessed together with its premium and terms.

24. Why separate execution, risk monitoring and settlement responsibilities?

A. Because reconciliation is unnecessary	B. To ensure a dealer controls every record alone
C. To eliminate all counterparty risk automatically	D. Independent controls reduce errors and concealment opportunities

Answer D. Front, middle and back-office functions provide complementary checks.

25. A retrieved April 20 circular withdraws April 1 instructions. What is the correct study approach?

A. Read the sequence, scope and effective dates together	B. Assume FEDAI replaces FEMA
C. Ignore RBI and use only a calculator	D. Treat both instructions as unchanged indefinitely

Answer A. An earlier circular alone cannot establish the later position; record source limitations and exam cutoff.

A01 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 Foreign exchange business connects payments and receipts in different currencies.	**15** Settlement creates risks beyond exchange-rate movement.
02 Write a pair as BASE/QUOTE.	**16** A forward contract agrees today the exchange rate for a specified future transaction.
03 A direct quotation, from an Indian domestic-currency perspective, expresses rupees per unit of foreign currency.	**17** Negative signed points are subtracted through ordinary addition: using −40/−30 at the same point size gives 82.80/82.94.
04 The foreign exchange market links dealers, customers and other participants through trading and settlement arrangements.	**18** An interest differential helps explain forward pricing through the cost of borrowing one currency and investing another.
05 Exchange-rate arrangements range from tightly managed or fixed systems to more flexible market-determined systems, with intermediate arrangements.	**19** For a simple premium measure, calculate (forward/spot − 1) × annualisation factor × 100.
06 Currency demand and supply respond to trade payments, investment flows, borrowing, debt repayment and portfolio decisions.	**20** A forward creates an agreed future exchange obligation under its contract.
07 Avoid explanations that treat one factor as a guaranteed forecast.	**21** An FX swap combines exchanges of the same currencies on two value dates, usually a near and a far leg.
08 A dealer's two-way USD/INR quote of 83.20/83.24 means the dealer buys the base currency, USD, at 83.20 and sells it at 83.24.	**22** An illustrative importer must pay USD 100,000 in ninety days and agrees to buy dollars forward at INR 83.64.
09 Suppose an exporter sells USD 10,000.	**23** The second outcome does not automatically mean the hedge failed.
10 To invert a quote, take reciprocals and reverse the sides.	**24** The front office executes authorised transactions and manages positions within approved limits.
11 Understand the transaction behind the rule.	**25** A practical workflow starts with the customer's authorised instruction, establishes eligibility and pricing, records the deal and confirms the agreed terms.
12 A cross rate derives the relationship between two currencies using quotations involving a third currency.	**26** RBI's framework governs authorised foreign exchange activity under the relevant legal provisions.
13 A different arrangement requires division.	**27** Source dates matter.
14 The trade date records when the parties agree; the value date records the agreed settlement date.	**28** For conceptual questions, distinguish a hedge from a forecast, an option right from a forward obligation and trading profit from successful settlement.

A02 Resident Remittances and LRS

Practice / Quick Revision

Start with the transaction, not the limit

A resident customer asks a branch to send money abroad. The amount is only one part of the decision. The officer must establish who is remitting, why the payment is required, where the money is going, how it is funded and which permission governs it. A payment below a numerical ceiling can still be impermissible. Conversely, a transaction exceeding an ordinary ceiling may have a specific permitted route. This chapter develops the reasoning needed to distinguish those situations without turning a calculator into an approval authority.

By the end, you should distinguish current and capital account transactions, identify the purpose and limits of LRS, calculate remaining headroom, explain tax collection separately from exchange permission, and assemble a defensible remittance record. Keep three currencies or units separate: the scheme's dollar limit, the foreign currency actually purchased and the rupee amount used for tax calculations. Mixing these units is a frequent source of errors in both examination questions and customer quotations.

Consider Meera, who has paid for an overseas course and now wants to buy foreign securities. The two payments have different economic purposes but may draw upon the same annual individual limit. Calling the second payment an investment does not automatically provide a fresh annual allowance. The useful starting document is a dated transaction history covering all relevant authorised dealers, rather than a statement from only the branch receiving today's request.

FEMA residence and the legal framework

FEMA residence is not simply nationality, passport colour or income-tax residence. The statutory test includes presence and purpose-related exclusions. A person leaving India for employment can therefore require a different account and transaction treatment from a tourist with an otherwise similar travel history. Obtain the facts before choosing a remittance product. When information changes, refresh the assessment rather than continuing to rely on an old customer classification.

FEMA provides the legal framework for foreign exchange transactions. Section 3 concerns dealings and transfers through permitted channels; section 5 addresses current account transactions; section 6 concerns capital account transactions. Authorised persons operate under permissions and directions, including requirements under sections 10 and 11. These provisions should be understood as connected controls. A bank's authority to sell foreign exchange does not mean every customer purpose is unrestricted.

Suppose an Indian citizen has lived and worked overseas and wants to transfer Indian rent abroad. Do not apply LRS merely because the citizen has an Indian passport. Establish residence and examine the appropriate non-resident account and remittance route. Equally, a resident company cannot use its director's personal LRS allowance as a substitute for the company's applicable framework. The identity of the remitter determines which route is available before the amount is assessed.

Current account versus capital account

A current account payment ordinarily relates to consumption, services, trade, income or ongoing expenses rather than a change in cross-border assets or liabilities. Examples include tuition, medical treatment and travel expenditure. A capital account transaction changes the relevant assets or liabilities across the residence boundary, such as acquisition of an overseas investment. These are legal classifications with economic logic; the physical act of sending money looks similar in both cases.

Classify the underlying arrangement, not its label. A payment described as an education deposit may be refundable tuition, a rental security deposit or purchase of an investment linked to residence. Each needs its

own analysis. An invoice helps but does not settle every question. Read the contract, identify the beneficiary and establish whether the customer acquires an asset, settles an expense or creates a loan. A clear purpose code should follow the substance.

In an examination case, first write the economic effect in plain language. “The customer pays a university for teaching” is easier to classify than a bare remittance number. “The customer acquires shares in a foreign company” points towards a capital transaction. Then test the relevant permission, restrictions and documentation. Current account does not mean universally free of conditions, and capital account does not mean universally prohibited. Both shortcuts produce avoidable wrong answers.

What LRS permits and what it does not

The RBI LRS framework provides an aggregate annual facility of USD250,000 for resident individuals, including minors, for permissible current or capital account purposes or a combination. It is an individual financial-year ceiling, not a ceiling per bank, per destination or per transaction. The applicable year runs April to March. A minor's involvement requires the prescribed guardian arrangements; it does not remove the need to establish a genuine purpose and source of funds.

Typical purposes include permitted travel, education, medical treatment, gifts, maintenance of relatives and eligible overseas investments. Permission remains subject to the underlying rules. Prohibited purposes, disallowed counterparties, margin arrangements or transactions outside the relevant investment conditions cannot be made acceptable by keeping the amount small. A customer's willingness to pay extra tax also does not cure an exchange-control prohibition. Treat eligibility and amount as separate tests.

For family transactions, assess each person's entitlement, ownership and contribution. Four relatives do not create an unrestricted shared corporate wallet. If an asset is acquired jointly, establish that the structure and each person's participation comply with applicable requirements. Do not divide one person's remittance among other names merely to avoid controls. Genuine family aggregation and artificial splitting differ in substance, documentation and risk. A good case answer explains that distinction rather than mechanically multiplying a ceiling.

Measuring annual headroom correctly

Remaining ordinary headroom equals the applicable annual limit less eligible aggregate utilisation already made during the year. Suppose utilisation is USD72,000 for education, USD18,000 for travel and USD40,000 for investment. Total utilisation is USD130,000 and the remaining amount against USD250,000 is USD120,000. A proposed USD125,000 remittance exceeds that arithmetic headroom by USD5,000. The result flags a route or approval question; it does not itself decide whether another specific facility is available.

Where payments are made in euros or another currency, convert them using the relevant operational basis rather than adding unlike amounts. Today's market rate is not automatically the correct measure for a historical transaction. Keep the recorded dollar equivalent and date for every utilisation. The chapter's calculator accepts already established USD equivalents and does not invent a regulatory conversion convention. It also treats the supplied annual ceiling as an input, making the arithmetic explicit.

Do not assume that using another bank resets utilisation. The customer declaration, records and required reporting support an aggregate view. Refunds and reversals also need proper treatment under the applicable instructions; an expected refund is not cash already received, and a received refund is not automatically a fresh entitlement without checking the rule. Reconcile rather than estimate. For examination arithmetic, use the utilisation assumptions stated in the question and explain any missing fact that prevents a firm conclusion.

Special current account facilities

The current account rules contain purpose-specific provisions, including circumstances in which higher expenditure for education, medical treatment or emigration may be supported by the relevant institution's requirement. These are not a general permission to exceed LRS for any preferred expenditure. The branch must identify the exact provision and supporting evidence. A hospital estimate, university demand or destination requirement serves a different evidential function from the customer's own desired budget.

For example, assume an overseas university's documented tuition requirement exceeds the ordinary annual facility. The correct response is to examine the applicable education provision, the institution's demand and the authorised dealer's powers. It is not to reject solely because a spreadsheet shows negative headroom, nor to approve every associated investment as education. Separate tuition, living expenditure and unrelated purchases so that the chosen route is defensible. Preserve the documents supporting the exception.

Other resident remittances may arise under business, trade, donation or institutional arrangements outside personal LRS. Identify the remitter category and specific current account schedule before applying personal limits. A company paying a genuine overseas supplier has a trade transaction; its employees' personal limits are not the company's operating facility. This distinction becomes especially important when a customer combines business expenses, family travel and personal investment in a single request. Split the analysis by purpose, not merely by invoice page.

Operational workflow at the branch

A practical workflow begins with residence and identity, then purpose, beneficiary, funding, permissible route, aggregate utilisation, tax, execution and reporting. Each step answers a different question. KYC establishes the customer; purpose documents support the transaction; screening assesses relevant restrictions; the declaration supports utilisation; tax records explain collection. None substitutes completely for the others. A complete file allows another officer to understand why the transaction was handled as it was.

Confirm the beneficiary's account details using a reliable channel, especially when a last-minute email changes them. An authentic university admission letter does not validate a newly supplied personal account number. Match the institution, account holder and payment instructions. Where an intermediary receives funds, understand its role. Cyber fraud often exploits urgency and familiar branding, so a verified purpose can coexist with fraudulent settlement instructions. The remedy is verification of both economic purpose and destination.

Execution requires a clear customer quotation: foreign amount, exchange rate, bank charges, applicable taxes and expected beneficiary amount or fee uncertainty. Explain who bears correspondent charges. A remittance instruction is not proof of final receipt. After execution, retain references, reconcile any returns and resolve exceptions. Staff should avoid promising an exact credit time without considering cutoffs, holidays, intermediary screening and beneficiary-bank processing. A transparent explanation is more useful than an unrealistic guarantee.

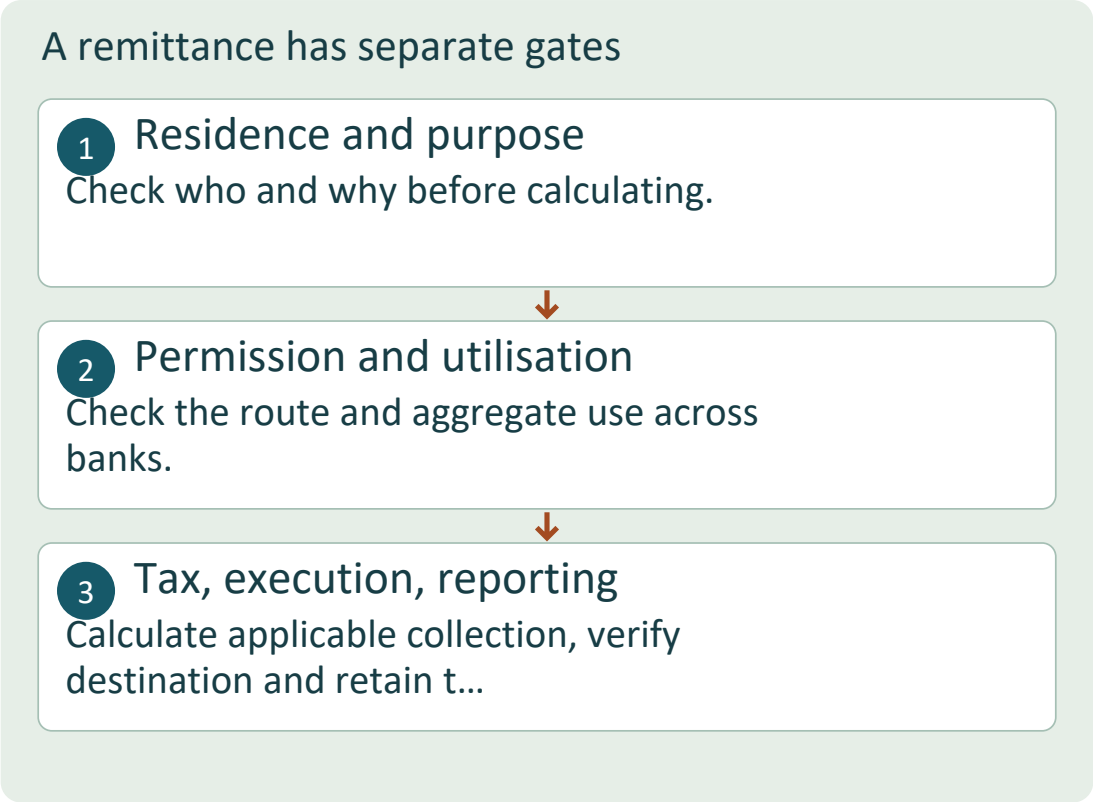
TCS is a separate cash-flow and tax issue

Tax collected at source is collected under the applicable tax provisions; it is not the price of obtaining exchange permission. The relevant purpose, threshold, rate, financing arrangement and date must all be established. For the post-April 2026 framework, the official Income-tax Act 2025 as amended by Finance Act 2026 is the source register's reference. Older notes citing the 1961 Act or earlier rates should not silently be treated as the current position.

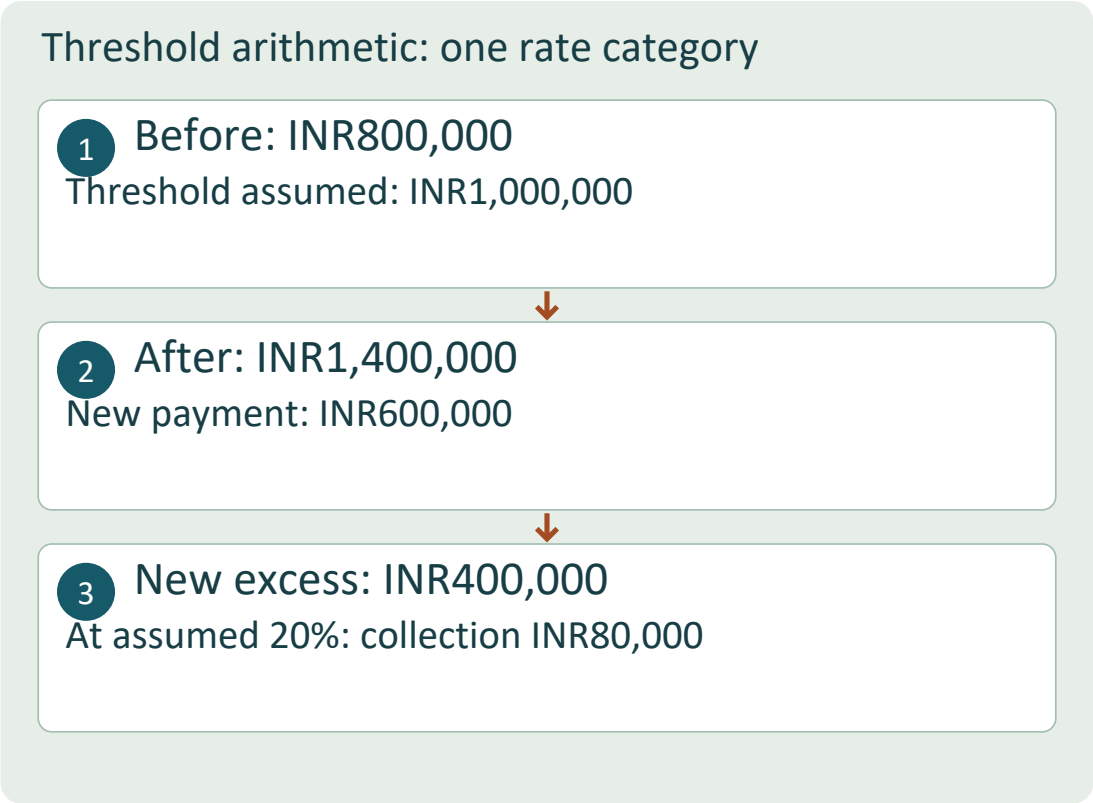
The chapter's dated tax card records the verified rates and qualifying conditions separately from the worked arithmetic. This separation helps when a syllabus cutoff uses an earlier rule. The calculator therefore accepts a threshold and rate selected by the learner rather than presenting itself as a tax determination service.

Education financed by a qualifying loan needs specific treatment; merely calling a transfer education does not prove that a loan exemption applies. Obtain the evidence supporting the category.

TCS generally represents a tax credit subject to the applicable tax process, rather than a final additional cost equal to the collected amount. Nevertheless, it can create a significant immediate funding requirement. A customer with exactly enough rupees to buy the foreign currency may lack sufficient money to meet collection and charges. Explain liquidity impact separately from eventual tax adjustment. Do not promise a refund date or final tax outcome from the remittance calculation alone.



Check who and why before calculating. Check the route and aggregate use across banks. Calculate applicable collection, verify destination and retain t…



Threshold assumed: INR1,000,000 New payment: INR600,000 At assumed 20%: collection INR80,000

Worked incremental tax calculation

Consider a deliberately simplified single-category example: threshold INR1,000,000, prior eligible aggregate INR800,000, proposed remittance INR600,000 and illustrative collection rate 20%. Total after the transfer is INR1,400,000. The amount newly crossing the threshold is INR400,000, so incremental collection is INR80,000. Applying 20% to the entire INR600,000 would overstate collection under these assumptions. Applying it to the entire annual INR1,400,000 would be an even larger error.

The general incremental base is the positive excess after the new payment minus the positive excess before it. In symbols, max(0, prior + payment − threshold) minus max(0, prior − threshold). If prior aggregate already equals INR1,200,000, the whole next INR600,000 is above the threshold and the same illustrative rate produces INR120,000. If the new aggregate remains below the threshold, the incremental base is zero. These boundary cases are useful independent checks.

This arithmetic model assumes a single rate category and correctly established aggregate. Mixed purposes, qualifying loans, special collection rules and adjustments require the applicable legal logic; do not add categories blindly. The model is useful because it reveals the threshold mechanism while making its limits visible. In an examination answer, state the rate and year given in the question, show the incremental base, calculate collection and then distinguish the total cash debit from the foreign amount delivered.

Capital transactions and investment discipline

An overseas investment requires more than spare LRS headroom. Examine the investment form, destination, ownership, funding and applicable overseas investment rules. A listed security, an unlisted business interest and a loan do not necessarily follow identical conditions. The customer may also have ongoing reporting obligations. The bank should avoid treating a marketing platform's description as a substitute for the legal classification of the instrument actually purchased.

Suppose a resident proposes to send USD30,000 to an overseas broker. Available headroom is USD80,000, but the proposed use is a margin arrangement whose permissibility is doubtful. The arithmetic test passes while the purpose test remains unresolved. The appropriate action is to establish whether the precise activity is

permitted, not to execute because the amount is small. A well-designed workflow records which condition failed or requires review, making the decision transparent to the customer and reviewer.

Investment returns and sale proceeds create their own record trail. Preserve acquisition cost, ownership, remittance reference and subsequent receipts so that later transactions can be explained. Currency gains are not the same as investment gains, and taxes are not computed by simply comparing foreign-currency balances. A banking officer need not become the customer's investment adviser to explain these distinctions. The operational responsibility is accurate classification, compliant handling and reliable evidence of the transaction.

Reporting, exceptions and controls

Reporting is the structured record of what happened, not a replacement for checking what should happen. Capture the correct customer identifier, purpose, amount, currency and dates in the prescribed return or system. A wrong purpose code can distort regulatory information and conceal a mismatch in the underlying file. Reconciliation should connect customer instructions, debit entries, foreign exchange deal, payment reference and reporting records. Differences need investigation rather than silent adjustment.

Use maker-checker controls for material data and beneficiary changes. Maintain a clear audit trail when documents are corrected. A rejected or returned transfer must be tracked to closure, including charges and exchange differences. If a customer disputes an amount, reconstruct the actual sequence instead of applying today's rate retrospectively. An audit-ready explanation distinguishes the original contract, the return transaction and any separate fee. This protects both customer understanding and the integrity of the bank's records.

Escalation is appropriate when residence, beneficial ownership, source of funds or purpose remains unclear. It should identify the missing evidence and responsible reviewer. “Compliance pending” is less useful than “beneficiary differs from the institution named in the invoice; independent verification required.” Specific exceptions allow resolution without encouraging bypasses. Staff incentives should not reward speed at the expense of correct classification. A remittance completed quickly but sent to the wrong beneficiary has failed its business objective.

Integrated case and revision

Arjun has recorded annual utilisation of USD160,000 and requests USD70,000 for tuition. The arithmetic leaves USD90,000 before the transaction and USD20,000 afterwards. That calculation supports only the headroom test. The officer still verifies residence, university instructions, funding, purpose, aggregate history and the relevant tax treatment. If a fraudster changes the beneficiary account, the available limit does not justify paying it. The case demonstrates why a sequence of controls is more reliable than a single approval number.

Now assume the tuition request is USD110,000. Ordinary headroom is insufficient by USD20,000. The next question is whether a documented purpose-specific facility applies, not whether the customer can split the transfer between banks. If the request instead concerns an impermissible investment, a tuition exception cannot be borrowed to support it. Similar amounts can therefore lead to different outcomes because legal purpose and evidence differ. Good answers explain the distinction explicitly.

For revision, use six questions: Who is resident? What is the underlying purpose? Which permission applies? What aggregate has already been used? What tax and cash requirements arise? What records and reporting complete the transaction? Remember that limits are aggregated, rates are dated, tax is separate and calculators illustrate arithmetic. The most defensible answer combines a correct number with the conditions that make that number relevant to the transaction being examined.

Practice with explanations

01. A resident has used USD130,000 of a USD250,000 annual facility. What ordinary headroom remains?

A. USD130,000	B. USD380,000
C. USD250,000	D. USD120,000

Answer D. Subtract utilisation from the ceiling: 250,000 minus 130,000 equals 120,000. The used amount is not the balance; the original ceiling does not reset; adding utilisation reverses the calculation.

02. A customer uses three banks for LRS. How should annual utilisation be assessed?

A. Aggregate across the banks	B. Separate ceiling at each bank
C. Only investment payments count	D. Only the latest bank counts

Answer A. The individual annual limit aggregates relevant utilisation across banks and purposes. Multiple banks do not multiply entitlement, the latest bank cannot ignore history, and current-account use can consume the same facility.

03. Which fact should be established before applying a resident individual's remittance route?

A. FEMA residential status	B. Branch's sales target
C. Passport colour alone	D. Preferred exchange rate

Answer A. FEMA residence determines the relevant route. Nationality alone does not establish it, a market quote addresses price rather than eligibility, and a commercial target cannot determine legal classification.

04. A resident company wants to use its director's personal LRS allowance for company borrowing. What is appropriate?

A. Ignore remitter identity	B. Use the director's unused allowance
C. Examine the company's applicable framework	D. Multiply limits by directors

Answer C. LRS is an individual facility, not a substitute for company permissions. Neither unused personal headroom nor multiple directors creates a corporate route; the actual remitter and transaction must be classified.

05. Which transaction most clearly illustrates a capital-account purpose?

A. Paying university tuition	B. Paying for medical treatment
C. Acquiring overseas shares	D. Paying a hotel bill

Answer C. An overseas share acquisition creates an asset interest. Tuition, accommodation and medical payments are ordinary expense examples; their permissibility still needs review, but they do not become investments merely because payment crosses a border.

06. A proposed payment is below the limit but for a prohibited purpose. What follows?

A. Small payments are always allowed	B. Use another bank to approve it
C. Paying TCS cures prohibition	D. Headroom does not make it permissible

Answer D. Purpose and amount are separate tests. A small amount, tax collection or another processing bank cannot legalise a prohibited underlying purpose; the correct route must support the actual transaction.

07. Which period applies to the ordinary LRS financial-year limit?

A. Each overseas trip	B. January to December
C. Rolling 30 days	D. April to March

Answer D. The stated facility uses the financial year April to March. Calendar-year, monthly and per-trip interpretations would create incorrect utilisation records and may falsely suggest fresh entitlement within the same year.

08. A USD125,000 proposal follows USD130,000 use against USD250,000. What is the shortfall?

A. USD255,000	B. USD125,000
C. USD5,000	D. USD120,000

Answer C. Remaining headroom is 120,000 and the proposal exceeds it by 5,000. The balance, proposal and total after payment are different quantities; none of them is the amount of excess.

09. Which evidence best supports an education-specific higher expenditure assessment?

A. An oral promise from a broker	B. Unused limit of an unrelated person
C. The institution's documented requirement	D. Customer's desired investment budget

Answer C. A purpose-specific provision needs relevant institutional evidence and its conditions. A wish list, another person's entitlement or an unrelated broker's assurance does not establish the university's requirement or the applicable permission.

10. Prior aggregate is INR800,000, payment INR600,000 and threshold INR1,000,000. What new amount crosses the threshold?

A. INR600,000	B. INR400,000
C. INR800,000	D. INR1,400,000

Answer B. The post-payment total is 1,400,000, of which 400,000 newly exceeds the threshold. The payment, prior aggregate and full total are not the incremental taxable base under the stated single-category model.

11. Using the preceding INR400,000 base and an assumed 20% rate, what collection results?

A. INR200,000	B. INR80,000
C. INR120,000	D. INR280,000

Answer B. Multiply the incremental base by 0.20 to obtain 80,000. The other amounts apply the rate to the whole payment, threshold or annual total, each an incorrect base for the supplied assumptions.

12. If prior aggregate already exceeds the threshold, how much of a new payment is above it in the single-rate model?

A. The threshold again	B. The entire new payment
C. Only half the payment	D. None of the new payment

Answer B. Once the prior aggregate is already above the threshold, all of the next payment is incremental excess. The model does not restart the threshold, halve the amount or ignore further remittances.

13. What does TCS collection establish about FEMA permission?

A. A larger dollar allowance	B. Automatic approval
C. Nothing by itself	D. Exemption from reporting

Answer C. Tax collection and exchange permission answer different questions. Collection does not approve a prohibited purpose, increase LRS entitlement or remove reporting; it addresses a separate tax obligation under its own conditions.

14. Which best describes the immediate effect of TCS on a customer's funding need?

A. It can increase the cash required now	B. It guarantees a same-day refund
C. It always equals final additional tax	D. It reduces foreign invoice value

Answer A. Collection can require extra rupee liquidity. It does not reduce the foreign invoice, guarantee refund timing or necessarily represent final additional tax because credit and final liability follow the applicable tax process.

15. A university's genuine invoice is followed by changed bank details in email. What should the bank do?

A. Independently verify the destination	B. Skip checks because education is permitted
C. Send first and investigate later	D. Trust the invoice as proof of new details

Answer A. A genuine purpose does not authenticate changed settlement instructions. Independent verification addresses diversion risk; eligibility and invoice authenticity alone do not justify ignoring a new beneficiary or postponing checks until funds leave.

16. Why retain historical USD equivalents of non-dollar remittances?

A. To guarantee today's rate	B. To avoid all declarations
C. To convert every receipt at today's price	D. To measure utilisation consistently

Answer D. Recorded equivalents support annual aggregation on the relevant operational basis. They do not guarantee exchange rates or remove declarations, and replacing historical measures with today's price can distort utilisation.

17. A customer expects a refund next week. Should the bank automatically treat it as restored headroom today?

A. No; verify receipt and applicable treatment	B. Yes; promises equal cash
C. Only if another bank processes it	D. Yes; refunds always double the allowance

Answer A. An expected refund is not a received amount, and even receipt requires the applicable utilisation treatment. Neither promises, automatic doubling nor routing through another bank establishes restored entitlement.

18. Which record best supports a complete remittance audit trail?

A. Only the branch approval email	B. Instruction, debit, FX deal, payment reference and reporting link
C. Only a customer screenshot	D. Only the exchange-rate quotation

Answer B. The linked records reconstruct purpose, pricing, execution and reporting. A screenshot, quote or approval email alone covers only part of the process and cannot establish the complete movement and treatment of funds.

19. What should a purpose code reflect?

A. The underlying economic transaction	B. The customer's preferred label despite contrary evidence
C. The code with lowest tax	D. The easiest screen option

Answer A. Purpose coding follows substance. Choosing a cheaper or easier category, or accepting a misleading label, can misstate reporting and conceal an incorrect route; evidence and the actual arrangement should guide classification.

20. An overseas investment fits the amount limit. What remains necessary?

A. Only confirmation that the platform is popular	B. Only a favourable currency forecast
C. Nothing further	D. Check investment-specific conditions

Answer D. Headroom is only one condition. Instrument, destination, ownership and investment rules remain relevant; popularity or a currency view cannot replace legal eligibility and documentation for the proposed investment.

21. What makes a useful escalation note?

A. A request to split the payment	B. Only the words compliance pending
C. A promise of approval	D. The precise missing fact and required evidence

Answer D. Specific facts enable a reviewer to resolve the issue. A vague status obscures the problem, a promise prejudges the decision, and splitting does not resolve uncertainty about residence, beneficiary or permissible purpose.

22. Under the verified post-April 2026 tax card, ordinary education or medical LRS collection above INR10 lakh uses which rate, subject to exceptions?

A. 0% for every purpose	B. 2%
C. 5% as an undated permanent rate	D. 20% for every education payment

Answer B. The dated 2026 statutory table specifies 2% for education or medical purposes above the threshold. Earlier 5% material needs its date; 20% concerns other purposes, and nil treatment requires an applicable exception rather than every transaction.

23. What is required before applying the education-loan TCS exception?

A. Any personal loan description	B. A tuition invoice alone
C. An assurance that tax will later be refunded	D. Evidence of a qualifying financial-institution education loan

Answer D. The exception depends on the specified loan and purpose conditions. A generic loan or invoice alone does not prove them, and a hoped-for refund is not evidence that collection should be omitted at remittance.

24. Arjun has used USD160,000 and sends USD70,000 against USD250,000. What remains?

A. USD90,000	B. USD20,000
C. USD230,000	D. USD70,000

Answer B. Headroom before payment is 90,000 and after payment is 20,000. The other values represent pre-payment headroom, the payment itself or total utilisation, not the final unused balance.

25. What is the best conclusion when ordinary headroom is insufficient for documented tuition?

A. Automatically reject every case	B. Approve unrelated investment under education
C. Always split across banks	D. Review the applicable purpose-specific provision

Answer D. A specific current-account provision may be relevant and needs evidence. Splitting does not reset limits, blanket rejection ignores exceptions, and an education provision cannot be used for an unrelated investment.

A02 Quick Revision

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04 FEMA provides the legal framework for foreign exchange transactions.	**18** Tax collected at source is collected under the applicable tax provisions; it is not the price of obtaining exchange permission.
05 Suppose an Indian citizen has lived and worked overseas and wants to transfer Indian rent abroad.	**19** The chapter's dated tax card records the verified rates and qualifying conditions separately from the worked arithmetic.
06 A current account payment ordinarily relates to consumption, services, trade, income or ongoing expenses rather than a change in cross-border assets or liabilities.	**20** TCS generally represents a tax credit subject to the applicable tax process, rather than a final additional cost equal to the collected amount.
07 Classify the underlying arrangement, not its label.	**21** The general incremental base is the positive excess after the new payment minus the positive excess before it.
08 Typical purposes include permitted travel, education, medical treatment, gifts, maintenance of relatives and eligible overseas investments.	**22** This arithmetic model assumes a single rate category and correctly established aggregate.
09 For family transactions, assess each person's entitlement, ownership and contribution.	**23** An overseas investment requires more than spare LRS headroom.
10 Remaining ordinary headroom equals the applicable annual limit less eligible aggregate utilisation already made during the year.	**24** Suppose a resident proposes to send USD30,000 to an overseas broker.
11 Where payments are made in euros or another currency, convert them using the relevant operational basis rather than adding unlike amounts.	**25** Investment returns and sale proceeds create their own record trail.
12 Do not assume that using another bank resets utilisation.	**26** Reporting is the structured record of what happened, not a replacement for checking what should happen.
13 For example, assume an overseas university's documented tuition requirement exceeds the ordinary annual facility.	**27** Use maker-checker controls for material data and beneficiary changes.
14 Other resident remittances may arise under business, trade, donation or institutional arrangements outside personal LRS.	**28** Escalation is appropriate when residence, beneficial ownership, source of funds or purpose remains unclear.

A03 Correspondent Banking and NRI Accounts

Practice / Quick Revision

Why banks need correspondents

A bank can serve an exporter without maintaining its own branch in every destination country. It uses relationships with other banks to make payments, collect funds, obtain information and support trade transactions. This is correspondent banking. The relationship combines services, account arrangements, operational instructions and risk limits. It is not simply a directory of foreign banks. The correspondent must be willing and able to perform the particular service in the required currency and jurisdiction.

Imagine an Indian manufacturer receiving dollars from an American buyer. The Indian bank may receive those dollars into an account maintained with a bank in the United States. It can then credit the exporter under the agreed arrangement, convert funds where appropriate and reconcile the incoming receipt. The customer sees a bank credit, while the banking system records a series of instructions and account movements. Understanding those layers explains why a payment message alone does not prove final settlement.

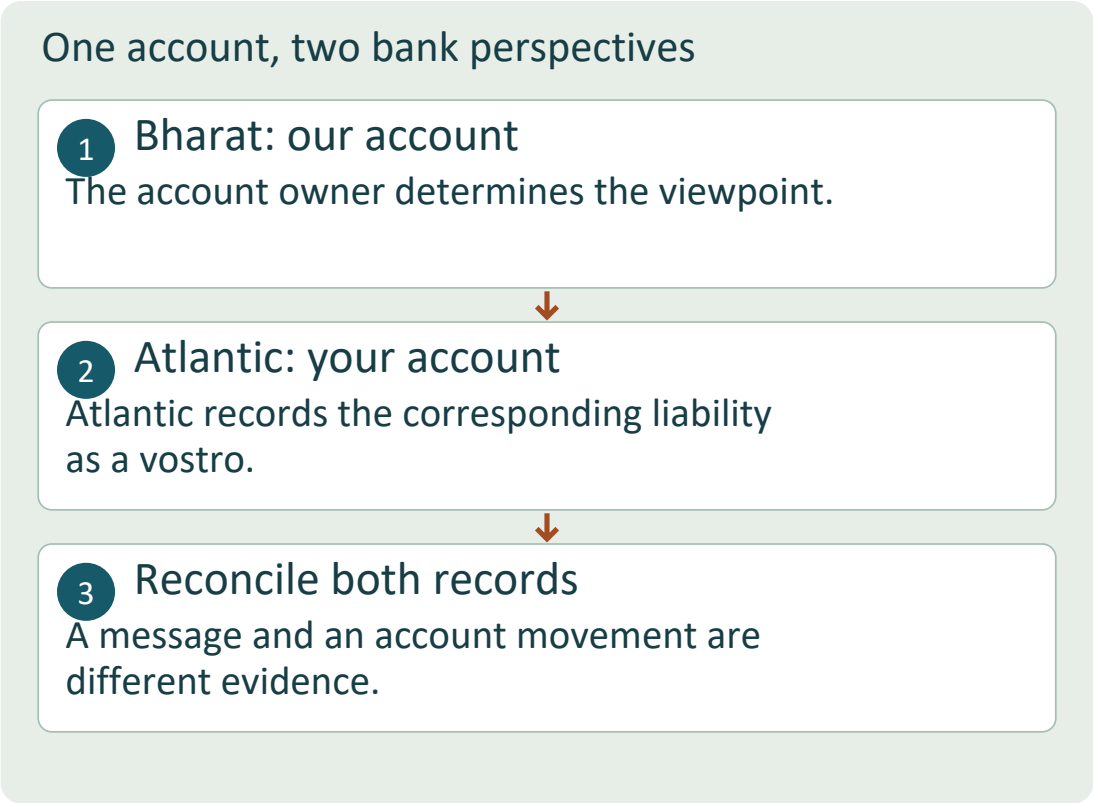
This chapter connects that institutional network with accounts used by non-resident customers. The subjects share cross-border funds flows, but their account holders and purposes differ. A nostro account belongs to a bank; an NRE account belongs to an eligible customer. Do not confuse the two simply because both may receive overseas funds. By the end, you should be able to identify the owner, currency, purpose, repayment or repatriation route and control evidence for each arrangement.

Nostro, vostro and loro: change the viewpoint

Nostro means our account with you. If Bank Bharat maintains a dollar account with Atlantic Bank, Bank Bharat describes it as its dollar nostro. Atlantic Bank describes the same relationship as Bank Bharat's vostro: your account with us. These are perspectives on one account relationship, rather than two separate pools of money. The account currency is important, but ownership and viewpoint determine the label.

Loro is used for their account with another bank. Suppose Bank Crescent discusses Bank Bharat's account with Atlantic Bank. From Crescent's viewpoint, that account may be described as a loro relationship. In practical questions, draw three named banks and write the observer's name before choosing the term. Memorising translations without fixing the observer often leads to reversed answers. Also distinguish a customer account from an interbank correspondent account in the diagram.

Consider a USD100,000 balance in Bank Bharat's nostro. Bank Bharat records an asset representing its claim on the correspondent. The correspondent records a liability to Bank Bharat. A debit advice on the correspondent statement reduces Bank Bharat's funds there. The entries in the bank's internal mirror account must be interpreted consistently with its accounting design. Rather than memorising an isolated debit rule, ask whose statement is being read and whether the external asset increased or decreased.



The account owner determines the viewpoint. Atlantic records the corresponding liability as a vostro. A message and an account movement are different evidence.

Payment instructions and settlement infrastructure

SWIFT provides secure financial messaging services and standards. It is not itself a universal account holding all transferred money. An instruction can travel through SWIFT while settlement occurs through correspondent accounts or a payment system. CHIPS is associated with large-value US-dollar clearing and settlement; CHAPS supports high-value sterling payments in the United Kingdom. RTGS describes real-time gross settlement: eligible payments settle individually rather than through a single end-of-period net balance.

Different systems have different participation rules, operating hours, liquidity arrangements and finality provisions. Do not assume that a payment accepted by one system has already reached the beneficiary's account. There can be an intermediary leg, screening step or beneficiary-bank posting stage after the sender's instruction. A customer-facing status should identify the actual stage: received, validated, sent, settled, credited or returned. This vocabulary prevents premature assurances and makes investigations more precise.

Structured payment data matters because names, addresses, identifiers and purposes support screening and reconciliation. ISO 20022 is a financial-message standard, not a currency, a bank account or a blockchain. SWIFT's cross-border payment-instruction migration reached its end-of-coexistence milestone in November 2025. That does not mean every historical MT message type vanished simultaneously. For operational decisions, use the relevant message and service scope rather than a broad statement that all banking messages changed on one date.

Selecting and monitoring a correspondent

A correspondent relationship exposes the bank to credit, liquidity, operational, legal and financial-crime risks. Assess the institution's financial strength, jurisdiction, ownership, governance, regulatory standing and control environment. Understand the services actually offered, the customers indirectly reached and any nested relationships. A famous brand does not eliminate the need for due diligence. The assessment should support a decision about specific services and limits, rather than merely collecting a standard questionnaire.

Commercial terms also matter. Compare account fees, transaction charges, value dating, cutoffs, overdraft terms, interest and investigation service. A low processing fee may be outweighed by expensive liquidity requirements or slow exception resolution. Consider concentration: putting every major currency flow through one correspondent creates dependence even if each individual transaction seems safe. Alternative arrangements should be operationally usable, with tested instructions and realistic limits, rather than names on a contingency spreadsheet.

Monitoring continues after onboarding. Watch financial deterioration, unusual payment patterns, unresolved reconciliation items, sanctions changes and service failures. Review limits and access when the risk changes. Terminating a relationship requires an orderly plan for balances, pending payments and customer communication. Abruptly losing a correspondent can disrupt trade customers who have already issued payment instructions. Relationship management therefore joins risk assessment with practical continuity planning and clear ownership of exceptions.

Nostro liquidity and reconciliation

Payments require available funds or an agreed credit arrangement at the right place and time. A bank can be solvent overall yet lack sufficient dollars in a particular nostro before a cutoff. Treasury forecasts expected inflows, outflows and buffers, while operations reconciles what actually occurred. Excessive idle balances impose an opportunity cost; inadequate balances can cause failed payments or overdraft costs. The objective is reliable settlement with disciplined liquidity usage.

Assume opening funds of USD300,000, confirmed incoming receipts of USD120,000 and outgoing payments of USD350,000. The projected closing balance is USD70,000 before fees and other movements. If the required operational buffer is USD100,000, the bank needs USD30,000 of additional funding under these assumptions. Counting an unconfirmed USD50,000 receipt as certain would conceal that shortfall. Forecasts should distinguish confirmed, expected and uncertain flows rather than combining them without qualification.

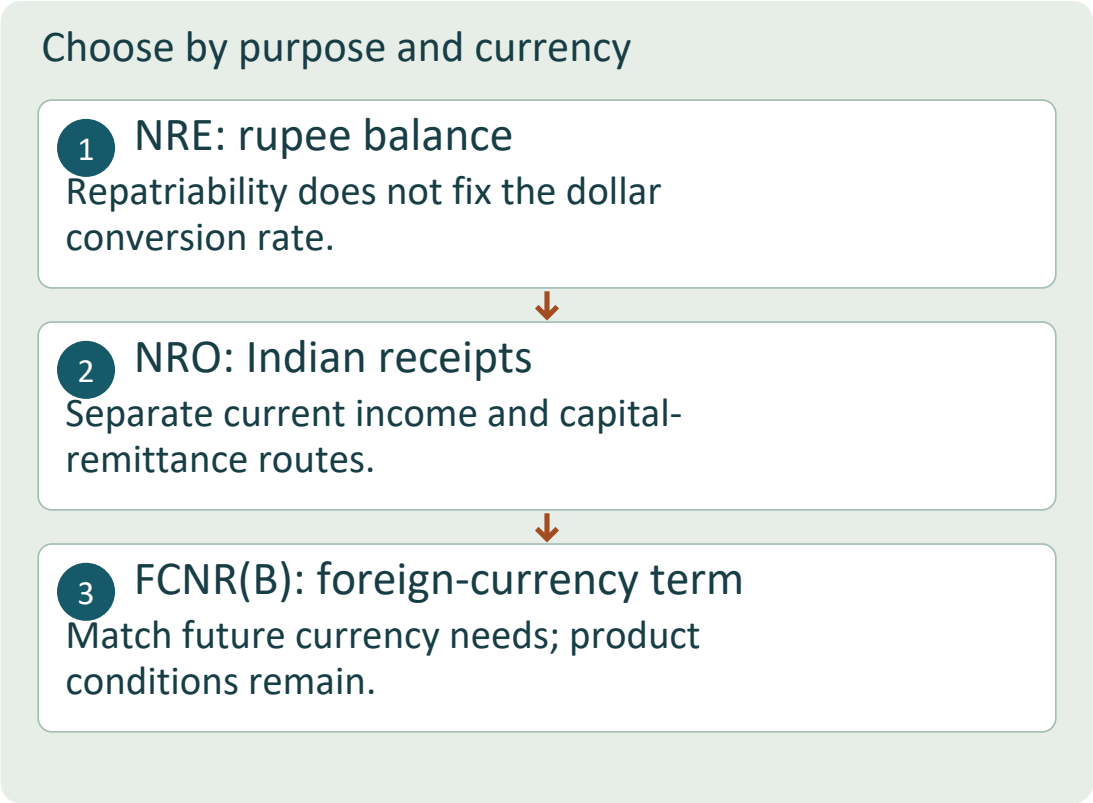
Reconciliation compares internal records with correspondent statements and investigates differences. An unmatched debit could represent a charge, a timing difference, a duplicate instruction or an unauthorised movement. An unmatched credit could be an unidentified receipt awaiting allocation. Ageing helps prioritise investigation, but an old item is not automatically a loss and a new item is not automatically harmless. Record the cause, owner, next action and evidence of closure. Clearing a suspense entry without resolving its substance hides risk.

NRI banking begins with status and purpose

Non-resident banking serves customers whose residence and eligibility fit the relevant rules. Indian citizenship, overseas citizenship status and FEMA residence have distinct roles. A customer returning to India for employment may need account redesignation even while retaining overseas investments. Ask what changed and when. Do not leave an account in its old category solely because the customer prefers its features or has not yet updated a document.

The main account families considered here are NRE, NRO and FCNR(B). Choose among them by currency, source of funds, repatriation requirements and product eligibility. NRE and NRO accounts are rupee accounts; FCNR(B) deposits are maintained in permitted foreign currencies. The customer may legitimately need more than one type because overseas earnings and Indian rental income create different banking needs. A product comparison should explain those needs rather than declare one account universally best.

Documentation should establish identity, overseas status, address, tax declarations where relevant and the source of funds. Beneficial ownership and power-of-attorney arrangements need particular care. A local mandate holder can operate only within the permitted authority; possession of a signed mandate does not convert a non-resident's account into the mandate holder's personal wallet. Record the permitted operations in a form branch staff can apply consistently, including restrictions on transfers and gifts where applicable.



Repatriability does not fix the dollar conversion rate. Separate current income and capital-remittance routes. Match future currency needs; product conditions remain.

NRE accounts: rupee holdings with repatriability

An NRE account is a rupee-denominated account for eligible non-residents, commonly used to hold funds received through permitted overseas channels. Principal and interest are repatriable under the scheme conditions. The key currency lesson is that a rupee balance exposes the customer to changes in the rupee's value against the currency in which future spending will occur. Repatriability means permission to remit eligible funds; it does not guarantee an exchange rate.

Suppose a customer converts USD10,000 at INR83 per dollar and holds INR830,000 before interest. If the later reconversion rate is INR86 per dollar, the principal alone buys approximately USD9,651.16. If the rate instead becomes INR80, it buys USD10,375. The deposit may earn rupee interest, but that does not remove currency exposure. A fair comparison considers both deposit return and exchange movement, along with charges and tax treatment applicable to the customer's facts.

Permitted credits and debits must be checked rather than inferred from the account name. Certain current Indian income can be credited subject to satisfaction about its nature and tax treatment, so “NRE can never receive any Indian income” is too broad. Equally, that does not permit every local receipt. When examining a credit, identify the source and specific permission. Keep tax exemptions tied to the relevant conditions and status rather than describing the account as permanently tax-free for every holder.

NRO accounts: manage legitimate Indian receipts

An NRO account is a rupee account used for bona fide transactions of eligible non-residents, often including Indian income such as rent or pension. The source of the credit, taxes and permitted remittance route matter. Current income and capital balances should not be treated as identical for remittance purposes. The familiar USD1 million annual remittance facility for eligible NRI/PIO asset proceeds is subject to conditions and documentation; it is not an unrestricted transfer right for every non-resident or every receipt.

Consider a landlord receiving monthly rent in India. The bank needs the underlying rental and tax evidence when processing an outward remittance under the applicable current-income route. If the same customer

sells property, the capital receipt requires a different analysis. Combining both credits in one account statement does not erase their separate origins. A clean source trail makes subsequent remittance easier because the officer can identify which permission supports each component.

NRO interest is subject to the applicable tax rules, unlike a simplistic claim that all non-resident deposits receive the same exemption. Withholding and final liability can differ, and treaty claims require the relevant documentation. The study objective is to recognise the distinction, not calculate every customer's final tax. In an account-selection case, explain currency, permissible use, repatriation conditions and tax sensitivity separately. A higher quoted interest rate alone is insufficient to decide suitability.

FCNR(B), exchange risk and maturity

FCNR(B) is a foreign-currency term-deposit arrangement for eligible non-residents in permitted currencies. Its defining difference from NRE is the denomination of the deposit. A customer expecting future dollar expenditure may prefer a dollar deposit because its contractual principal remains in dollars. That removes direct rupee conversion exposure on that principal while leaving bank credit risk, interest-rate considerations, premature-withdrawal conditions and any mismatch with a different future spending currency.

The scheme's ordinary maturity range is one to five years. Compare like currencies and maturities when assessing returns. A 5% rupee deposit and a 3% dollar deposit cannot be ranked intelligently without considering the customer's future currency need and exchange risk. Nor should one compare an annual rate with a total multi-year return. State whether interest is simple or compounded and use the actual deposit convention when giving an operational quote.

For illustration only, USD20,000 earning simple interest at 4% for 180 days on a 360-day basis produces USD400. The same rate and days on a 365-day basis produces approximately USD394.52. These are arithmetic conventions, not a claim about the mandatory FCNR(B) accrual method. The calculator makes the basis visible so learners see why identical headline rates can produce different amounts. Product terms determine the real calculation, including compounding and premature closure treatment.

Loans against deposits and housing finance

A deposit can provide collateral for a loan, but the loan remains subject to eligibility, end-use, margin and documentation requirements. Security reduces a particular loss exposure; it does not remove legal restrictions. Establish who borrows, who owns the deposit, where the loan is granted, in what currency and for what purpose. These facts determine the relevant permission and risk. A third-party loan secured by a non-resident deposit needs more analysis than a simple matching-name transaction.

Currency mismatch can reduce collateral coverage. Assume foreign-currency collateral has a rupee value of INR1,000,000 and a rupee loan is INR800,000. Initial loan-to-value is 80%. If the collateral's rupee value falls to INR900,000, the ratio rises to approximately 88.89% even with no new lending. The bank may need additional margin under its agreement. The arithmetic illustrates why monitoring cannot end at sanction. Deposit interest and loan interest also need separate treatment.

Housing finance to eligible NRIs involves the property, borrower repayment capacity, permitted acquisition and repayment channels. Assess title, valuation, income stability and enforceability just as carefully as in domestic lending, while recognising cross-border documentation issues. Do not assume that an overseas salary makes every property purchase permissible. Agricultural land, plantation property and farmhouses require particular legal attention under the applicable acquisition rules. The account used for repayment should be consistent with the permitted arrangement and supported by evidence.

Integrated customer and payment cases

Priya works overseas, earns in dollars and receives Indian rent. She wants a reserve for future dollar tuition, a rupee balance for Indian expenses and a route for rent receipts. The appropriate discussion may involve FCNR(B), NRE and NRO for different purposes, rather than forcing all needs into one product. Confirm eligibility and tax facts before making an operational recommendation. A product map should show what each account solves and which risk remains with the customer.

Meanwhile, her bank receives a payment notification but its nostro statement does not yet show the expected credit. The officer should investigate status and value date before representing the funds as finally received. If a correspondent fee reduces the amount, reconcile the fee and customer charging arrangement. The customer account and interbank settlement records are connected, but their entries may occur at different stages under bank policy. Accurate communication depends on knowing which stage has actually been completed.

When Priya returns to India for employment, review her changed residence, account redesignation and available resident foreign-currency arrangements. Do not merely change her mailing address. The event can alter the permitted account category and tax treatment while existing deposit terms may have specific continuation provisions. A documented review prevents the common error of treating account status as a permanent attribute fixed at opening. The same discipline applies when a customer leaves India and becomes non-resident.

Revision through five distinctions

First distinguish messaging from settlement: a correctly transmitted instruction is evidence of communication, not necessarily beneficiary credit. Second distinguish account viewpoints: nostro, vostro and loro depend on the observer and account holder. Third distinguish currency from repatriability: a freely repatriable rupee account can still carry exchange risk. Fourth distinguish income from capital receipts: their remittance routes and evidence may differ. Fifth distinguish collateral from permission: a secured loan still needs an eligible purpose and structure.

For numerical practice, label every amount by currency and date. Calculate projected nostro balance before comparing it with a buffer. Calculate deposit interest using the stated convention. Calculate loan-to-value using current collateral value, not its original booking value. For account-selection questions, identify residence, funds source and future spending need before choosing a product. These habits are more reliable than matching a single keyword such as foreign, savings or dollar to a memorised account name.

The branch's final objective is a transaction that is correctly classified, accurately executed and traceable afterwards. Correspondent banking and NRI accounts both require coordination between customer service, treasury, operations and compliance. Clear ownership of exceptions prevents each team from assuming another has resolved the issue. A good examination answer reflects this operational reality: it supplies the correct concept or number and explains the condition that makes the answer valid in the particular case.

Practice with explanations

01. Bank Bharat holds dollars at Atlantic Bank. What does Bharat call that account?

A. Nostro	B. Vostro from Bharat's viewpoint
C. NRE	D. FCNR(B) customer deposit

Answer A. Nostro means our account with you from Bharat's perspective. Atlantic calls the relationship vostro; NRE and FCNR(B) are customer account schemes, not the label for this interbank account.

02. How does Atlantic describe Bharat's account maintained with Atlantic?

A. NRO	B. Vostro
C. A second separate fund	D. Nostro of Atlantic

Answer B. From Atlantic's viewpoint it is your account with us, or vostro. It is the same relationship Bharat calls nostro, not a separate fund or a non-resident customer's NRO account.

03. A third bank refers to Bharat's account at Atlantic. Which traditional term fits?

A. NRE	B. Loro
C. Its own nostro	D. Packing credit

Answer B. Loro expresses their account with another bank from the third bank's perspective. Ownership has not moved to the observer, and customer deposit schemes or export loans do not describe this viewpoint.

04. What is SWIFT's principal role in this comparison?

A. Financial messaging	B. Holding all transferred customer money
C. Guaranteeing every beneficiary credit	D. Replacing every settlement system

Answer A. Messaging transmits financial instructions and information. Settlement uses relevant accounts and systems; message delivery neither means SWIFT holds all funds nor guarantees final credit or abolishes other infrastructures.

05. What does RTGS describe?

A. A foreign-currency deposit	B. A trade insurance policy
C. Individual real-time gross settlement	D. Only end-day netting

Answer C. RTGS concerns settlement of individual eligible payments in real time. End-day netting is a different mechanism, while deposits and insurance are products rather than descriptions of settlement processing.

06. Which system is associated with high-value sterling payments?

A. CHIPS as a sterling system	B. CHAPS
C. EDPMS	D. FCNR(B)

Answer B. CHAPS is associated with sterling high-value payments. CHIPS concerns US-dollar clearing and settlement; FCNR(B) is a deposit scheme and EDPMS is an export monitoring system, not a sterling payment rail.

07. Opening USD300,000 plus inflows USD120,000 less payments USD350,000 gives what balance?

A. USD420,000	B. USD170,000
C. USD770,000	D. USD70,000

Answer D. The projected balance is 300,000 plus 120,000 minus 350,000, or 70,000. Ignoring outflows or adding them produces misleading liquidity; the opening balance is not an additional income item.

08. Against a USD100,000 buffer, a projected USD70,000 balance needs what funding?

A. USD100,000	B. USD30,000
C. USD170,000	D. USD70,000

Answer B. The shortfall is required buffer minus projected funds: 100,000 minus 70,000. The balance and buffer themselves are not the incremental funding need, and adding them reverses the comparison.

09. How should an uncertain incoming payment enter a liquidity forecast?

A. Separately identified as uncertain	B. Always treated as cash received
C. Ignored forever after delay	D. Used to erase an unmatched debit

Answer A. Uncertainty should remain visible in forecasts and stress cases. Treating expected cash as received conceals risk; ignoring it permanently or using it to clear unrelated entries also misrepresents the actual position.

10. What does an unmatched nostro debit require?

A. Immediate assumption of fraud	B. Automatic write-off
C. Investigation and reconciliation	D. Deletion to balance the ledger

Answer C. A debit may reflect timing, charges, error or unauthorised activity. Its cause must be established; neither automatic loss recognition, an unsupported fraud conclusion nor deletion provides a sound reconciliation.

11. Which account is denominated in rupees and commonly used for eligible overseas earnings?

A. FCNR(B) in dollars	B. A bank's nostro
C. A documentary credit	D. NRE

Answer D. NRE is a rupee customer account scheme. FCNR(B) is foreign-currency denominated, nostro describes an interbank account, and an LC is a conditional undertaking rather than a deposit account.

12. Which account commonly handles an eligible non-resident's Indian rent receipts?

A. Only a bank's vostro	B. Only an LC account
C. NRO	D. An unrelated resident's personal account

Answer C. NRO is commonly used for bona fide Indian receipts of eligible non-residents. Interbank vostro and LC concepts do not replace the customer account route, and using another person's account obscures ownership and purpose.

13. What is FCNR(B)'s defining currency feature?

A. A permitted foreign-currency term deposit	B. Always an INR demand deposit
C. A currency hedge guaranteeing profits	D. A bank's capital account

Answer A. FCNR(B) maintains the deposit in a permitted foreign currency as a term deposit. It is not an INR demand account, a guaranteed-profit hedge or the bank's own equity capital.

14. What ordinary maturity range is associated with FCNR(B) deposits?

A. One to five years	B. One day to one week
C. No maturity because all are current accounts	D. Always exactly ten years

Answer A. The scheme's ordinary maturity range is one to five years. Very short demand-account treatment and a mandatory ten-year tenor misstate its term-deposit nature; actual product conditions still require checking.

15. Does NRE repatriability eliminate exchange risk against dollars?

A. Only if the account is renamed	B. Yes; a dollar rate is guaranteed
C. No; the balance is in rupees	D. Yes; interest fixes the exchange rate

Answer C. Permission to remit and currency value are separate. A rupee balance can buy fewer or more dollars later; deposit interest and account naming do not guarantee the conversion rate.

16. INR830,000 reconverted at INR86 per USD buys approximately what?

A. USD10,000 regardless of rate	B. USD71,380,000
C. USD9,651.16	D. USD830,000

Answer C. Divide rupees by rupees per dollar: 830,000 divided by 86 is about 9,651.16. Multiplication reverses the units, while preserving the original dollar amount incorrectly assumes a guaranteed rate.

17. USD20,000 at 4% simple interest for 180/360 years earns what?

A. USD400	B. USD40
C. USD800	D. USD4,000

Answer A. Interest is 20,000 times 0.04 times 180/360, or 400. Eight hundred is a full year's interest; the other values reflect decimal or scale errors rather than the stated half-year period.

18. What must be considered when a non-resident returns for employment in India?

A. Permanent entitlement to old status	B. Only a new mailing address
C. Automatic closure of every asset	D. Changed residence and account treatment

Answer D. The change can affect residence and account designation, with scheme-specific continuation provisions. Updating an address alone is inadequate; neither permanent old status nor automatic disposal of every asset follows.

19. A resident mandate holder operates an NRI account. What limits the authority?

A. The permitted mandate and scheme rules	B. Possession of the signature alone
C. An unrestricted right to gift funds	D. Personal convenience

Answer A. A mandate operates within its terms and applicable account rules. A signature is not an unrestricted ownership transfer, and convenience or a desire to gift funds cannot expand permitted operations.

20. A loan of INR800,000 is secured by collateral now worth INR900,000. What is LTV?

A. 112.5%	B. 80% forever
C. 10%	D. 88.89% approximately

Answer D. Current LTV is 800,000 divided by 900,000, approximately 88.89%. Eighty percent uses the former value, the reciprocal gives 112.5%, and 10% measures neither the loan share nor correct coverage.

21. Does strong deposit collateral make every loan end use permissible?

A. Yes; security replaces law	B. Yes; if interest is prepaid
C. Yes; if the borrower is overseas	D. No; end-use conditions still apply

Answer D. Security mitigates recovery risk but does not establish legal eligibility. Overseas residence or prepaid interest does not remove end-use conditions; the borrower, purpose, currency and structure remain relevant.

22. Which is a sound account-selection sequence?

A. Account name chosen by customer alone	B. Residence, funds source and future currency need
C. Passport colour and nothing else	D. Highest rate alone

Answer B. Eligibility, source and currency needs explain suitability. Headline yield omits risk, a preferred name does not establish permission, and nationality alone cannot resolve FEMA residence and account conditions.

23. A payment message arrives but the expected nostro credit is missing. What should staff communicate?

A. That SWIFT guarantees the money	B. That reconciliation is unnecessary
C. Final beneficiary credit without evidence	D. The verified stage while investigating settlement

Answer D. Communicate actual status and investigate the missing account movement. Messaging is not final credit, SWIFT is not a blanket settlement guarantor, and reconciliation is necessary to establish what occurred.

24. Why assess correspondent concentration?

A. Only fees matter	B. More account numbers guarantee diversification
C. Several services can depend on one counterparty	D. A famous name removes failure risk

Answer C. Dependence can remain concentrated across many accounts at one institution. Account count and reputation do not eliminate outage or credit risk; pricing is only one part of correspondent selection and continuity planning.

25. What is wrong with applying the USD1 million asset-remittance facility to every NRO receipt automatically?

A. NRO funds can never be remitted	B. Tax evidence is never relevant
C. All receipts have identical treatment	D. Eligibility, source and conditions differ

Answer D. The facility is conditional and does not describe every non-resident or receipt. A blanket ban is also wrong; current income and capital sources require their relevant routes and tax documentation where applicable.

A03 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 A bank can serve an exporter without maintaining its own branch in every destination country.	**15** Reconciliation compares internal records with correspondent statements and investigates differences.
02 Imagine an Indian manufacturer receiving dollars from an American buyer.	**16** Non-resident banking serves customers whose residence and eligibility fit the relevant rules.
03 This chapter connects that institutional network with accounts used by non-resident customers.	**17** The main account families considered here are NRE, NRO and FCNR(B).
04 Nostro means our account with you.	**18** Documentation should establish identity, overseas status, address, tax declarations where relevant and the source of funds.
05 Loro is used for their account with another bank.	**19** An NRE account is a rupee-denominated account for eligible non-residents, commonly used to hold funds received through permitted overseas channels.
06 Consider a USD100,000 balance in Bank Bharat's nostro.	**20** Suppose a customer converts USD10,000 at INR83 per dollar and holds INR830,000 before interest.
07 SWIFT provides secure financial messaging services and standards.	**21** Permitted credits and debits must be checked rather than inferred from the account name.
08 Different systems have different participation rules, operating hours, liquidity arrangements and finality provisions.	**22** An NRO account is a rupee account used for bona fide transactions of eligible non-residents, often including Indian income such as rent or pension.
09 Structured payment data matters because names, addresses, identifiers and purposes support screening and reconciliation.	**23** Consider a landlord receiving monthly rent in India.
10 A correspondent relationship exposes the bank to credit, liquidity, operational, legal and financial-crime risks.	**24** NRO interest is subject to the applicable tax rules, unlike a simplistic claim that all non-resident deposits receive the same exemption.
11 Commercial terms also matter.	**25** FCNR(B) is a foreign-currency term-deposit arrangement for eligible non-residents in permitted currencies.
12 Monitoring continues after onboarding.	**26** The scheme's ordinary maturity range is one to five years.
13 Payments require available funds or an agreed credit arrangement at the right place and time.	**27** For illustration only, USD20,000 earning simple interest at 4% for 180 days on a 360-day basis produces USD400.
14 Assume opening funds of USD300,000, confirmed incoming receipts of USD120,000 and outgoing payments of USD350,000.	**28** A deposit can provide collateral for a loan, but the loan remains subject to eligibility, end-use, margin and documentation requirements.

A04 Documentary Letters of Credit

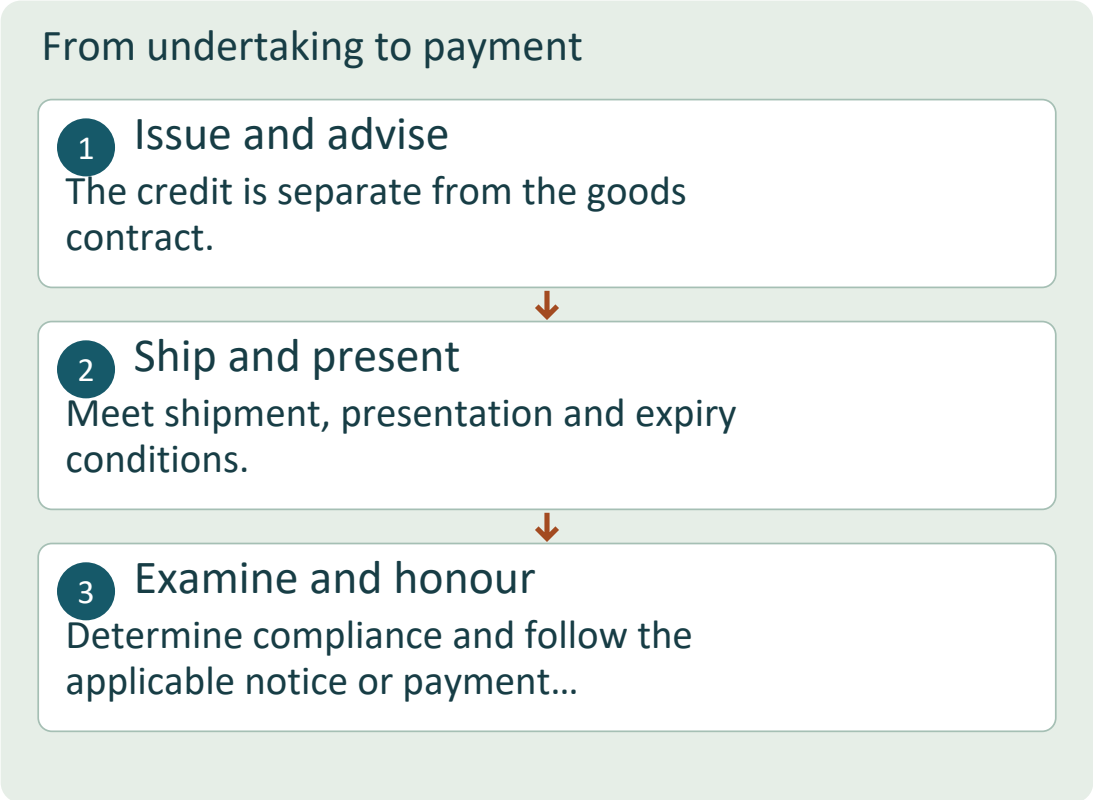
Practice / Quick Revision

The commercial problem a credit solves

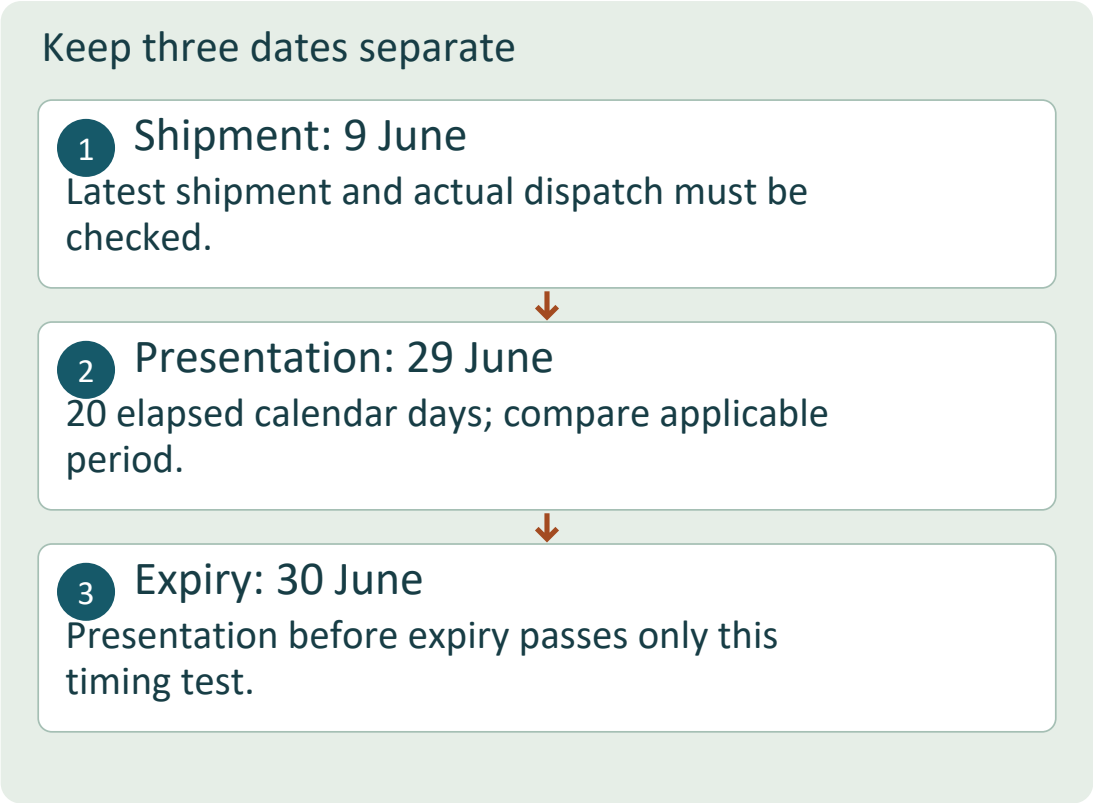
An exporter wants confidence of payment before dispatching goods. An importer wants confidence that shipment will occur before paying. A documentary letter of credit introduces a bank undertaking linked to a complying presentation of specified documents. It changes the payment mechanism and the allocation of certain risks. It does not make poor goods good, remove every fraud risk or replace the sales contract. Understanding that limited purpose is the foundation for the rest of the chapter.

Suppose an Indian engineering firm sells equipment to a new overseas buyer. The buyer arranges a credit through its bank. The exporter studies the terms before shipping, prepares the required documents and presents them through the agreed channel. A bank examines the presentation against the credit, incorporated rules and applicable practice. The decision concerns documentary compliance. A separate commercial dispute about machine performance does not automatically become a documentary discrepancy.

The learning objective is to follow the undertaking from issue to final discharge, identify each party's responsibility, distinguish types of credit and evaluate practical document cases. UCP 600 provides the principal contractual rules when incorporated. The syllabus mentions ISBP 745; the source register also identifies the later ISBP 821 publication. Keep the syllabus reference and current practice edition visible rather than silently treating their numbers as interchangeable or reproducing proprietary rules in full.



The credit is separate from the goods contract. Meet shipment, presentation and expiry conditions. Determine compliance and follow the applicable notice or payment…



Latest shipment and actual dispatch must be checked. 20 elapsed calendar days; compare applicable period. Presentation before expiry passes only this timing test.

Parties and independent undertakings

The applicant requests the credit, usually as importer. The issuing bank gives its undertaking. The beneficiary is the party entitled to present, usually the exporter. An advising bank authenticates and conveys the credit according to its role; advising alone does not add a payment undertaking. A confirming bank adds its own undertaking when it confirms within the applicable arrangement. A nominated bank is authorised for the specified availability, but nomination by itself should not be confused with an unconditional obligation to finance.

The sales contract, application agreement and documentary credit are related commercially but legally distinct. The bank's undertaking is independent of the underlying goods contract under the incorporated framework. This allows the beneficiary to rely on a documentary payment mechanism instead of having every payment delayed by a buyer's commercial complaint. Independence does not abolish applicable law, fraud remedies or sanctions. It means the ordinary examination process focuses on the credit and documents rather than deciding the entire trade dispute.

Draw four boxes: importer, issuing bank, advising or confirming bank, exporter. Label the sales contract between the traders, the application between importer and issuer and the credit undertaking towards the beneficiary. The labels explain why an importer instruction is not automatically an amendment binding the exporter. They also explain why reimbursement arrangements between banks should not be mistaken for the beneficiary's own obligations. Separate relationships produce separate rights and operational duties.

Availability and types of credit

A sight credit provides payment on a complying presentation under its terms; it does not guarantee instant cash the moment papers reach any branch. Examination and processing still occur. A deferred-payment credit establishes payment at a future maturity without necessarily requiring a draft. An acceptance credit involves acceptance of a draft under its terms. Negotiation concerns purchase by a nominated bank of qualifying drafts or documents, rather than simply forwarding papers for collection.

Confirmed and unconfirmed describe whether an additional bank undertaking has been added. Transferable describes a specifically authorised ability to transfer availability under the rules; it is not the same as assigning proceeds. Revolving credits provide a replenishing structure as specified. Back-to-back arrangements involve a separate second credit supported by the first, with independent terms and risks. Avoid assuming that similar commercial objectives make these products legally identical. The wording of the actual instrument controls.

A red-clause arrangement can permit an advance before shipment under stated conditions, creating additional performance and recovery exposure. A standby letter of credit is generally a default-support instrument, often subject to a different incorporated rule set such as ISP98 or, where stated, UCP. A commercial credit normally supports routine payment against shipment documents. Choosing between them depends on the obligation and intended claim mechanism, not merely which name sounds more secure to the customer.

Issue, advice and amendment

Before issue, the bank assesses the applicant's creditworthiness, sanctioned limits, margin, goods, transaction purpose, country exposure and compliance requirements. The credit should require documents that the beneficiary can actually obtain and that provide meaningful evidence. Vague requirements such as satisfactory goods or documents acceptable to applicant create uncertainty if not translated into workable documentary terms. More documents do not always mean more protection; unnecessary conditions can increase discrepancies without improving control over the underlying risk.

The beneficiary should review the credit before shipment. Check amount, currency, expiry, place of presentation, latest shipment date, transport mode, document requirements, availability and charges. Compare them with the sales contract and production schedule. If shipment cannot meet the deadline, request a proper amendment rather than relying on the buyer's informal reassurance. A commercial email may express agreement but is not necessarily the operative amendment to the bank's undertaking.

Amendments require attention to the relevant parties and acceptance mechanics. An applicant cannot unilaterally reduce an irrevocable undertaking already issued. The beneficiary should assess the amendment as a whole and avoid assuming it can accept only favourable parts. Operations must maintain a clear version history so examiners use the operative terms. A discrepancy caused by examining against an obsolete version is an operational error, not a failure of the exporter to understand the current credit.

Documentary examination and timing

The bank examines documents on their face for compliance with the credit, UCP where applicable and the relevant standard banking practice. Under UCP 600, the specified examining banks have a maximum of five banking days following the day of presentation to determine compliance. This is a banking-day rule, not five calendar days and not a licence to delay every straightforward case. The relevant bank's calendar and presentation date therefore matter.

When a presentation includes an original transport document governed by the relevant UCP provisions, the familiar default presentation period is 21 calendar days after shipment, while presentation must also occur no later than expiry. Read the credit for applicable modifications and context. A shipment made before the latest shipment date can still produce a late presentation. Conversely, a presentation within 21 days is not timely if the credit expired earlier. Test both constraints independently.

Our deadline exercise deliberately supplies the banking-day sequence rather than guessing public holidays. If presentation occurs on Monday and the next five banking days are Tuesday, Wednesday, Thursday, Friday and Monday, the examination limit falls on that Monday under the stated assumptions. Do not count the presentation day as day one. The learning purpose is to separate event dates, calendar-day periods and banking-day periods, not to provide an operational holiday engine for every jurisdiction.

Read documents as a coherent set

The commercial invoice identifies the trade amount and goods information required by the credit. A transport document evidences the relevant carriage arrangement and, for certain documents, receipt or loading and control functions. Insurance documents support the specified coverage. Certificates may address origin, inspection or other requirements. Each document has its own function, issuer and data expectations. Treating all documents as interchangeable proof of shipment misses their separate legal and commercial roles.

Data need not be identical in every place merely because it appears on several documents, but it must not conflict in a way that breaches the applicable standard. A minor difference in presentation is not automatically a discrepancy. Conversely, a material difference in quantity, shipment route or required description cannot be dismissed as harmless because the buyer knows the supplier. Examine the actual requirement and the relevant practice rather than relying on a general preference for either strictness or leniency.

For example, a credit requires shipment of 100 specified pumps from Port X to Port Y. An invoice showing 100 pumps and a packing list showing 10 crates can be consistent if the crates contain those pumps. A packing list showing 90 pumps creates a different issue. The examiner should identify the exact conflict, not merely write documents differ. Precise discrepancy descriptions support correction, waiver consideration and a defensible refusal process where necessary.

Discrepancies, refusal and waiver

A discrepancy means the presentation fails an applicable requirement. The bank should identify all relevant grounds, follow the required notice procedure and state the disposition of documents. Under UCP, refusal notice requirements and timing are significant; a vague or late refusal can prejudice the bank's position. Do not assume that a telephone conversation with the applicant replaces the required communication to the presenter. Record when the presentation arrived and when notices were sent.

An applicant may be willing to waive discrepancies, but that commercial willingness is not an automatic instruction binding every bank in every role. The issuing bank decides whether it will accept a waiver under the applicable arrangement. A confirming bank has its own undertaking and considerations. Meanwhile, the examining bank must preserve its position within the rule timetable. Seeking a waiver does not suspend the examination clock simply because the applicant is travelling or slow to respond.

Consider late shipment and a missing insurance document. The bank should not report only late shipment and silently retain the second issue for later. A complete, timely and specific notice is operationally safer. If corrected documents are presented before expiry and other deadlines, examine the new presentation under its circumstances. Do not treat a corrected presentation as automatically compliant or automatically barred. The facts, timing and applicable terms determine the result.

Financing, reimbursement and crystallisation

A complying presentation may create payment, acceptance, deferred-payment or negotiation obligations depending on availability. Financing before final reimbursement creates credit, liquidity and operational exposures that must be sanctioned and monitored. Discounting a future payment undertaking is different from simply collecting documents. The bank must identify whose obligation it relies on and whether recourse applies. A low-risk issuing bank does not eliminate document risk or errors in the financing agreement.

Bank-to-bank reimbursement arrangements may incorporate URR 725. The reimbursing bank's role should be understood separately from the issuing bank's documentary undertaking. Reimbursement instructions, claims, authorisations and any reimbursement undertaking have their own terms. Do not assume the reimbursing bank examines the same documents as the issuing bank or that a reimbursement problem automatically excuses the issuer from its beneficiary obligation. The exact arrangement and incorporated rules should be read together.

Crystallisation refers operationally to converting an outstanding foreign-currency liability into a domestic-currency liability under the applicable bank and market rules. It does not extinguish the borrower's debt. The conversion date, rate, interest and charges require the applicable policy and contractual basis; there is no universal day count taught here for every bill. In a numerical case, use the stated crystallisation rate and show the rupee principal separately from interest and fees. This prevents an exchange conversion from being confused with debt forgiveness.

Incoterms and insurance: allocate distinct risks

Incoterms allocate specified delivery responsibilities, costs and risks between seller and buyer when incorporated into the sales contract. They do not themselves create a bank payment undertaking or determine ownership in every legal system. The named place or port and edition matter. Writing a three-letter term without its location can leave an important operational ambiguity. The credit's transport and insurance requirements should be consistent with the agreed trade structure.

Under common C terms, the seller may pay carriage to a destination even though risk transfers earlier at the specified delivery point. Therefore, who pays freight and who bears transit risk are separate questions. A learner who assumes cost destination always equals risk-transfer destination will misread many cases. Use a timeline showing handover, loading, voyage and arrival, and place cost and risk labels separately. The diagram should explain the commercial allocation rather than imply all terms use the same point.

Marine cargo insurance protects against specified physical-loss risks; export credit insurance concerns eligible payment risks. An LC adds a documentary payment undertaking. These instruments can complement one another but are not substitutes. If goods are damaged and documents comply, the bank's documentary obligation and the cargo claim may proceed on different tracks. The buyer should arrange the appropriate commercial protection instead of expecting documentary examination to inspect the actual machinery inside a sealed container.

Risks and safeguards for banks

The issuing bank faces applicant credit risk when it must honour despite the applicant's inability to reimburse. Country and transfer risk may affect overseas obligations. Fraud can involve forged documents, fictitious shipments or collusion. Operational risk includes incorrect issue, missed deadlines, unauthorised amendments and wrong beneficiary details. Sanctions and legal restrictions can complicate performance. A comprehensive assessment considers these risks separately because each requires a different control or contractual response.

Useful safeguards include authenticated communications, independent checking, clear limits, appropriate margin, document tracking and escalation of unusual transactions. Check whether goods, prices, routes and counterparties make commercial sense. Repeated amendments increasing amount or changing beneficiaries near shipment can warrant scrutiny. Staff should not bypass controls merely because an LC number exists. The existence of a bank instrument is one fact in the risk assessment, not proof that the underlying trade is genuine.

Monitoring continues through maturity and reimbursement. Maintain a register of undertakings, document status, discrepancies, acceptances, due dates and applicant funding. A usance bill accepted today creates a future cash obligation that can be missed if tracking stops after document release. Reconcile contingent liabilities and funded exposures as the transaction changes state. Accurate reporting prevents double counting, omitted obligations and an incorrect impression that an LC disappears once the exporter has shipped.

Worked documentary and financing cases

An LC permits shipment by 10 June and expires on 30 June. Goods ship on 9 June and documents arrive on 29 June. The presentation is 20 calendar days after shipment and before expiry, so those two timing tests pass under the stated default assumptions. This does not establish complete compliance: amounts, documents and other terms still require review. If documents instead arrive on 1 July, the expiry test fails even if another presentation-period argument appears favourable.

A second case concerns a USD50,000 accepted bill due in 90 days. Using an illustrative simple discount rate of 6% and a 360-day basis, discount is USD750 and proceeds before fees are USD49,250. The calculation describes pricing, not the bank's obligation to negotiate. If a USD100 fee applies, net proceeds are USD49,150. State whether the fee is deducted upfront and whether interest uses face value or another contractual base. Different conventions cannot be mixed silently.

A third case involves an invoice for USD50,000 when the credit permits only USD48,000 and no applicable tolerance supports the excess. The examiner should identify the amount problem and follow the proper process rather than assume the buyer's commercial approval changes the credit. Compare this with a credit containing an applicable tolerance: the result could differ. Examination questions often test whether the candidate reads the actual terms instead of applying a remembered percentage to every transaction.

Revision and the document review discipline

Use a structured order: authenticate the credit, establish the operative terms, identify availability and parties, record all dates, inspect required documents, compare data, decide compliance and communicate within the applicable rules. Then follow payment, reimbursement and applicant recovery. This order reduces the chance of focusing on an invoice spelling difference while missing expiry or a missing transport document. A checklist supports judgement; it does not replace understanding why each item matters.

Remember the central distinctions. Advising is not confirmation. Nomination is not automatically financing. Assignment of proceeds is not transfer of the credit. A sight credit is not necessarily immediate cash without examination. A buyer waiver is not a universal substitute for a compliant presentation. Incoterms are not documentary-credit rules. These contrasts explain many plausible wrong answers and should be reinforced through cases rather than memorised as disconnected slogans.

For professional practice, obtain the applicable licensed ICC texts, bank procedures and legal guidance when needed. This original chapter explains concepts and examples without reproducing those standards. For examination preparation, note the edition and cutoff specified in the question. For an actual transaction, apply the operative instrument and current law. The strongest answer shows both the documentary reasoning and the practical next action, with a clear statement of any assumption on which the conclusion depends.



The shipment, transport document and bank payment move on separate paths.

Container ship Anna Schulte · Tvabutzku1234 · CC0 1.0

Document scrutiny | Two shipment cases

Decision	Apply the credit terms and UCP 600
6. Check insurance amount and effective date	The credit calls for warehouse cover and 110% of a USD 17,920 invoice. USD 20,000 exceeds the USD 19,712 amount required. The insurance document is dated 17 March 2017 and the transport document 15 March. If shipment occurred on 15 March, check whether the document shows cover effective by that date. A later issue date is acceptable under Article 28(e) when the required effective date is evidenced. Check the warehouse requirement separately.
7. Check whether the shipment is partial	The credit prohibits partial shipments. Two bills of lading dated 17 and 19 May cover 500 cartons each. The 1,000 cartons are to travel on the same vessel and journey from Chennai to Dubai. Article 31(b) treats such documents as a single shipment if they evidence the same means of conveyance, journey and destination. Two bills alone do not justify rejection.

ICC UCP 600, Articles 28 and 31

Practice with explanations

01. What is the principal trigger for payment under a documentary credit?

A. Any invoice sent by email	B. Physical inspection by every bank
C. A complying presentation under its terms	D. Buyer's satisfaction with goods alone

Answer C. The undertaking is documentary and conditional on compliance. Buyer satisfaction and physical inspection are separate commercial matters; an emailed invoice alone does not necessarily satisfy all required documents, timing and presentation terms.

02. An advising bank merely advises a credit. What has it not automatically added?

A. Communication to the beneficiary	B. Its own confirmation undertaking
C. Authentication-related advice	D. Its stated advising role

Answer B. Advice does not itself create confirmation. Authentication and transmission belong to the advising role; an additional independent payment undertaking requires the relevant confirmation arrangement, not merely forwarding an authenticated credit.

03. Who normally requests issue of an import LC?

A. Reimbursing bank acting without instructions	B. Applicant importer
C. Beneficiary exporter as applicant in every case	D. Cargo insurer

Answer B. The importer normally applies to its issuing bank. The exporter is usually beneficiary, the cargo insurer covers different risks, and a reimbursing bank performs its specified role rather than originating every credit application.

04. Does nomination alone oblige a bank to finance every presentation?

A. Yes even outside the credit	B. Yes without conditions
C. Only because the buyer wants it	D. No

Answer D. Nomination authorises the specified role but is not by itself an unconditional financing obligation. Credit terms, the bank's agreement and compliance matter; neither buyer preference nor an outside presentation creates that obligation.

05. Which describes confirmation?

A. An additional bank undertaking	B. Applicant's informal approval
C. A translation of the sales contract	D. A courier receipt

Answer A. Confirmation adds the confirming bank's undertaking under the applicable terms. Courier acknowledgement, buyer approval and contract translation do not create that bank commitment and should not be treated as equivalent protection.

06. Which statement about sight credits is best?

A. Expiry cannot apply	B. No documents are required
C. Cash must be paid instantly at any branch	D. Examination and processing still occur

Answer D. Sight availability does not remove documentary examination, presentation requirements or expiry. Instant payment at any branch is not promised by the term alone; the operative credit defines where and how it is available.

07. What distinguishes deferred payment from acceptance?

A. Acceptance never involves a draft	B. Both eliminate maturity risk
C. Deferred payment is always advance cash	D. Deferred payment need not require a draft

Answer D. Deferred payment can establish a future undertaking without a draft, whereas acceptance involves the relevant draft. Neither means advance cash or removes the need to monitor maturity, funding and the obligated party.

08. Is assignment of proceeds identical to transfer of a credit?

A. Yes if the invoice is large	B. Only the transport mode decides
C. Yes in every credit	D. No; the rights involved differ

Answer D. Assignment of money proceeds differs from transfer of credit availability and performance rights. Invoice size or transport mode does not merge those concepts; transfer requires the applicable terms and authorisation.

09. What does a back-to-back structure involve?

A. A cargo policy replacing the LC	B. Only a duplicate printout
C. Automatic transfer of the first credit	D. A separate second credit

Answer D. A back-to-back arrangement uses a separate credit supported by the first and creates distinct obligations. A copy, a transfer and insurance are different structures and do not describe the second undertaking.

10. Under UCP 600, the maximum examination period is generally what?

A. Five banking days following presentation day	B. Five calendar days including presentation
C. Twenty-one banking days	D. Until the applicant returns from travel

Answer A. The specified examining banks have five banking days following presentation. Calendar days and inclusion of presentation day miscount the period; 21 days concerns another timing issue, and applicant availability does not suspend the rule.

11. Which two timing tests can both matter for transport-document presentation?

A. Only invoice date	B. Presentation period and credit expiry
C. Only shipment date	D. Only payment maturity

Answer B. A presentation can satisfy a post-shipment period yet miss expiry. Shipment and invoice dates or payment maturity alone cannot establish timely presentation; each applicable deadline must be checked separately.

12. Shipment is 9 June and presentation 29 June, before 30 June expiry. How many elapsed calendar days?

A. 21	B. 20
C. 30	D. 29

Answer B. Subtract the dates within the month: 29 minus 9 equals 20 elapsed days. The date numbers and an inclusive count are not the elapsed period; other documentary conditions still require examination.

13. An applicant emails agreement to changed terms. What should the beneficiary obtain?

A. Assume the email changes every bank undertaking	B. Ignore all versions
C. The operative credit amendment through the proper process	D. Ship despite an impossible deadline

Answer C. Commercial agreement alone does not necessarily amend the bank's undertaking. The proper amendment and acceptance process matters; ignoring deadlines or version history creates avoidable documentary risk.

14. An invoice says 100 pumps and packing list says ten crates. Is that automatically conflicting?

A. No; contents may be consistent	B. Yes because all text must be identical
C. No documents ever need comparison	D. Yes because numbers differ

Answer A. Different units can describe the same shipment, such as ten crates containing 100 pumps. Data need not be mechanically identical, but substantive conflicts still require examination; comparison cannot simply be abandoned.

15. A refusal notice identifies only one of two known discrepancies. What is the concern?

A. That documents become goods	B. Notice completeness and preservation of the bank's position
C. That more notices always cure everything	D. That applicant silence automatically accepts

Answer B. Refusal rules require proper timely communication of grounds and document disposition. Omitting a known ground can prejudice the bank; later notices or applicant silence are not automatic cures, and documents remain distinct from goods.

16. Does seeking an applicant waiver suspend the examination clock?

A. No	B. Yes until shipment arrives
C. Yes whenever the applicant is busy	D. Yes indefinitely

Answer A. Waiver discussions do not automatically stop the applicable examination and notice timetable. Operational convenience, shipment arrival or an applicant's absence cannot be assumed to extend a rule-based deadline.

17. What is URR 725 concerned with?

A. Exchange-rate prediction	B. Bank-to-bank reimbursements when incorporated
C. All domestic housing loans	D. Cargo inspection

Answer B. URR concerns reimbursement arrangements between banks within its scope. It is not an inspection code, domestic lending rule or forecasting model; documentary-credit obligations and reimbursement roles must still be distinguished.

18. What does crystallising a foreign-currency liability ordinarily do?

A. Converts it under the applicable terms into a domestic-currency liability	B. Forgives the debt
C. Removes all interest	D. Guarantees recovery

Answer A. Crystallisation changes the currency expression under relevant rules and terms. It does not cancel the borrower's obligation, guarantee collection or automatically eliminate interest and charges; those require separate treatment.

19. What do Incoterms principally allocate?

A. The customer's tax residence	B. The bank's LC undertaking
C. Specified delivery duties, costs and risks	D. Every ownership issue universally

Answer C. Incoterms address trade delivery responsibilities and risk/cost allocation when incorporated. They do not themselves create an LC, settle every title question or determine residence, which arise under different arrangements and law.

20. Can freight payment destination differ from risk-transfer point?

A. Never	B. Only because the bank chooses it
C. Yes under relevant trade terms	D. Only if no contract exists

Answer C. Cost and risk can transfer at different points under applicable terms. They are not universally identical, and the contract's incorporated rule and named place matter rather than an arbitrary bank choice.

21. USD50,000 discounted for 90/360 years at 6% simple discount gives what discount?

A. USD3,000	B. USD49,250
C. USD12,500	D. USD750

Answer D. Discount is 50,000 times 0.06 times 90/360, or 750. Three thousand is a full-year amount; 49,250 is proceeds before fees, and 12,500 incorrectly ignores the interest rate.

22. After USD750 discount and USD100 fee on USD50,000, net proceeds are what?

A. USD50,100	B. USD49,150
C. USD49,250	D. USD50,750

Answer B. Subtract both deductions: 50,000 minus 750 minus 100 equals 49,150. The other values omit the fee or add deductions instead of recognising that they reduce the exporter's immediate proceeds.

23. Does an LC eliminate applicant credit risk for the issuer?

A. No; the issuer may need to honour despite applicant weakness	B. Only if payment is deferred
C. Yes after advice	D. Yes because documents exist

Answer A. The issuer can owe under its undertaking while the applicant cannot reimburse. Documents, advice and deferred timing do not remove that credit exposure; appraisal, limits and recovery arrangements remain necessary.

24. A standby LC usually supports which commercial function?

A. Guaranteed currency profits	B. Routine cargo insurance
C. Automatic transfer of title	D. Payment or performance default support under its terms

Answer D. A standby is generally a default-support undertaking governed by its terms and incorporated rules. Cargo protection, title transfer and exchange gains are different functions and cannot be inferred from the standby label.

25. Why record both ISBP 745 and ISBP 821 in this chapter?

A. 745 is a currency code	B. The syllabus reference and later practice edition differ
C. 821 abolishes all law	D. They are the same publication number

Answer B. The syllabus names 745 while ICC published the later 821 edition. Version awareness prevents confusion; neither number is a currency code or a claim that contractual practice overrides applicable law.

A04 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 An exporter wants confidence of payment before dispatching goods.	**15** Data need not be identical in every place merely because it appears on several documents, but it must not conflict in a way that breaches the applicable standard.
02 Suppose an Indian engineering firm sells equipment to a new overseas buyer.	**16** For example, a credit requires shipment of 100 specified pumps from Port X to Port Y.
03 The applicant requests the credit, usually as importer.	**17** A discrepancy means the presentation fails an applicable requirement.
04 The sales contract, application agreement and documentary credit are related commercially but legally distinct.	**18** An applicant may be willing to waive discrepancies, but that commercial willingness is not an automatic instruction binding every bank in every role.
05 Draw four boxes: importer, issuing bank, advising or confirming bank, exporter.	**19** Consider late shipment and a missing insurance document.
06 A sight credit provides payment on a complying presentation under its terms; it does not guarantee instant cash the moment papers reach any branch.	**20** A complying presentation may create payment, acceptance, deferred-payment or negotiation obligations depending on availability.
07 Confirmed and unconfirmed describe whether an additional bank undertaking has been added.	**21** Bank-to-bank reimbursement arrangements may incorporate URR 725.
08 A red-clause arrangement can permit an advance before shipment under stated conditions, creating additional performance and recovery exposure.	**22** Incoterms allocate specified delivery responsibilities, costs and risks between seller and buyer when incorporated into the sales contract.
09 Before issue, the bank assesses the applicant's creditworthiness, sanctioned limits, margin, goods, transaction purpose, country exposure and compliance requirements.	**23** Under common C terms, the seller may pay carriage to a destination even though risk transfers earlier at the specified delivery point.
10 The beneficiary should review the credit before shipment.	**24** Marine cargo insurance protects against specified physical-loss risks; export credit insurance concerns eligible payment risks.
11 Amendments require attention to the relevant parties and acceptance mechanics.	**25** The issuing bank faces applicant credit risk when it must honour despite the applicant's inability to reimburse.
12 The bank examines documents on their face for compliance with the credit, UCP where applicable and the relevant standard banking practice.	**26** Monitoring continues through maturity and reimbursement.
13 Our deadline exercise deliberately supplies the banking-day sequence rather than guessing public holidays.	**27** An LC permits shipment by 10 June and expires on 30 June.
14 The commercial invoice identifies the trade amount and goods information required by the credit.	**28** A second case concerns a USD50,000 accepted bill due in 90 days.

A05 Facilities for Exporters and Importers

Practice / Quick Revision

Follow the operating cycle

Trade finance bridges the time between expenditure and receipt. An exporter buys materials, manufactures, ships and waits for payment. An importer may pay before goods arrive, hold inventory and sell on credit before collecting cash. These cycles create different funding needs at different stages. The bank should identify the stage and expected repayment source before choosing a product. A generic working-capital limit may not capture the shipment, currency and documentary controls needed for a particular transaction.

Imagine a textile exporter receiving an order payable 60 days after shipment. Production takes 45 days and shipping preparation takes another 15. The firm may need funds for 120 days from material purchase to customer payment. Pre-shipment finance covers the first part; post-shipment finance covers the receivable period. The loan should move through those stages with evidence, rather than remain indefinitely described as packing credit after shipment and payment have already occurred.

The chapter teaches export and import facilities, monitoring systems, factoring, forfaiting and trade-credit structures. It also distinguishes current operational rules from older textbook prescriptions. RBI's January 2026 export-import framework states an October 2026 commencement date. Because this delivery is dated November 2026, an older fixed deadline cannot be labelled current merely because it appears in familiar notes. The source register records the transition and the limits of later-amendment verification.

Trade control and exchange control work together

Trade policy determines matters such as whether goods may be imported or exported and what licences or conditions apply. Exchange management governs the related payments, receipts, reporting and permitted arrangements. Customs evidence concerns movement and declarations. A payment permission does not automatically authorise prohibited goods, and a customs document does not prove that every financing condition has been met. The officer needs a coherent transaction file across these different functions.

Establish the customer, goods or services, counterparties, countries, price, shipping route, payment terms and expected documents. Check whether the arrangement is a normal sale, consignment, advance payment, third-party payment or merchanting trade. Each can change the risk and monitoring requirements. A service export may not produce the same physical shipping evidence as merchandise. The appropriate evidence follows the transaction rather than forcing every exporter into one document checklist.

Commercial reasonableness is a useful control. An implausible price, circuitous route or unrelated payer may require explanation. It is not proof of wrongdoing by itself, but it should not be ignored because the documents look professionally printed. Compare the transaction with the customer's business and capacity. Record the explanation and supporting evidence. Trade-based financial-crime risks often arise from inconsistencies across documents, money and goods rather than a single obvious error on one form.

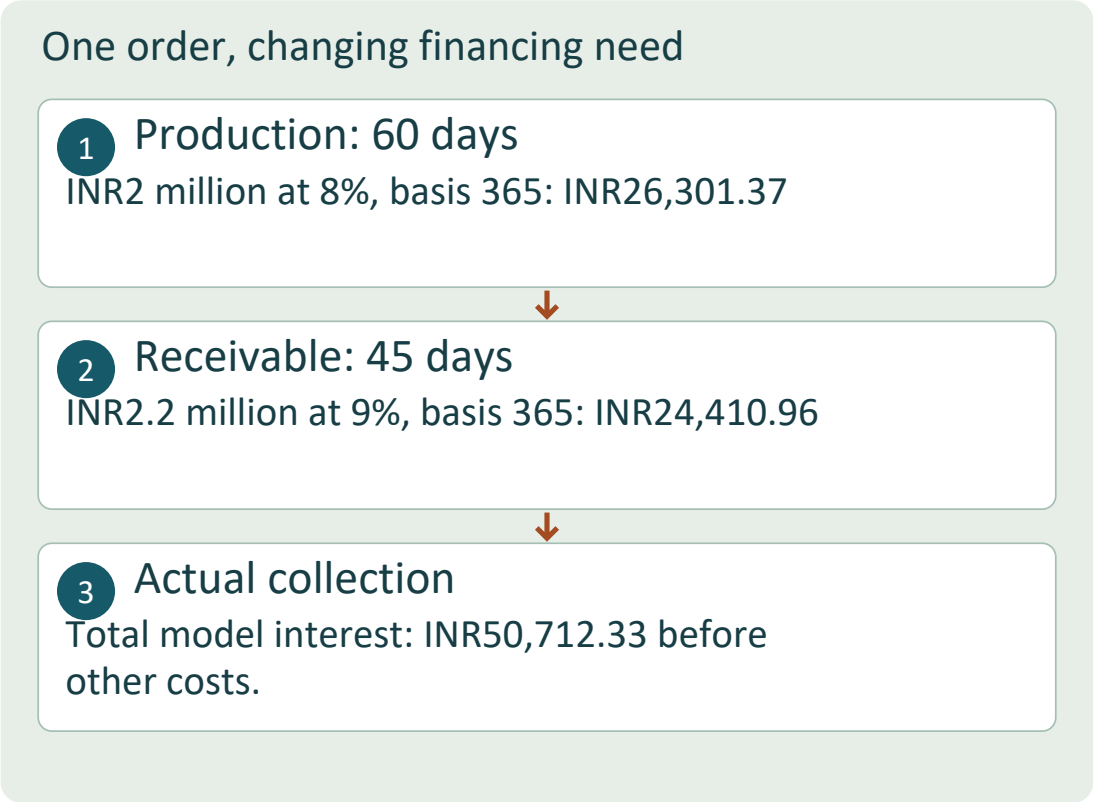
Pre-shipment finance

Packing credit supports eligible expenditure before shipment, such as materials, processing, packing and other costs connected with an export order or arrangement. The bank assesses the exporter, order, production cycle, margins and expected export proceeds. Disbursement and monitoring should reflect actual need. Financing the full invoice value immediately may overfund a business whose costs arise gradually. The purpose is to support performance of the export, not provide an unrestricted cash balance unrelated to the transaction.

Rupee packing credit and pre-shipment credit in foreign currency have different currency and pricing implications. Foreign-currency funding may match future receipts but can become problematic if the export is

cancelled or the receipt currency differs. Compare all-in cost, conversion charges and hedge requirements rather than only headline interest. A cheaper foreign rate is not automatically a cheaper rupee outcome. The borrower needs to understand how the loan will be liquidated if the expected export proceeds do not arrive.

Monitor procurement, production, shipment deadlines and deviations. If an order is cancelled, promptly reassess the facility, repayment source and applicable treatment. Continuing to roll the loan merely because an original order once existed hides the change in risk. Banks may operate approved running-account or other arrangements for eligible exporters, but the controls and reconciliation still matter. The label of the facility does not remove the need to connect finance with genuine export activity and eventual liquidation.



INR2 million at 8%, basis 365: INR26,301.37 INR2.2 million at 9%, basis 365: INR24,410.96 Total model interest: INR50,712.33 before other costs.

Post-shipment finance and liquidation

After shipment, the exporter holds a receivable while waiting for payment. Post-shipment finance may include purchase, discounting or negotiation of eligible export bills and advances against appropriate export receivables. The precise product depends on payment terms, documents, recourse and the bank's sanction. An LC-backed bill differs from an open-account receivable because the available undertakings differ, but documentary and country risks still need assessment. The presence of an LC does not make every presentation compliant.

When export proceeds are received, allocate them correctly to the outstanding finance, interest, charges and customer balance. Identify short payments and deductions rather than closing a bill merely because some money arrived. A USD100,000 invoice with a USD98,000 receipt leaves a USD2,000 difference requiring explanation. It may be an agreed discount, bank charge, quality claim or an unpaid balance. Each explanation has different documentation and monitoring consequences.

Avoid double financing. If a receivable has been assigned or discounted elsewhere, another lender should not unknowingly finance the same claim as if it were unencumbered. Verify assignments, confirmations and the customer's declarations through appropriate controls. A clean invoice alone cannot reveal every prior financing arrangement. The repayment source should remain visible throughout the transaction, including when proceeds are received through another bank or in a different currency under a permitted arrangement.

Export finance arithmetic

Assume INR2,000,000 of pre-shipment finance for 60 days at 8% simple annual interest on a 365-day basis. Interest is principal multiplied by rate and time: 2,000,000 × 0.08 × 60 ÷ 365, approximately INR26,301.37. If post-shipment finance of INR2,200,000 then runs for 45 days at 9%, interest is approximately INR24,410.96. Total illustrative interest is INR50,712.33 before fees, taxes or compounding. The different principals and periods must be calculated separately.

An exporter should compare finance cost with expected margin, but the comparison must use consistent bases. If the export contribution before financing is INR300,000, deducting the illustrative interest leaves INR249,287.67 before other omitted costs. This does not establish accounting profit because overheads, taxes, exchange effects and losses may remain. A useful calculator states exactly which costs it includes. It should not display a precise-looking profit when it has only calculated one component of cost.

Now suppose collection is delayed by 30 days on the INR2,200,000 post-shipment amount at the same illustrative 9%. Additional simple interest is approximately INR16,273.97. The delay can also consume the exporter's limit and postpone the next production cycle. Thus the cost of late payment includes liquidity and capacity effects beyond interest. A case answer should identify both the arithmetic cost and the operational consequence, especially where a business depends on repeated short production cycles.



Fund the stage, not an indefinite label. Connect documents and receivable to the post-shipment exposure. Apply actual proceeds; investigate deductions and outstanding ba…

Gold Card and monitoring systems

The Gold Card scheme for eligible exporters is intended to improve access and service for creditworthy exporters under the applicable bank framework. It should not be described as a guarantee of unlimited credit or a waiver of appraisal. Eligibility, conduct, limits and bank implementation matter. The useful examination distinction is between a facilitation arrangement and an exemption from risk management. A well-performing exporter still needs genuine orders, repayment capacity and compliance with transaction requirements.

EDPMS supports monitoring of export data and realisation; IDPMS performs a corresponding role for import data and evidence. Their purpose is to connect relevant trade and payment records and identify outstanding

items. A system match is a record-management result, not proof that the customer has no credit or compliance risk. Conversely, an unmatched item may reflect a data or timing problem rather than immediate wrongdoing. Investigate the cause and retain evidence of the correction.

Operational teams should reconcile shipping or import references, invoices, bank receipts or payments and permitted adjustments. Assign an owner to each exception and track ageing. An export receivable that is commercially unpaid requires a different response from a fully paid bill carrying a wrong reference number. Treating both as a generic pending item delays resolution. Good management reports distinguish financial exposure, missing evidence, reporting errors and requests awaiting the relevant authority or bank decision.

Factoring: finance plus receivables services

Factoring involves an arrangement concerning receivables that may include finance, collection, ledger administration and credit protection, depending on the contract. With-recourse and without-recourse structures allocate specified non-payment risk differently. Without recourse does not mean the seller has no obligations of any kind: disputes, fraud, dilution or breaches of representations may remain outside the transferred risk. Read the contract rather than inferring complete risk transfer from a marketing label.

Suppose a factor advances 80% of an eligible INR1,000,000 receivable. The initial advance is INR800,000 and the reserve is INR200,000 before fees and adjustments. If charges total INR25,000 and the debtor pays in full, the final balance released is INR175,000 under this simplified arrangement. The reserve is not automatically a permanent fee. It protects against adjustments until collection and settlement occur. Separate the advance percentage, financing charge and service fee when comparing offers.

Factoring can improve cash flow and receivables administration, but it also introduces operational requirements. Notify debtors where required, establish assignment validity, reconcile collections and prevent payments being diverted to the seller's old account. Assess debtor concentration and dispute history. A large receivable from one unreliable buyer may be less suitable than several smaller sound receivables. The factor's funding decision should consider the quality and enforceability of the claim, not just the seller's need for immediate money.

Forfaiting and medium-term receivables

Forfaiting commonly involves purchase of eligible export receivables without recourse to the exporter for the specified credit risk, often linked to medium-term obligations and supported by an acceptable bank guarantee or aval where the structure requires it. It can convert future payment instalments into immediate proceeds. The exact documents, risk allocation and pricing determine the arrangement. Do not assume all forfaiting transactions have identical maturities, guarantees or discount methods.

For a simple illustration, a USD100,000 receivable due after one year is discounted at a stated simple discount rate of 7%. Discount is USD7,000 and proceeds are USD93,000 before other charges. This is a discount-on-face-value example, not an effective-yield calculation. If instead the quoted convention is present value at a 7% yield, proceeds would be 100,000 ÷ 1.07, approximately USD93,457.94. Similar rate labels can therefore produce different cash amounts.

Compare factoring and forfaiting by the actual receivable, service bundle, tenor, documentary form and risk allocation rather than a rigid slogan. Factoring often supports a continuing stream of receivables and administration; forfaiting often focuses on specified future payment obligations. Both require valid claims and careful documentation. Neither automatically solves product-quality disputes or fraudulent documentation. In an examination, use the case facts to identify the best fit and explain the remaining exposure after the financing transaction.

Import payments and finance

An importer may pay in advance, through a documentary collection, under an LC or on open account. Advance payment exposes the importer to supplier performance risk. Open account exposes the exporter to buyer payment risk. Documentary collection uses banks to handle documents under instructions without automatically creating an independent bank payment undertaking. An LC adds the undertaking described in the previous chapter. The payment method changes risk allocation before any separate loan is considered.

Import finance may fund the payment itself or the inventory period after arrival. Assess the goods, licences where relevant, supplier, shipment terms, repayment source and evidence of import. An importer borrowing for machinery has a different cash-generation pattern from one importing rapidly sold inventory. Match tenor to the realistic operating cycle and applicable rules. Repeated short-term refinancing of a long-lived asset can create rollover risk even when each individual loan appears small.

The bank should monitor whether goods arrive and whether the required import evidence is available. A payment made does not establish that an import occurred. Delayed arrival, damaged goods, changed suppliers or cancelled orders require follow-up. Refunds and adjustments need a documented link to the original payment. Avoid treating a supplier's promise to refund as the same as funds received. The financing exposure remains until repayment or another valid resolution actually occurs.

Supplier's credit and buyer's credit

Supplier's credit arises when the overseas supplier extends credit for the import. Buyer's credit involves financing from an eligible lender to enable the importer to pay the supplier, subject to the applicable trade-credit framework. The key distinction is who provides the credit, not whether the imported goods are useful or whether payment is made in dollars. Both structures require analysis of maturity, cost, guarantees, reporting and permitted end use.

Consider a machine costing USD200,000. Under supplier's credit, the supplier may permit payment after an agreed period. Under buyer's credit, a lender pays or funds payment to the supplier while the importer owes the lender. The bank should map the payment obligation and any guarantee separately. A guarantee can create a contingent liability even when the bank has not yet advanced cash. The absence of a funded loan on day one does not mean zero exposure.

Compare all-in costs using the same currency and horizon. Include interest, arrangement fees, guarantee charges and hedge cost where relevant. A 4% foreign-currency rate plus a 3% annualised hedge cost may be less attractive than it first appears, particularly after fees. Adding percentages can be a rough comparison only when bases and periods align. For a precise decision, calculate cash flows and the applicable convention. The educational tool uses explicit simplified inputs and labels the omissions.

Integrated exporter case

Saffron Tools receives a USD80,000 order, spends INR4,000,000 over production and expects payment 60 days after shipment. The bank sanctions suitable pre-shipment finance with a margin and monitors procurement. On shipment, the facility is adjusted into the appropriate post-shipment exposure against documents. The exporter should not receive duplicate finance merely because a second department processes the bill. The transaction reference links the order, loan, shipping evidence, receivable and eventual receipt.

The buyer later pays USD78,500 and claims a USD1,500 quality adjustment. The bank must establish whether the exporter accepts the deduction and whether the applicable adjustment requirements are met. Meanwhile, the finance account needs actual liquidation and any remaining balance needs treatment. Neither EDPMS closure nor an insurance notification alone repays the loan. Keep regulatory record closure, accounting settlement and commercial dispute resolution distinct even when they concern the same shipment.

If payment is delayed, reassess the buyer, country, overdue interest and insurance conditions promptly. Waiting until the loan becomes severely overdue may prejudice recoveries or claim rights. The exporter may need working capital for the next order, creating a temptation to use new finance to conceal old non-payment. A sustainable decision evaluates the new order and the unresolved receivable separately. Temporary support should have a documented repayment plan and transparent classification rather than simply extending dates without analysis.

Revision and current-rule discipline

The operating cycle provides the chapter's organising principle: finance before shipment supports production; finance after shipment supports a receivable; import finance supports payment and inventory or asset acquisition. Factoring and forfaiting alter the timing and allocation of receivables cash flows. Monitoring systems connect trade evidence with payments. None of these facilities removes the need to assess genuine trade, repayment capacity and the precise risk retained by the bank or customer.

For calculations, state principal, annual rate, day-count basis, tenor, fees and currency. Calculate separate stages separately. Distinguish discount on face value from present-value pricing and an advance reserve from a fee. For qualitative questions, identify who owes whom and what event repays the facility. These simple disciplines resolve many apparently complex cases without requiring memorisation of every possible product variant or commercial arrangement.

For rule-based questions, identify the transaction date and examination cutoff. The 2026 framework's commencement and any subsequent amendments must be read with the relevant transition provisions. This chapter deliberately avoids presenting an unverified universal realisation or import-settlement deadline. Use the dated source card and applicable bank instructions for those operational limits. A complete conceptual explanation can coexist with precise disclosure of source-version limits; inventing a current deadline would make the material less reliable, not more comprehensive.

Practice with explanations

01. What principally differentiates pre- and post-shipment finance?

A. The stage and repayment asset in the export cycle	B. Whether the customer likes dollars
C. Only invoice font	D. Only the branch name

Answer A. Pre-shipment finance supports production before shipment; post-shipment finance supports the resulting receivable. Administrative labels and currency preference do not define the stage or establish the appropriate repayment source.

02. Production takes 45 days, preparation 15 and collection 60. What is the illustrated total cycle?

A. 105 days	B. 120 days
C. 15 days	D. 60 days

Answer B. Add the sequential stages: 45 plus 15 plus 60 equals 120. Using only one stage or omitting preparation understates the period from production expenditure to expected collection under the supplied assumptions.

03. What is packing credit intended to support?

A. Only an overdue import bill	B. Any unrelated personal spending
C. Automatic dividend payment	D. Eligible pre-shipment export expenditure

Answer D. Packing credit supports the export production and preparation need under its terms. Personal spending, unrelated imports and dividends do not become eligible merely because the borrower also operates an export business.

04. An export order is cancelled after finance. What should happen?

A. Treat cancellation as loan repayment	B. Reassess purpose, repayment and treatment promptly
C. Create a fictitious shipment	D. Roll indefinitely without review

Answer B. Cancellation changes the expected repayment source and requires review. It does not repay the advance; indefinite rolling or fabricated evidence conceals risk instead of establishing a valid resolution.

05. Why compare more than foreign-currency headline interest?

A. Currency risk never affects loans	B. All low coupons guarantee profit
C. Only the loan name matters	D. Exchange, hedge, fees and repayment structure affect cost

Answer D. The all-in economic outcome includes currency and other costs. A low coupon can be outweighed by depreciation or fees, and neither product naming nor ignoring exchange exposure provides a fair comparison.

06. An invoice is USD100,000 and receipt USD98,000. What needs investigation?

A. A USD100,000 new loan	B. Nothing because some cash arrived
C. A USD98,000 loss	D. The USD2,000 difference

Answer D. The residual difference could be a deduction, charge, dispute or unpaid balance. Partial receipt does not automatically close the bill, and neither the receipt nor original invoice equals the unexplained shortfall.

07. What is double financing risk?

A. The same receivable being financed more than once without proper control	B. Charging interest twice in every loan
C. Using two currencies in a calculation	D. Two genuine unrelated exports

Answer A. Duplicate funding of one claim can overstate available security and repayment assets. Separate genuine exports or currency conversions are not inherently double financing; the issue is the same underlying receivable and its existing assignments.

08. INR2 million at 8% for 60/365 years earns approximately what interest?

A. INR9,600,000	B. INR160,000
C. INR26,301.37	D. INR16,000

Answer C. Simple interest is 2,000,000 times 0.08 times 60/365. The full-year amount ignores tenor, the huge amount omits division by the year basis, and 16,000 does not follow the stated period.

09. INR2.2 million delayed 30 days at 9% on 365 basis adds approximately what?

A. INR198,000	B. INR59,400
C. INR16,273.97	D. INR6,600

Answer C. Apply principal times annual rate times 30/365. A full year's interest and unrelated percentage shortcuts do not measure the stated delay; the additional cost also excludes fees and other consequences.

10. What is a limitation of calling contribution after interest net profit?

A. Currency never changes results	B. Other costs and taxes may remain
C. All export proceeds are profit	D. Interest can never be deducted

Answer B. A partial cost model does not establish final accounting profit. Interest is relevant, but overheads, taxes, exchange effects and other costs may remain; gross receipts and selected margins are not interchangeable.

11. What is the Gold Card scheme best understood as?

A. Unlimited automatic lending	B. Facilitation for eligible creditworthy exporters
C. A waiver of all appraisal	D. Cargo insurance

Answer B. The scheme facilitates service and credit access under conditions. It does not create unlimited entitlement, remove appraisal or insure physical cargo; eligibility and bank implementation still matter.

12. What does EDPMS principally support?

A. Export data and realisation monitoring	B. Sterling settlement
C. Physical inspection of all cargo	D. Personal tax filing

Answer A. EDPMS connects export records and realisation monitoring. It is not CHAPS, a tax-return system or a universal inspection service; a system record does not itself establish every commercial fact.

13. Which system relates to import data and evidence monitoring?

A. SWIFT as the import register	B. IDPMS
C. FCNR(B)	D. EDPMS for every import

Answer B. IDPMS is the import monitoring system. EDPMS concerns exports, SWIFT provides messaging and FCNR(B) is a deposit scheme; related international functions should not be confused with each other.

14. Does an unmatched monitoring item always prove non-payment?

A. No; data and timing errors are possible	B. Yes without review
C. No item ever matters	D. Only the customer's opinion decides

Answer A. An exception needs diagnosis: missing references, timing and actual unpaid exposure differ. Automatic guilt, complete dismissal or unsupported customer opinion cannot replace reconciliation with trade and payment evidence.

15. A factor advances 80% of INR1 million. What is the initial advance?

A. INR1,250,000	B. INR80,000
C. INR200,000	D. INR800,000

Answer D. Multiply the receivable by 0.80 to obtain 800,000. Two hundred thousand is the reserve, division by the percentage reverses the calculation, and 80,000 is a decimal-scale error.

16. Reserve INR200,000 less charges INR25,000 gives what final release after full collection?

A. INR225,000	B. INR175,000
C. INR25,000	D. INR800,000

Answer B. The simplified final release is reserve minus charges, or 175,000. Adding charges reverses their effect; the initial advance and fee are different amounts and do not equal the remaining customer payment.

17. Does without-recourse factoring remove every seller obligation?

A. Only the invoice date matters	B. No; exclusions and representations can remain
C. Yes including every dispute	D. Yes including fraud

Answer B. Risk transfer is defined by the contract. Fraud, dilution, disputes or representation breaches may remain with the seller; the label does not create unlimited protection and invoice date alone cannot establish coverage.

18. What commonly characterises forfaiting?

A. A tax-refund process	B. Purchase of specified future export obligations under its terms
C. Only a current-account deposit	D. Automatic government approval

Answer B. Forfaiting concerns eligible receivables and their risk and discount structure. Deposits, regulatory approvals and tax refunds are different functions; actual maturity, support and recourse conditions must be read from the arrangement.

19. USD100,000 discounted on face value at 7% for one year gives proceeds of what?

A. USD93,000	B. USD107,000
C. USD7,000	D. USD93,457.94

Answer A. Face-value discount is 7,000, leaving 93,000. The 93,457.94 result uses present value at a yield, 107,000 adds interest, and 7,000 is the discount rather than proceeds.

20. Which payment method most directly exposes an importer to supplier non-performance before shipment?

A. A bank's internal reconciliation	B. Open-account payment after receipt
C. A deposit renewal	D. Advance payment

Answer D. Paying before performance creates direct supplier-performance exposure. Open account changes the timing and allocation, while reconciliation and deposit renewal are not alternative trade payment methods creating this same prepayment risk.

21. Does documentary collection automatically add an independent bank payment undertaking?

A. No	B. Only because goods are insured
C. Yes in every collection	D. Yes if documents are couriered

Answer A. Collection banks handle documents under instructions; an independent LC-like undertaking does not arise automatically. Courier delivery and cargo insurance do not transform the collection into such a bank promise.

22. Who extends credit in supplier's credit?

A. The overseas supplier	B. The customs warehouse
C. Always the importer's employee	D. The shipping agent by definition

Answer A. Supplier's credit means the supplier allows deferred payment. Employees, warehouses and carriers may have other roles, but they are not the defining creditor merely because they participate in the import process.

23. What distinguishes buyer's credit?

A. The supplier always remains the only lender	B. It is necessarily an equity investment
C. No debt arises	D. A lender finances the buyer's payment to the supplier

Answer D. Buyer's credit creates the relevant lender-buyer financing relationship. It differs from supplier deferral, creates an obligation and is not equity merely because funds support an international purchase.

24. Why monitor a guarantee even before any cash advance?

A. It can never cause a payment	B. Only funded loans matter
C. Its face value is immediate profit	D. It creates a contingent obligation

Answer D. A guarantee may crystallise into a payment obligation and consumes risk capacity. Absence of current cash outflow does not mean zero exposure, and the guaranteed amount is not income to the bank.

25. Which approach is correct for export-import rules around October 2026?

A. Assume all reporting ended	B. Check effective dates and transition provisions
C. Treat a draft as automatically final	D. Apply an undated old deadline universally

Answer B. The 2026 framework introduces a dated transition requiring source review. Older prescriptions, drafts and assumptions that reporting vanished cannot substitute for the operative rule and its application to the transaction date.

A05 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 Trade finance bridges the time between expenditure and receipt.	**15** Now suppose collection is delayed by 30 days on the INR2,200,000 post-shipment amount at the same illustrative 9%.
02 Imagine a textile exporter receiving an order payable 60 days after shipment.	**16** The Gold Card scheme for eligible exporters is intended to improve access and service for creditworthy exporters under the applicable bank framework.
03 The chapter teaches export and import facilities, monitoring systems, factoring, forfaiting and trade-credit structures.	**17** EDPMS supports monitoring of export data and realisation; IDPMS performs a corresponding role for import data and evidence.
04 Trade policy determines matters such as whether goods may be imported or exported and what licences or conditions apply.	**18** Operational teams should reconcile shipping or import references, invoices, bank receipts or payments and permitted adjustments.
05 Establish the customer, goods or services, counterparties, countries, price, shipping route, payment terms and expected documents.	**19** Factoring involves an arrangement concerning receivables that may include finance, collection, ledger administration and credit protection, depending on the contract.
06 Commercial reasonableness is a useful control.	**20** Suppose a factor advances 80% of an eligible INR1,000,000 receivable.
07 Packing credit supports eligible expenditure before shipment, such as materials, processing, packing and other costs connected with an export order or arrangement.	**21** Factoring can improve cash flow and receivables administration, but it also introduces operational requirements.
08 Rupee packing credit and pre-shipment credit in foreign currency have different currency and pricing implications.	**22** For a simple illustration, a USD100,000 receivable due after one year is discounted at a stated simple discount rate of 7%.
09 Monitor procurement, production, shipment deadlines and deviations.	**23** Compare factoring and forfaiting by the actual receivable, service bundle, tenor, documentary form and risk allocation rather than a rigid slogan.
10 After shipment, the exporter holds a receivable while waiting for payment.	**24** An importer may pay in advance, through a documentary collection, under an LC or on open account.
11 When export proceeds are received, allocate them correctly to the outstanding finance, interest, charges and customer balance.	**25** Import finance may fund the payment itself or the inventory period after arrival.
12 Avoid double financing.	**26** The bank should monitor whether goods arrive and whether the required import evidence is available.
13 Assume INR2,000,000 of pre-shipment finance for 60 days at 8% simple annual interest on a 365-day basis.	**27** Supplier's credit arises when the overseas supplier extends credit for the import.
14 An exporter should compare finance cost with expected margin, but the comparison must use consistent bases.	**28** Consider a machine costing USD200,000.

A06 External Commercial Borrowings and Foreign Investment

Practice / Quick Revision

Separate debt from ownership

Cross-border funding can arrive as borrowing or investment. Borrowing creates a repayment obligation according to its terms; equity represents an ownership interest and a residual claim. Convertible instruments combine features whose regulatory classification depends on the instrument and applicable rules. The label foreign money is therefore too broad for a banking decision. Identify the borrower or investee, investor or lender, instrument, currency, maturity and intended use before selecting the governing framework.

Suppose an Indian manufacturer needs funds for expansion. It could consider a permitted overseas loan, an eligible foreign equity subscription or domestic finance. The overseas loan may have a lower headline interest rate but expose the company to currency depreciation and refinancing risk. Equity may avoid scheduled principal repayment but dilute ownership and introduce investor rights. The financing choice affects cash flow, control, reporting and future flexibility, not merely the initial amount credited to the bank account.

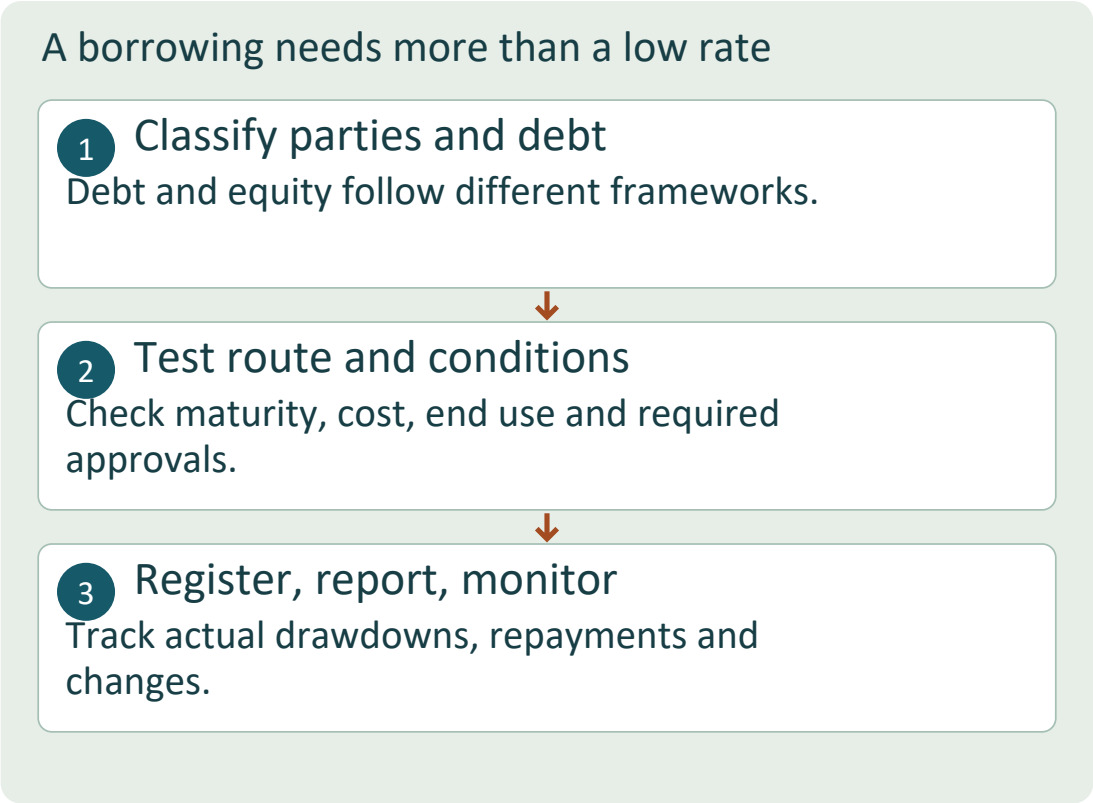
This chapter explains ECB concepts, operational handling, conversion into equity and inward investment checks. It also covers the NDI framework, instruments, prohibited activities, pledges and transaction documents. Numerical examples are deliberately simplified financing comparisons, not statements of current permissible pricing ceilings. The source register identifies the retrieved RBI versions and flags later-version verification where required. A calculator can compare a proposed structure's cash flows without deciding that the structure is legally eligible.

What makes a borrowing an ECB

External commercial borrowing is a framework for eligible commercial borrowing from recognised non-resident lenders in permitted forms and currencies, subject to the applicable conditions. The analysis includes borrower eligibility, lender eligibility, maturity, cost, end use and reporting. Passing one condition does not compensate for failing another. A familiar overseas lender and a modest interest rate do not by themselves make an otherwise prohibited end use permissible.

Foreign-currency ECB and rupee-denominated ECB allocate exchange risk differently. With a dollar obligation, an Indian borrower earning rupees must obtain dollars for repayment. With a rupee obligation, the overseas lender may bear the direct currency exposure, depending on its own hedges and arrangements. Currency denomination should therefore be read from the legal obligation rather than the currency used to communicate a price. Funding source and repayment currency are separate facts.

The framework distinguishes automatic and approval routes where applicable. Automatic does not mean unregulated, undocumented or exempt from reporting. It means the transaction may proceed without case-specific prior approval only when the relevant conditions are satisfied. If an approval route applies, approval must be obtained through the prescribed process. A bank should not repair an ineligible automatic-route transaction by simply describing it as an exception after funds have already been drawn.



Debt and equity follow different frameworks. Check maturity, cost, end use and required approvals. Track actual drawdowns, repayments and changes.

Eligibility, maturity and end use

Begin with the borrower's legal form and activity. Then identify the lender's jurisdiction, status and relationship with the borrower. Related-party borrowing may involve additional conditions rather than fewer checks. Review the permitted form of borrowing and the actual use of proceeds. A financing agreement stating general corporate purposes may be too vague to establish compliance where particular uses are restricted or subject to different maturity conditions.

Minimum average maturity is a cash-flow concept, not necessarily the date of the final instalment. A loan repaying most principal early and a small amount much later can have a long final maturity but a short weighted average maturity. Calculate the weighted average of repayment times using principal repayments as weights. For USD60 repayable after one year and USD40 after four years, average maturity is (60 × 1 + 40 × 4) ÷ 100, or 2.2 years.

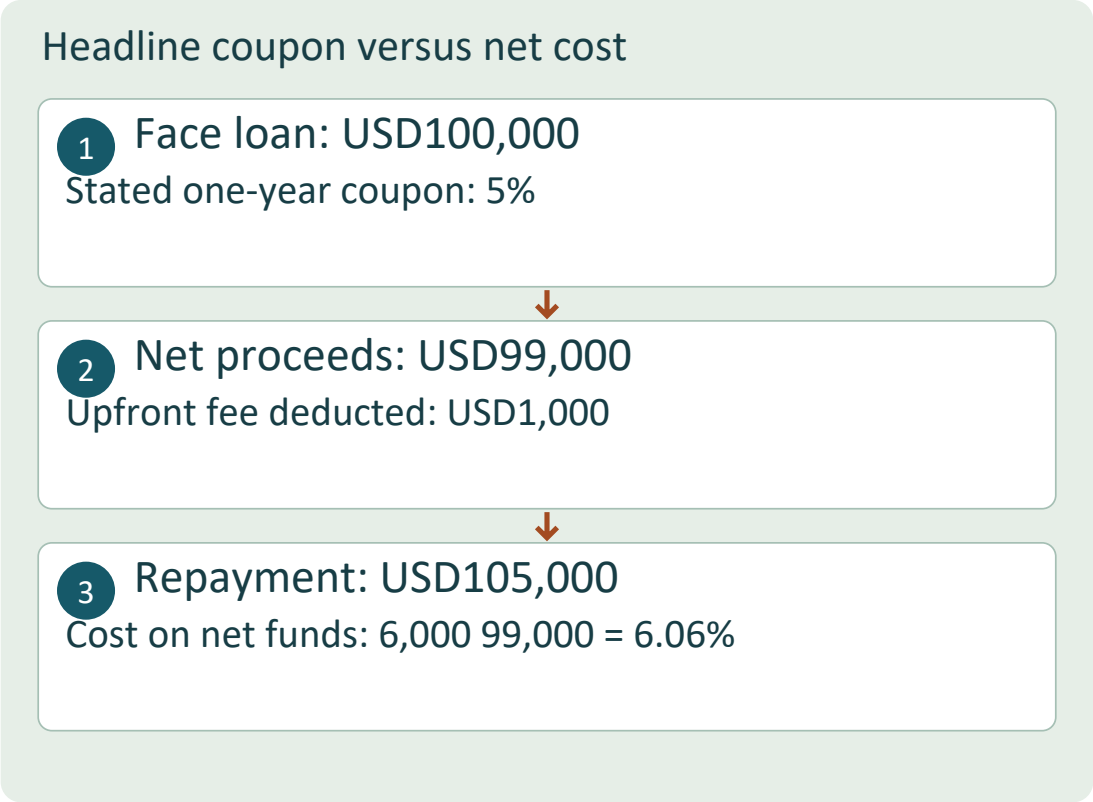
End-use monitoring continues after drawdown. If proceeds intended for an eligible project are diverted to an ineligible purpose, initial documentation does not cure the later problem. Maintain evidence of utilisation and investigate material changes. Refinancing, working-capital use, general corporate purposes and repayment of domestic loans may have specific conditions under the operative framework. Rather than memorising an undated exception, read the relevant borrower, lender and maturity combination in the source applicable to the transaction.

All-in cost and currency exposure

The economic cost of borrowing includes more than the coupon. Depending on the structure, fees, guarantee charges, withholding implications, hedging costs and conversion spreads can matter. Regulatory all-in-cost definitions may include or exclude particular items and must be applied as defined. An economic comparison and a regulatory ceiling test are different exercises. A proposal can be economically unattractive even if it meets a ceiling, or economically appealing while failing a legal condition.

Assume a one-year USD100,000 loan at 5%, with a USD1,000 upfront fee deducted from proceeds. The borrower receives USD99,000 and repays USD105,000. The simple one-year funding cost relative to net proceeds is 6,000 ÷ 99,000, approximately 6.06%, before other costs. Calling it a 5% effective borrowing cost ignores the fee. For multi-period loans, use the actual dated cash flows and an appropriate yield method rather than this one-year shortcut.

If the initial exchange rate is INR83 per dollar, the gross principal corresponds to INR8,300,000. Repaying USD105,000 at INR87 requires INR9,135,000. The rupee increase combines interest and currency movement. A hedge can make the rupee outcome more predictable, but its price and coverage must be included. Do not subtract an expected currency gain as if it were guaranteed. Scenario analysis shows how a low foreign coupon can coexist with a high domestic-currency repayment burden.



Stated one-year coupon: 5% Upfront fee deducted: USD1,000 Cost on net funds: 6,000 / 99,000 = 6.06%

Registration, drawdown and reporting

The designated authorised dealer plays a central operational role in checking and reporting an ECB. Required loan registration and reporting should be completed in the prescribed sequence before or alongside the events specified by the rules. The loan agreement, repayment schedule, lender details and use of proceeds must agree with the reported data. A registration number is an identifier within the framework, not an assurance that every later variation remains compliant.

Drawdowns, repayments, interest and changes need accurate records. Monthly ECB reporting, commonly associated with the ECB-2 return under the relevant reporting directions, should reflect actual transactions and outstanding balances. The precise deadline and platform must be checked in the operative instructions. A nil-activity period may still have reporting implications. Do not assume that no new drawdown means no reporting obligation or that the overseas lender's statement automatically substitutes for the borrower's required submission.

Changes in lender, maturity, rate, security, currency or end use may require review under delegated powers or approval provisions. Document the request, applicable authority and updated schedule. Reconcile the revised terms with subsequent reports so the system does not continue to show an obsolete maturity. Late

reporting and substantive contraventions are different issues: paying an applicable late-submission fee, where permitted, does not automatically legalise a transaction that was ineligible in substance.

Conversion of ECB into equity

Conversion replaces an eligible debt obligation with an equity interest, subject to the relevant ECB and foreign-investment conditions. It is not simply an accounting entry chosen to avoid repayment. Check the sector, investment route, pricing or valuation, applicable caps, lender consent and reporting requirements. The conversion may alter ownership percentages and control rights. It can also affect other lenders' covenants and the company's corporate approvals, even when the exchange-management conditions are satisfied.

Suppose a USD100,000 principal is converted using an agreed eligible rupee value of INR8,400,000 and an issue price of INR140 per share. The illustrative number of shares is 60,000. This arithmetic does not validate the conversion rate, issue price or valuation method. Those inputs require the applicable rules and supporting evidence. Separating the calculation from input eligibility prevents a correct division from being mistaken for a complete compliance opinion.

Partial conversion leaves a residual debt that must continue to be serviced and reported. Update both the loan outstanding and the equity records without double counting the converted amount. Distinguish principal from accrued interest and examine whether each component can be handled as proposed. The bank should obtain a clear reconciliation from pre-conversion debt through converted value to remaining liability. A transparent bridge is more reliable than a single post-conversion balance with no explanation of how it arose.

Foreign investment routes and instruments

Inward investment is governed by the relevant legal framework, including the Non-Debt Instruments Rules and RBI payment and reporting regulations. FDI and portfolio investment are not interchangeable labels for any foreign shareholder. Classification depends on the rules, instrument and circumstances. Identify whether the investee is eligible, whether the investor is eligible and whether the proposed instrument falls within the permitted category. A permitted investor cannot invest in every possible instrument or activity without conditions.

Equity shares and qualifying compulsorily convertible instruments can be treated differently from optionally convertible or non-convertible debt instruments. The conversion terms and legal substance matter. A preference share with a fixed redemption obligation should not be assumed to have the same classification as a fully and compulsorily convertible instrument. Read the terms sheet, not only the instrument's title. The wrong classification can lead to the wrong route, pricing analysis and reporting process.

Automatic and government routes depend on the sector and applicable conditions, including investor-related restrictions. Sectoral caps, performance conditions, ownership and control requirements may apply. Beneficial ownership checks are important where investor structures involve multiple entities or jurisdictions. Do not treat incorporation in a familiar country as conclusive evidence about ultimate ownership. The authorised dealer and investee need the facts necessary to apply the relevant rule rather than relying solely on a short corporate name.

Prohibited activities and sector analysis

Foreign investment restrictions include prohibited activities and conditional sectors. Familiar examples in the NDI framework include lottery business and gambling or betting; other categories and definitions require the current text. Real-estate business restrictions must not be confused with every construction or property-related activity, because definitions and exclusions matter. A broad business description such as technology platform may conceal a regulated underlying activity. Analyse what the company actually does and how it earns revenue.

A company operating several businesses should map the proposed investment against all relevant activities and any downstream investment. An eligible principal activity does not necessarily cure a prohibited subsidiary activity. Ownership and control can affect downstream treatment. The analysis should therefore include the group structure and use of proceeds, not just the immediate investee's certificate of incorporation. Record assumptions explicitly if an activity is planned but not yet commenced.

For examination cases, avoid memorising an isolated cap without its sector, route and date. Ask whether the question supplies the rule or expects a current prescription under the stated cutoff. If a case says the permitted cap is 74%, use that condition to analyse the proposed holding, but do not generalise it to another sector. Numerical compliance with a cap is only one element; approval, investor eligibility, pricing and reporting may still determine the final answer.

Pricing, receipt and issue of instruments

Foreign investment receipts require a traceable banking channel and documentation linking the remitter to the proposed investor or permitted arrangement. The amount received, currency conversion, issue price and number of instruments should reconcile. Pricing guidelines can differ by transaction and party direction, including issue and transfer situations. Do not assume that a negotiated commercial price automatically meets the regulatory valuation requirement. Obtain the appropriate valuation and corporate approvals for the particular transaction.

Suppose a company receives INR12,000,000 for shares priced at INR200 each. The arithmetic supports 60,000 shares before any different permitted allocation. If only 55,000 shares are issued, the INR1,000,000 difference needs explanation and appropriate handling. It cannot remain indefinitely unallocated merely because the original remittance was genuine. Track issue or refund within the applicable framework and maintain a reconciliation between receipts, share capital, premium and any returned funds.

Reporting of issue and transfer uses the prescribed forms and systems, such as relevant FIRMS reporting where applicable. Form choice follows the event: issuance, transfer and other investment transactions are not identical. Accurate investor details and ownership percentages matter. A filing acknowledgement does not replace the underlying compliance assessment. Equally, a complete legal file does not excuse missing reporting. Both substantive conditions and procedural obligations need an identified owner and evidence of completion.

Pledge of shares and security arrangements

Pledging shares creates security over an ownership interest; it is not the same as an immediate sale of those shares. The creation and enforcement of a pledge can have different regulatory consequences. Assess who pledges, who lends, the secured purpose, the investee's sector and the conditions governing enforcement. A pledge acceptable at inception may still require specific checks before an overseas lender acquires ownership following default.

The lender values security with a margin because share prices and recoverability can change. If shares worth INR10,000,000 support a loan of INR6,000,000, initial loan-to-value is 60%. A fall in value to INR7,500,000 raises it to 80%. This affects credit protection but says nothing by itself about whether enforcement is legally permitted. Legal eligibility and economic coverage should appear as separate lines in a security review.

Documentation should address perfection, custody, voting or dividend rights where relevant, enforcement process and applicable approvals. Verify that corporate and other financing agreements permit the pledge. A foreign-investment cap can become relevant when security is enforced, so the transaction should not assume unrestricted ownership transfer in every scenario. The practical lesson is to examine the full life cycle of security, including default, rather than approving it solely on the day-one value of the shares.

Documents for receipt, refund and review

A receipt file commonly needs identity and beneficial-ownership evidence, remittance details, corporate approvals, investment agreement, instrument terms, sector and route analysis, valuation where applicable and required declarations. The exact list depends on the transaction. Use a purpose-based checklist: each document should establish a fact needed for eligibility, pricing, ownership or reporting. Collecting a large bundle without checking consistency provides less assurance than a smaller coherent file with clearly resolved questions.

A refund requires its own trail. Link it to the original receipt, establish why instruments were not issued or why funds are being returned, verify the authorised beneficiary and assess applicable timing and reporting. A request to refund a different unrelated account should trigger scrutiny. The original investor's email is not necessarily sufficient to change destination. Reconcile the amount, exchange conversion and charges so neither customer nor bank treats a residual balance as unexplained income.

An integrated review should compare the transaction across legal, treasury, operations and accounting records. If the agreement says equity but the ledger records a repayable loan, resolve the inconsistency. If a repayment schedule differs from the registered borrowing, investigate before executing the next instalment. Cross-team review is especially useful for convertible instruments because a change in legal state can affect several systems simultaneously. Clear responsibilities prevent each team from assuming another has completed the necessary update.

Integrated financing decision and revision

An exporter considering a dollar loan has natural dollar receipts, but their dates and amounts may not match the repayment schedule. A natural hedge is a relationship between cash flows, not a permanent immunity from currency risk. Stress delayed receipts, lower sales and early repayment. Compare a hedged borrowing cost with domestic alternatives using consistent dates and net proceeds. Then separately test borrower, lender, maturity, end use and reporting conditions. Economic attractiveness and legal eligibility answer different questions.

An equity investor offers the same amount without scheduled repayment but requests governance rights. The company should assess dilution, control, valuation and future exit obligations. A promised fixed exit return can change the analysis and must not be accepted merely because the instrument is called equity. The bank's role is to process a properly classified, documented transaction under the relevant framework, while the company's financing decision considers its commercial and governance consequences.

For revision, remember the sequence: classify the instrument, identify parties, choose the route, test conditions, calculate cash flows, complete registration or issue, report events and monitor changes. Average maturity is weighted by principal; headline coupon differs from net funding cost; conversion requires both debt and investment checks; a pledge differs from its enforcement. These distinctions allow a candidate to reason through unfamiliar structures without relying on undated limits or a product name alone.

Practice with explanations

01. What is the first useful classification for foreign funding?

A. Only the remittance currency	B. Only the investor's preferred label
C. Only the amount	D. Debt, equity or the actual hybrid instrument

Answer D. The legal instrument determines obligations and framework. Currency, amount and marketing labels matter but cannot establish whether funds create debt, ownership or a convertible structure with specific conditions.

02. Does automatic-route ECB mean no conditions apply?

A. No; all relevant conditions still apply	B. Yes; lender identity is irrelevant
C. Yes; any end use is permitted	D. Yes; reporting disappears

Answer A. Automatic route dispenses with case-specific prior approval only within conditions. Borrower, lender, use, maturity and reporting requirements remain; it is not an exemption from the framework itself.

03. A USD loan is repaid from rupee income. What direct risk arises?

A. Only the lender can face currency risk	B. Exchange risk disappears
C. Rupee depreciation increases repayment cost	D. Principal cannot change in rupee value

Answer C. A fixed dollar obligation can require more rupees when the rupee weakens. Denomination fixes the dollar amount, not its domestic value; the borrower's income currency therefore matters.

04. What must be checked besides a low ECB coupon?

A. Eligibility, maturity, end use, cost and reporting	B. Only the customer's optimism
C. Nothing once funds arrive	D. Only the lender's logo

Answer A. A low rate is not permission. The full set of framework conditions and operational obligations must be assessed; reputation, optimism and receipt of funds cannot cure an ineligible structure.

05. USD60 repaid in year one and USD40 in year four gives what weighted maturity?

A. 4 years	B. 2.2 years
C. 2.5 years	D. 1 year

Answer B. Weight each repayment time by principal: (60 times 1 plus 40 times 4)/100 equals 2.2. Final maturity and the unweighted average do not reflect the actual repayment distribution.

06. Why can final maturity mislead about average maturity?

A. Most principal may be repaid earlier	B. Interest alone determines maturity
C. All instalments have equal weight regardless of size	D. Currency denomination fixes the answer

Answer A. A small final instalment can extend the last date while most principal returns early. Principal weights matter; equal weighting, interest-only reasoning and currency labels do not determine average repayment time.

07. USD100,000 borrowing less USD1,000 upfront fee gives net proceeds of what?

A. USD99,000	B. USD100,000
C. USD101,000	D. USD1,000

Answer A. A deducted fee reduces cash received to 99,000. Adding the fee reverses the cash flow, the face amount ignores deduction, and the fee itself is not the amount available to the borrower.

08. Net proceeds USD99,000 and one-year repayment USD105,000 imply approximately what cost?

A. 1%	B. 5% exactly
C. 6.06%	D. 106.06% cost

Answer C. The financing cost is 6,000 divided by 99,000, about 6.06%. Five percent ignores the upfront fee, one percent ignores interest, and 106.06% is the repayment ratio rather than the incremental cost.

09. USD105,000 repaid at INR87 requires how many rupees?

A. INR105,000	B. INR8,715,000
C. INR1,206.90	D. INR9,135,000

Answer D. Multiply dollars by rupees per dollar: 105,000 times 87 equals 9,135,000. Using the initial rate, dividing or preserving the dollar number gives a different quantity with incorrect assumptions or units.

10. Does an ECB registration identifier guarantee every later change is permitted?

A. Only if the lender agrees informally	B. No; changes require their applicable review
C. Only if the borrower is profitable	D. Yes permanently

Answer B. Registration records the loan under the framework. Later changes must satisfy applicable conditions and powers; profitability or lender consent alone cannot establish regulatory permission for revised terms.

11. What should ECB reporting reconcile with?

A. Only the lender's nationality	B. Actual drawdowns, repayments and outstanding balances
C. Only projected profits	D. Only the original sanction amount

Answer B. Reporting should reflect the loan's actual events and balance. Original sanction, business forecasts and nationality cannot substitute for the transaction record, although other information may also be required by the framework.

12. Does a late-submission fee automatically legalise an ineligible end use?

A. Yes if paid quickly	B. No
C. Yes for any breach	D. Only if the loan is small

Answer B. A reporting-delay mechanism addresses specified procedural failures. It does not automatically cure substantive ineligibility, regardless of prompt payment or loan size; the actual contravention needs the appropriate treatment.

13. Conversion of ECB into equity requires which combined review?

A. Only the investor's signature	B. Debt and foreign-investment conditions
C. Only removal of the repayment date	D. Only an accounting journal

Answer B. Conversion affects both the borrowing and ownership frameworks. Accounting entries and consent are relevant evidence but do not replace sector, pricing, eligibility, corporate approval and reporting checks.

14. INR8.4 million converted at INR140 per share gives how many shares?

A. 60,000	B. 140
C. 1,176,000,000	D. 600,000

Answer A. Divide the eligible conversion value by issue price: 8,400,000/140 equals 60,000. Multiplication, a scale error and repeating the price do not calculate the number of shares.

15. What happens after partial debt conversion?

A. The converted amount remains debt too	B. Residual debt continues under its applicable terms
C. Reporting becomes unnecessary	D. All debt automatically disappears

Answer B. Only the converted portion changes state. The remaining liability must be serviced and reported; retaining the converted part as debt double counts it, while eliminating all debt overstates the conversion.

16. Why inspect conversion terms rather than only an instrument's title?

A. All preference shares are identical	B. Every foreign instrument is equity
C. Classification depends on substance and conditions	D. Titles override repayment obligations

Answer C. Compulsory, optional and redemption features can change classification. A title cannot erase contractual debt features; treating all preference shares or all foreign funding alike risks using the wrong framework.

17. What does investor beneficial-ownership review address?

A. A guarantee of investment profit	B. Only its office colour
C. Only the spelling of its name	D. Who ultimately owns or controls the investor

Answer D. Ownership and control can affect eligibility and restrictions. A corporate name or superficial attribute is insufficient, and beneficial-ownership checks do not predict or guarantee investment returns.

18. A company has multiple activities. How should sector analysis proceed?

A. Assess relevant activities and downstream structure	B. Use only the most attractive activity
C. Assume technology branding exempts everything	D. Ignore subsidiaries automatically

Answer A. The actual business and group structure can affect conditions. Selecting one favourable activity, ignoring downstream interests or relying on a label can conceal a restricted or prohibited underlying activity.

19. Why is a quoted sector cap insufficient by itself?

A. Caps never matter	B. Route, investor, pricing and other conditions also matter
C. Any amount below the cap is automatically lawful	D. A cap replaces reporting

Answer B. A cap is one condition among several. It remains relevant but does not independently establish approval route, investor eligibility, valuation or reporting compliance; numerical headroom alone is not a complete decision.

20. INR12 million subscribed at INR200 per share supports what number?

A. 200 shares	B. 2.4 billion shares
C. 55,000 shares automatically	D. 60,000 shares

Answer D. The arithmetic is 12,000,000 divided by 200, or 60,000. A smaller issue leaves funds needing explanation; multiplying or repeating the price does not determine the subscribed share count.

21. Only 55,000 shares at INR200 are issued against INR12 million received. What is the unexplained difference?

A. Zero	B. INR5,000
C. INR11 million	D. INR1 million

Answer D. Issued value is 11 million, leaving one million to reconcile and handle appropriately. Eleven million is the allocated amount, 5,000 is a share-count difference, and assuming zero ignores unallocated funds.

22. Is creation of a share pledge identical to transfer on enforcement?

A. Only the interest rate decides	B. No; different stages can have different conditions
C. Yes because collateral has value	D. Yes immediately in all cases

Answer B. A pledge grants security, while enforcement may change ownership and trigger further checks. Valuation and interest do not collapse those legal stages or remove sector and transfer conditions.

23. Loan INR6 million against shares now worth INR7.5 million gives what LTV?

A. 125%	B. 80%
C. 20%	D. 60% forever

Answer B. Current LTV is 6/7.5, or 80%. The initial ratio may have been 60%; 125% is the reciprocal and 20% is the remaining collateral cushion rather than the loan-to-value ratio.

24. A refund request names an unrelated new account. What is appropriate?

A. Ignore the original investor	B. Treat the money as bank income
C. Verify authority and link to the original receipt	D. Pay solely on an email

Answer C. Refunds need a traceable purpose and authorised destination. An email alone may be fraudulent, and neither retaining unexplained funds nor disregarding investor identity resolves the transaction correctly.

25. Does having dollar export receipts guarantee a perfect natural hedge for dollar debt?

A. Yes despite cancellation	B. Only the loan's name matters
C. No; amounts and dates may mismatch	D. Yes for every future year

Answer C. A natural hedge depends on matching cash flows. Delays, lower receipts or cancellation can leave exposure; a shared currency or product label does not guarantee timing, amount or certainty of repayment resources.

A06 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 Cross-border funding can arrive as borrowing or investment.	**15** Conversion replaces an eligible debt obligation with an equity interest, subject to the relevant ECB and foreign-investment conditions.
02 Suppose an Indian manufacturer needs funds for expansion.	**16** Suppose a USD100,000 principal is converted using an agreed eligible rupee value of INR8,400,000 and an issue price of INR140 per share.
03 This chapter explains ECB concepts, operational handling, conversion into equity and inward investment checks.	**17** Partial conversion leaves a residual debt that must continue to be serviced and reported.
04 Foreign-currency ECB and rupee-denominated ECB allocate exchange risk differently.	**18** Inward investment is governed by the relevant legal framework, including the Non-Debt Instruments Rules and RBI payment and reporting regulations.
05 The framework distinguishes automatic and approval routes where applicable.	**19** Equity shares and qualifying compulsorily convertible instruments can be treated differently from optionally convertible or non-convertible debt instruments.
06 Begin with the borrower's legal form and activity.	**20** Automatic and government routes depend on the sector and applicable conditions, including investor-related restrictions.
07 Minimum average maturity is a cash-flow concept, not necessarily the date of the final instalment.	**21** Foreign investment restrictions include prohibited activities and conditional sectors.
08 End-use monitoring continues after drawdown.	**22** A company operating several businesses should map the proposed investment against all relevant activities and any downstream investment.
09 The economic cost of borrowing includes more than the coupon.	**23** For examination cases, avoid memorising an isolated cap without its sector, route and date.
10 Assume a one-year USD100,000 loan at 5%, with a USD1,000 upfront fee deducted from proceeds.	**24** Foreign investment receipts require a traceable banking channel and documentation linking the remitter to the proposed investor or permitted arrangement.
11 If the initial exchange rate is INR83 per dollar, the gross principal corresponds to INR8,300,000.	**25** Suppose a company receives INR12,000,000 for shares priced at INR200 each.
12 The designated authorised dealer plays a central operational role in checking and reporting an ECB.	**26** Reporting of issue and transfer uses the prescribed forms and systems, such as relevant FIRMS reporting where applicable.
13 Drawdowns, repayments, interest and changes need accurate records.	**27** Pledging shares creates security over an ownership interest; it is not the same as an immediate sale of those shares.
14 Changes in lender, maturity, rate, security, currency or end use may require review under delegated powers or approval provisions.	**28** The lender values security with a margin because share prices and recoverability can change.

A07 Trade Risks and ECGC

Practice / Quick Revision

A profitable sale can still produce a loss

An export order may show a healthy margin and still fail to generate cash. The buyer can default, a country can restrict transfers, goods can be damaged, documents can be defective or a fraudster can redirect payment. These events belong to different risk categories and require different responses. The first task is to identify the event that could prevent the expected cash flow. Buying a product described as insurance is not enough unless its insured events match the exposure.

Consider an exporter selling machinery on 90-day credit. A cargo policy may protect specified physical loss during transport. A credit policy may protect eligible non-payment events. A forward contract may manage the currency value of a receipt. An LC may provide a bank's documentary payment undertaking. Each addresses a different uncertainty. Combining them thoughtfully can reduce exposure, but none should be described as a universal guarantee that the export will be profitable.

This chapter explains commercial and political risks, country assessment, ECGC's role, exporter and bank covers, policy discipline and claims. Policy terms differ across products and over time. The calculations therefore use explicit illustrative coverage percentages, deductibles and limits rather than pretending one percentage applies to every ECGC product. The source register points to ECGC's own product material so the learner can connect the conceptual framework to the actual policy selected for a transaction.

Commercial risk: can and will the buyer pay?

Commercial credit risk concerns the buyer's ability or willingness to meet payment obligations, subject to the policy's defined events. Insolvency and prolonged default are familiar examples. Analyse financial strength, payment history, leverage, business prospects and the particular order. A buyer that normally pays promptly can still become overextended after a rapid expansion. Historic performance is evidence, not a promise. The exposure amount and payment period determine how much can be lost before warning signs become visible.

Concentration matters. Ten invoices to one buyer are not ten independent credit risks. Likewise, buyers in the same industry or country may fail together when conditions deteriorate. Map exposure by buyer group, sector, country and due date. A policy limit may cap recoverable loss even if the exporter continues shipping larger amounts. The exporter should know both total outstanding receivables and the portion within eligible approved limits before accepting another order.

Disputes create a different challenge from pure inability to pay. If the buyer alleges defective goods, the insurer may require the dispute to be resolved or may exclude the relevant loss under the policy terms. The exporter cannot assume every unpaid invoice is an insured default. Maintain clear specifications, inspection evidence and acceptance records. Strong commercial documentation supports both collection and any later claim by distinguishing a genuine debt from a contested performance obligation.

Political, transfer and country risk

Political risk can arise from government actions, war, civil disturbance or other specified events affecting payment. Transfer risk occurs when a buyer has local funds but cannot convert or transfer them as required. This differs from the buyer having no money. Country risk is broader: it includes the economic, political, legal and institutional conditions that can affect exposures to that jurisdiction. A financially strong buyer does not eliminate a country-wide transfer restriction.

Assess foreign-exchange availability, external debt pressure, political stability, legal enforcement, trade restrictions and banking-system conditions. Do not reduce country analysis to a single rating. A rating summarises information but may not capture the specific currency, tenor or transaction structure. Short-term

essential-goods trade may behave differently from a long-term project receivable. The bank should consider how the identified stress reaches the actual cash flow and whether a proposed mitigant addresses that transmission channel.

For example, a buyer deposits local currency with its bank, but outward dollar transfers are suspended. The exporter remains unpaid even though the buyer acted. Extending the invoice due date does not necessarily solve the underlying transfer problem. An eligible political-risk cover or an acceptable confirming-bank arrangement may help, subject to terms. The case demonstrates why buyer credit assessment and country assessment should be separate components of the decision rather than substitutes for one another.

Currency, transport and operational risks

Currency risk changes the domestic value of foreign receipts or payments. If a USD100,000 export receipt is expected at INR84 but converted at INR81, gross rupee proceeds are INR300,000 lower. That is not necessarily a credit-insurance claim: the buyer may have paid in full and on time. A hedge addresses a different exposure. The exporter should match the hedge amount and maturity to the underlying transaction and manage changes when shipment or payment is delayed.

Transport risk concerns loss or damage to goods during the relevant movement. The allocation between buyer and seller depends on the contract and incorporated trade terms, while insurance responds to its own coverage. Physical delivery risk can create a commercial dispute that subsequently affects payment. The risks are connected, but their policies remain distinct. A credit policy should not be assumed to reimburse damaged cargo merely because the damage eventually leads to an unpaid invoice.

Operational risks include wrong bank details, missing declarations, missed claim deadlines and inadequate record keeping. These can turn an otherwise manageable loss into an uninsured one. A policy only helps if the insured fulfils relevant obligations. Maintain controls for beneficiary changes and independent verification of instructions. Fraudulent diversion may occur after a legitimate sale and genuine shipment. The exporter's process must therefore protect the entire collection chain, not only the decision to accept the original buyer.

ECGC's purpose and product families

ECGC supports exports through credit-insurance and related products addressing specified risks of exporters and banks. It is not the same institution as EXIM Bank, which provides financing and other export-support services. Insurance can improve a lender's willingness to support an exporter, but the bank still appraises creditworthiness and structure. An insured receivable remains subject to policy limits, exclusions and claim conditions, and the insured normally retains some exposure.

ECGC's product range includes shipment or turnover-based covers, buyer-exposure arrangements, specific shipment products, services-related covers and bank-oriented products. The appropriate choice depends on exporter size, transaction pattern, buyer concentration, tenor and risk requirements. A continuing portfolio of short-term sales differs from one large project contract. Product selection should follow the exposure profile rather than choosing the policy with the most familiar name. Review the actual current wording and schedule before relying on protection.

The policy schedule and endorsements are crucial. They may specify insured parties, buyers, countries, limits, percentages, waiting periods and conditions. Marketing summaries help identify a product but do not replace the contract. A branch should record which policy and endorsement support a particular exposure. An old policy number without evidence of renewal or applicable coverage is not adequate protection. The question is whether this shipment and this loss event fall within the operative cover.

Exporter cover and bank cover are different

An exporter policy protects the insured exporter against defined risks of non-payment or other specified events. A bank cover protects the bank against defined losses on eligible export credit under its terms. The insured party and underlying obligation therefore differ. If the exporter receives a policy claim, that does not automatically extinguish its loan to the bank. If the bank has cover, that does not remove its obligation to conduct appraisal, monitoring and recovery as required.

Consider pre-shipment finance for an exporter whose production fails before shipment. The buyer has not yet received goods and may owe no export receivable. A shipment credit policy cannot simply be assumed to cover the bank's production-stage loan loss. The relevant bank cover, if any, has its own eligibility and claim conditions. Match the policy to the stage of the operating cycle and identify the event insured. The word export in both product names is not sufficient.

Where both exporter and bank arrangements exist, coordinate assignments, claim proceeds and recovery rights. Avoid assuming two policies allow double recovery for the same loss. The bank should understand how receipts are applied and what obligations continue after payment. The exporter should know who handles collection and who must notify the insurer. Clear responsibilities reduce the risk that each party assumes the other submitted a declaration or overdue notice and both deadlines are missed.

Limits, percentage cover and retained loss

Coverage percentage applies to the eligible insured loss as defined, subject to limits, deductibles and other adjustments. It should not automatically be multiplied by the original invoice value. First identify outstanding debt, recoveries and excluded amounts. Then apply the contractual order of adjustments. Different policy wordings can produce different results, so the educational calculator states a simplified sequence explicitly. It does not claim to determine an actual ECGC settlement.

Assume an invoice of INR1,000,000, recovery before claim of INR200,000 and an eligible loss of INR800,000. With illustrative 90% cover and no other adjustment, the model claim is INR720,000 and retained eligible loss is INR80,000. Total receipts become INR920,000 when the earlier recovery is included. Saying the exporter receives INR900,000 from insurance would ignore the recovery and overstate the model claim. The correct base matters as much as the percentage.

Now introduce an illustrative claim cap of INR600,000. The model claim becomes the lower of INR720,000 and INR600,000, leaving INR200,000 of the eligible loss unrecovered by insurance. If a deductible applies, its placement in the calculation must follow the stated model or actual policy. Do not choose an order silently. The numerical exercise teaches transparent assumptions and retained exposure, helping learners recognise that insurance reduces risk without necessarily eliminating every rupee of loss.



Prior recovery: INR200,000 Assumed 90% uncapped claim: INR720,000 Retained unpaid loss: INR200,000 in this model.

Declarations, premiums and overdue reporting

Policies may require declarations of shipments, turnover or exposures and payment of premium according to the product. Completeness matters: selective reporting of only risky shipments may violate the arrangement. Reconcile declarations with sales and shipment records so omitted transactions are detected early. A policy premium payment alone does not prove every shipment was properly declared. The exporter's process needs an accountable owner and a calendar based on the actual policy requirements.

Overdue reporting alerts the insurer to emerging loss and allows timely action. Waiting until the exporter has exhausted all informal collection attempts can jeopardise rights where notification deadlines apply. Maintain invoice due dates, receipts, extensions and communication records. If terms are extended or a buyer's limit changes, check whether consent or notification is required. Commercial flexibility should be coordinated with policy obligations rather than agreed first and documented only after default.

Banks should monitor the status of policies supporting their advances. Renewal, premium, declarations and limit validity are not one-time opening formalities. A lapse during the financed period can change the risk materially. Record exceptions and escalation rather than merely obtaining a photocopy at annual review. In a case question, identify the specific missing obligation and its possible effect; avoid asserting automatic claim rejection unless the relevant policy terms and facts establish that conclusion.

Loss prevention and recovery duties

Insurance does not remove the insured's incentive or duty to prevent and minimise loss under the contract. Stop or reassess further shipments when serious warning signs arise, subject to commercial and policy considerations. Seek the required approvals before changing terms or compromising debts. Maintain evidence of collection efforts. A reasonable recovery strategy balances cost, enforceability and policy directions rather than continuing expensive litigation solely to demonstrate activity.

Early warning signs include repeated partial payments, requests for unusual extensions, adverse information, returned communications and changes in ownership or banking arrangements. A single sign may have an innocent explanation, but a pattern deserves attention. Compare the explanation with actual cash receipts.

Promises to pay are not recoveries. Update exposure and liquidity forecasts so the exporter does not continue manufacturing on the assumption that an increasingly doubtful receivable will arrive tomorrow.

After a claim payment, recovery rights and sharing arrangements may apply. Subsequent receipts should be reported and allocated according to the policy. The insured cannot assume that all later recoveries belong to it merely because the claim has been settled. Keep legal records, assignments and correspondence available. Closing the accounting loss does not necessarily close the recovery file. The transaction can continue through recoveries, salvage or other adjustments long after the original shipment date.

Preparing a defensible claim

A claim file should connect the policy, eligible shipment or credit, buyer obligation, due date, insured event, outstanding amount and compliance with conditions. Typical evidence can include contract, invoice, transport documents, declarations, account statements, overdue notices and recovery correspondence. The exact requirements follow the policy and insurer's instructions. A large bundle of unsorted documents is less useful than an indexed chronology showing what happened and which evidence supports each claimed fact.

Distinguish waiting periods from filing deadlines and from the commercial payment due date. They serve different purposes. A waiting period may define when a loss becomes claimable; a filing deadline controls when the claim must be submitted; the invoice due date establishes when payment was expected. Confusing them can lead to premature or late action. The chapter's timeline exercise uses supplied dates and asks the learner to identify the next required action rather than inventing universal policy periods.

If the insurer requests clarification, reconcile the answer with earlier declarations and bank records. Explain discrepancies rather than modifying documents to make them appear consistent. A genuine clerical error needs a transparent correction trail. Material misrepresentation can undermine the claim and create wider legal consequences. Good claims preparation starts at transaction inception, because missing evidence about delivery or terms may be impossible to reconstruct reliably after a buyer has failed.

Integrated exporter and bank cases

An exporter has an approved illustrative buyer exposure limit of INR5,000,000 and outstanding eligible receivables of INR4,600,000. It proposes another INR900,000 shipment. The total would be INR5,500,000, exceeding the stated limit by INR500,000. This does not necessarily prohibit the commercial sale, but it means the exporter cannot assume the entire resulting exposure is protected. Review limit enhancement, payment terms or another structure before relying on insurance for the additional exposure.

In a second case, a bank finances a USD200,000 export bill and the buyer pays USD150,000. The bank should reduce the actual outstanding exposure and investigate the USD50,000 balance. A policy percentage applied to the original USD200,000 would be the wrong starting point for a loss estimate. Determine eligible loss, exchange conventions and recoveries under the cover. The bank also needs to assess the borrower's continuing repayment obligation rather than waiting passively for a potential claim.

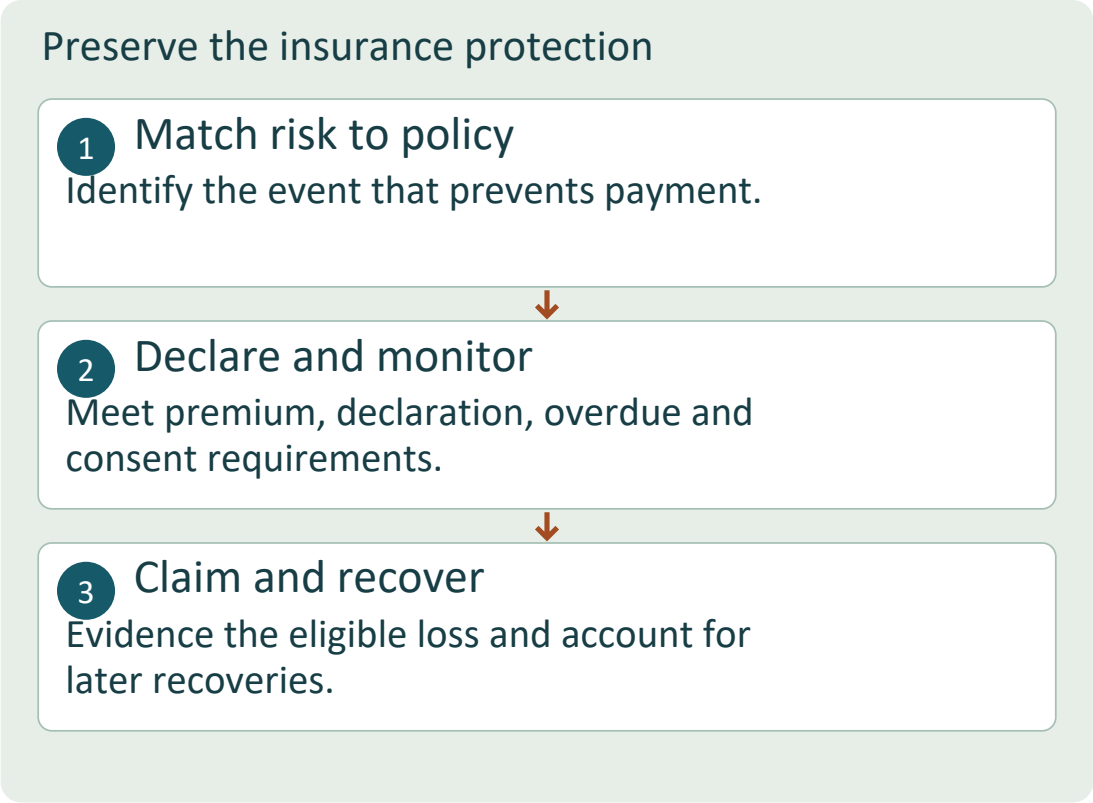
In a third case, a buyer is solvent but a government transfer restriction prevents remittance. The event points towards country or transfer risk, not necessarily buyer insolvency. Identify whether the selected policy covers that event and whether conditions are met. A product covering only a narrower commercial risk would not automatically respond. The case illustrates the importance of matching the actual cause of non-payment to the policy wording instead of treating every overdue debt as the same event.

Revision: match risk, cover and conduct

Use three linked questions. What can go wrong? Which instrument addresses that event? What must the insured or bank do to preserve the protection? A forward contract addresses currency exposure; cargo insurance addresses specified physical risks; a documentary credit provides a conditional bank undertaking; credit insurance addresses defined payment risks. The products can work together, but the existence of one should never be used as evidence that the others are unnecessary.

For calculations, start with eligible outstanding loss after the adjustments explicitly stated. Apply percentage, deductible and limit in the stated order. Show the retained amount and distinguish claim proceeds from prior recoveries. For qualitative questions, identify the insured party, risk event, policy period, buyer or country limit and reporting conduct. These details explain why two exporters with identical invoices may receive different claim outcomes under different policies and circumstances.

ECGC support is valuable because it can improve confidence in export receivables and lending, not because it removes all uncertainty. Sound appraisal, documentation, monitoring and recovery remain essential. The best examination answer identifies the relevant cover while acknowledging the precise condition that still needs checking. In practice, the actual policy schedule and endorsements govern. This original learning material provides a framework for reading them intelligently rather than a substitute for their operative terms.



Identify the event that prevents payment. Meet premium, declaration, overdue and consent requirements. Evidence the eligible loss and account for later recoveries.

Practice with explanations

01. Which risk concerns a buyer's insolvency?

A. Only exchange-rate risk	B. A document formatting preference
C. Commercial credit risk	D. Only cargo damage risk

Answer C. Insolvency concerns the buyer's capacity to pay. Cargo loss and currency changes are different events, while formatting alone is not a credit event; policy response still depends on its defined coverage.

02. A solvent buyer cannot remit because of transfer restrictions. What risk is most relevant?

A. Transfer or political risk	B. Only exchange spread
C. Only buyer insolvency	D. Only warehouse fire

Answer A. The obstacle is moving funds across the border despite local ability to pay. That differs from insolvency, physical damage and price spread; the chosen policy must cover the actual event.

03. Ten invoices to one buyer primarily create what concern?

A. Ten fully independent risks	B. Buyer concentration
C. Automatic diversification	D. No exposure until all invoices mature

Answer B. Multiple invoices share one debtor and can fail together. Count of documents does not create independence or diversification, and outstanding receivables represent exposure before every invoice reaches maturity.

04. USD100,000 converted at INR81 instead of expected INR84 reduces proceeds by what?

A. INR300,000	B. USD300,000
C. INR3,000	D. INR8,100,000

Answer A. The rate difference is INR3 per dollar, multiplied by USD100,000 to give INR300,000. The final proceeds are 8.1 million; the loss is neither that total nor a dollar-denominated 300,000.

05. Which instrument principally addresses specified physical transit loss?

A. Cargo insurance	B. A forward exchange contract
C. Every credit policy automatically	D. An NRE account

Answer A. Cargo insurance responds to its specified physical risks. A forward manages currency exposure, credit insurance addresses defined payment risks, and a deposit account does not insure goods in transit.

06. Does an LC and credit insurance remove all trade risk?

A. Only if invoices are electronic	B. Yes including every fraud
C. No; distinct risks and conditions remain	D. Yes including product quality automatically

Answer C. The instruments cover specific obligations or events. Fraud, performance, documentary and other risks may remain; neither electronic format nor combining products creates universal protection against all loss.

07. How does ECGC differ from EXIM Bank in this chapter?

A. ECGC provides defined credit-risk protection; EXIM supports financing	B. ECGC sets every exchange rate
C. They are identical names	D. EXIM is only a cargo insurer

Answer A. The institutions have different core functions. Insurance support is not the same as export finance, neither name is interchangeable, and neither role described here amounts to setting every market exchange rate.

08. What document controls whether a particular shipment is covered?

A. Only a marketing headline	B. The operative policy, schedule and endorsements
C. Only last year's policy copy	D. Only the bank's verbal expectation

Answer B. Actual coverage follows the contract and current endorsements. Marketing material, an expired copy or an expectation cannot establish the insured event, eligible buyer, limit, period and conditions for the shipment.

09. Why distinguish exporter cover from bank cover?

A. The insured party and underlying obligation differ	B. Both always pay the exporter twice
C. Exporter cover automatically repays every loan	D. Bank cover eliminates appraisal

Answer A. Different covers insure different interests and events. They do not authorise duplicate recovery or remove lending duties, and a policy claim does not by itself extinguish every borrower obligation.

10. Production fails before shipment. Why might shipment credit cover be insufficient?

A. All export policies cover every stage	B. No insured shipment receivable may yet exist
C. The bank has no loan exposure	D. The buyer always owes the invoice already

Answer B. Pre-shipment failure can leave a loan without the post-shipment receivable contemplated by a cover. The relevant bank or production-stage protection must be checked; a future buyer payment is not automatically owed.

11. Invoice INR1 million less prior recovery INR200,000 leaves what loss base in the stated model?

A. INR200,000	B. INR800,000
C. INR1 million	D. INR1.2 million

Answer B. Deduct the prior recovery to avoid overstating unpaid exposure. The original invoice ignores cash received, 200,000 is the recovery itself, and adding it would increase loss when it should reduce it.

12. At assumed 90% cover on INR800,000 eligible loss, model claim is what?

A. INR900,000	B. INR720,000
C. INR800,000	D. INR80,000

Answer B. Multiply eligible loss by 0.90, giving 720,000. Nine hundred thousand uses the original invoice, 80,000 is retained loss, and 800,000 incorrectly assumes full coverage under the stated percentage.

13. What is retained eligible loss after the preceding INR720,000 claim?

A. INR80,000	B. Zero
C. INR720,000	D. INR200,000

Answer A. Eligible loss of 800,000 less claim of 720,000 leaves 80,000. The claim and earlier recovery are different amounts; a 90% model does not eliminate the retained portion.

14. If that claim is capped at INR600,000, what is paid in the simplified model?

A. INR120,000	B. INR1.32 million
C. INR600,000	D. INR720,000

Answer C. Apply the cap to the calculated claim: the lower of 720,000 and 600,000 is 600,000. Adding the limit or treating the excess as payment misreads the cap's function.

15. Why must deductible order be stated?

A. The order never affects arithmetic	B. Deductibles always increase claims
C. All policies use the same order	D. Different orders can change the result

Answer D. A deductible may apply at a defined stage under policy terms. The model must state that sequence; it cannot assume a universal order or treat a deduction as an addition to compensation.

16. Does paying premium alone prove every shipment was declared?

A. Yes always	B. No
C. Only if the premium is large	D. Only if the buyer is famous

Answer B. Premium and declaration obligations are separate. The insured must satisfy the applicable reporting terms; size of premium or buyer reputation cannot establish that a particular shipment was included correctly.

17. When should overdue reporting be considered?

A. According to policy deadlines as delay emerges	B. Only after the bank writes off the loan
C. Only after all informal efforts end	D. Never if the customer promises payment

Answer A. Notification follows the policy timetable, not an indefinite collection process. Promises and accounting write-off dates do not automatically extend deadlines; early tracking helps preserve rights and support loss mitigation.

18. An exporter extends payment terms. What should be checked?

A. Nothing because extensions reduce risk automatically	B. Required insurer consent or notification
C. Only the buyer's preference	D. Whether documents can be backdated

Answer B. Changing terms can affect cover and requires the relevant policy process. Buyer preference does not bind the insurer, extensions can increase risk, and backdating would undermine the integrity of the record.

19. Which is an early warning signal deserving review?

A. Repeated partial payments and unexplained extensions	B. A single invoice number alone
C. The use of an ordinary currency code	D. A correctly recorded receipt

Answer A. A pattern of partial payments and extensions can indicate stress. Neutral identifiers and correctly recorded receipts are not equivalent warning signs; review should connect behaviour to actual payment capacity and exposure.

20. After a claim, later recoveries should be handled how?

A. Deleted from records	B. Reported and shared under policy terms
C. Assumed impossible	D. Always retained entirely by the insured

Answer B. Recovery rights can continue after settlement. Policy sharing and reporting terms govern; keeping all receipts, deleting them or assuming they cannot occur would misstate the continuing obligations and financial outcome.

21. What is the difference between a waiting period and filing deadline?

A. One concerns claimability timing; the other submission timing	B. Neither affects claims
C. Both are the invoice date	D. They are always identical

Answer A. The periods serve different functions and must be tracked separately. They are not automatically equal to each other or the commercial due date; confusing them can cause premature or late action.

22. What makes a strong claim file?

A. A chronology linking policy, debt, event, loss and compliance	B. An unsorted pile alone
C. Only a verbal loss estimate	D. Only the exporter logo

Answer A. A claim needs evidence connecting coverage and the actual loss with fulfilled conditions. Document volume, branding and unsupported estimates cannot establish the insured event, amount or compliance history.

23. Limit INR5 million, outstanding INR4.6 million, new shipment INR0.9 million. Excess is what?

A. INR0.5 million	B. INR0.4 million
C. INR0.9 million	D. INR5.5 million

Answer A. Total exposure becomes 5.5 million, exceeding the limit by 0.5 million. The former headroom, new shipment and total exposure are not the amount above the stated limit.

24. A buyer disputes product quality. Can every unpaid amount be assumed insured?

A. Only the exchange rate matters	B. Yes because payment is late
C. No; dispute terms and eligibility must be checked	D. Yes because an invoice exists

Answer C. A disputed performance obligation may be treated differently from covered credit default. Delay and invoice issuance alone do not establish an insured loss, and currency pricing does not resolve the dispute conditions.

25. What is the best overall risk-management approach?

A. Buy any policy and stop monitoring	B. Treat insurance as guaranteed profit
C. Assume the largest percentage covers everything	D. Match risk, cover and continuing conduct

Answer D. Protection depends on the actual risk event, contract and compliance. Policy purchase, a high percentage and expectations of profit cannot replace appraisal, monitoring, declarations and recovery obligations.

A07 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 An export order may show a healthy margin and still fail to generate cash.	**15** An exporter policy protects the insured exporter against defined risks of non-payment or other specified events.
02 Consider an exporter selling machinery on 90-day credit.	**16** Consider pre-shipment finance for an exporter whose production fails before shipment.
03 This chapter explains commercial and political risks, country assessment, ECGC's role, exporter and bank covers, policy discipline and claims.	**17** Where both exporter and bank arrangements exist, coordinate assignments, claim proceeds and recovery rights.
04 Commercial credit risk concerns the buyer's ability or willingness to meet payment obligations, subject to the policy's defined events.	**18** Coverage percentage applies to the eligible insured loss as defined, subject to limits, deductibles and other adjustments.
05 Concentration matters.	**19** Assume an invoice of INR1,000,000, recovery before claim of INR200,000 and an eligible loss of INR800,000.
06 Disputes create a different challenge from pure inability to pay.	**20** Now introduce an illustrative claim cap of INR600,000.
07 Political risk can arise from government actions, war, civil disturbance or other specified events affecting payment.	**21** Policies may require declarations of shipments, turnover or exposures and payment of premium according to the product.
08 Assess foreign-exchange availability, external debt pressure, political stability, legal enforcement, trade restrictions and banking-system conditions.	**22** Overdue reporting alerts the insurer to emerging loss and allows timely action.
09 For example, a buyer deposits local currency with its bank, but outward dollar transfers are suspended.	**23** Banks should monitor the status of policies supporting their advances.
10 Currency risk changes the domestic value of foreign receipts or payments.	**24** Insurance does not remove the insured's incentive or duty to prevent and minimise loss under the contract.
11 Transport risk concerns loss or damage to goods during the relevant movement.	**25** After a claim payment, recovery rights and sharing arrangements may apply.
12 Operational risks include wrong bank details, missing declarations, missed claim deadlines and inadequate record keeping.	**26** A claim file should connect the policy, eligible shipment or credit, buyer obligation, due date, insured event, outstanding amount and compliance with conditions.
13 ECGC supports exports through credit-insurance and related products addressing specified risks of exporters and banks.	**27** Distinguish waiting periods from filing deadlines and from the commercial payment due date.
14 The policy schedule and endorsements are crucial.	**28** If the insurer requests clarification, reconcile the answer with earlier declarations and bank records.

A08 EXIM Bank, RBI, FEMA and FEDAI

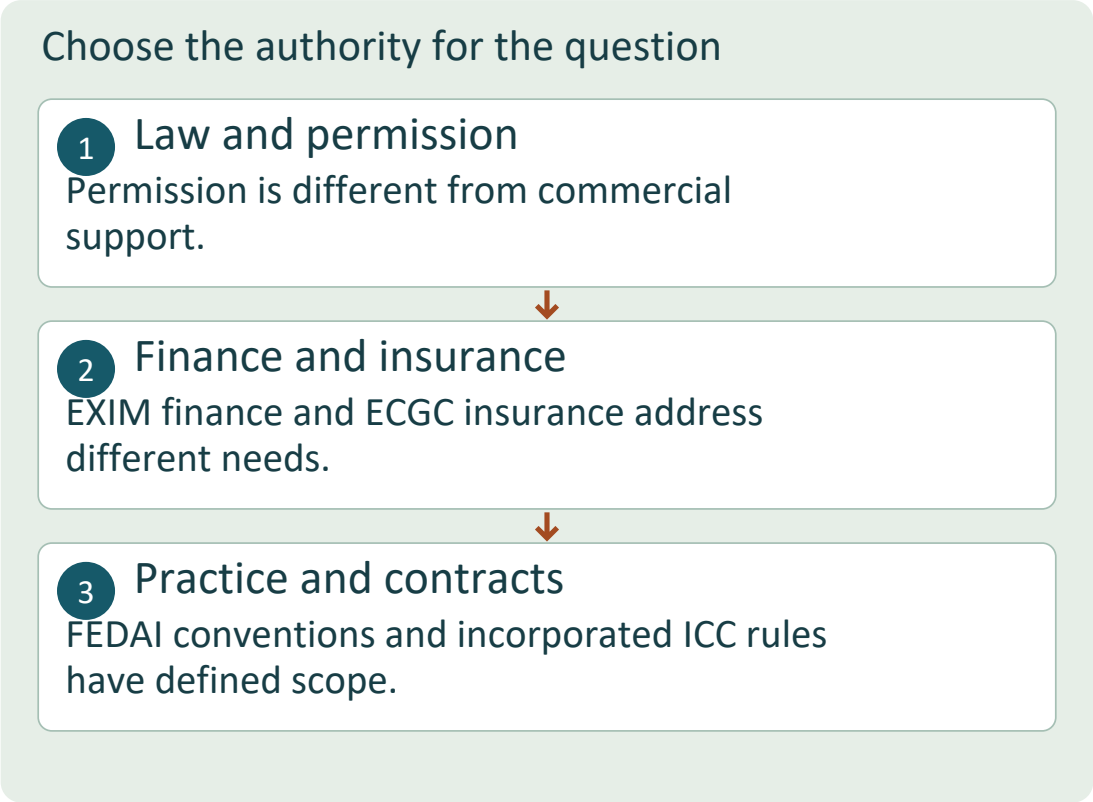
Practice / Quick Revision

Build an authority map

International banking involves several institutions whose names frequently appear together. They do not perform interchangeable functions. A financing institution may support an export, an insurer may cover a defined risk, a regulator may prescribe conditions and a market association may standardise banking practice. The most useful learning method is to map the question being asked to the institution competent to answer it. This prevents a product brochure from being mistaken for legal permission.

Consider an exporter seeking funds for an overseas project. EXIM Bank may provide or facilitate suitable finance. ECGC may offer relevant credit-risk protection. RBI directions and FEMA provisions govern the exchange-management aspects, while trade policy and other laws may also apply. FEDAI rules can inform relevant authorised-dealer practices. ICC rules may govern a documentary credit if incorporated. The complete transaction needs coordination across these roles, not selection of one institution to replace all the others.

This chapter develops that map and explains how to resolve apparently conflicting instructions. It covers EXIM's functions, RBI's exchange-management role, FEMA's structure, authorised dealers, FEDAI and international instruments such as ADRs, GDRs and FCCBs. The objective is practical reasoning: identify the authority, read the instrument's scope and date, and connect the prescription to the actual transaction. Institutional knowledge becomes useful when it changes the next action rather than remaining a list of abbreviations.



Permission is different from commercial support. EXIM finance and ECGC insurance address different needs. FEDAI conventions and incorporated ICC rules have defined scope.



FEMA and relevant RBI instruments set conditions. EXIM support remains subject to appraisal and terms. ECGC responds only to eligible policy-defined losses.

EXIM Bank's development and financing role

The Export-Import Bank of India is a specialised institution established under its governing statute to support India's international trade and investment activities. Its role extends beyond providing one standard export loan. It can support exporters, overseas buyers, projects and international expansion through relevant programmes. The precise facility depends on eligibility, appraisal, structure and terms. A customer should not assume that every export order automatically qualifies for concessional or guaranteed funding merely because it involves foreign trade.

Think of EXIM support across a business's growth path. A firm may need capacity to export, finance to execute a project, support for an overseas acquisition or access to a new market. These needs have different risks and repayment patterns. A long construction project needs milestone analysis, while an overseas investment needs assessment of the foreign business and ownership structure. The common purpose of internationalisation does not make the underlying credit decisions identical.

For a branch officer, the practical skill is recognising when a specialised programme may be relevant and assembling a credible referral. Explain the business, contract, country, amount, tenor, expected cash flows and existing bank support. A vague request for export assistance is less useful than a structured project summary. The institution still appraises the proposal. Referral should not be presented to the customer as a sanction or a substitute for completing the relevant regulatory requirements.

Lines of credit and buyer financing

A line of credit can provide an overseas borrower with financing for eligible purchases from India under the programme's terms. EXIM's official description identifies overseas institutions, governments and other eligible entities among the recipients of its LOC arrangements, including government-supported structures. The Indian exporter supplies under the relevant contract and payment mechanism. The overseas borrower's deferred repayment relationship differs from the exporter's obligation to perform and present the required evidence.

Map the cash flows carefully. The exporter delivers eligible goods or services and seeks payment under the arrangement. The financing institution disburses according to conditions. The overseas borrower repays over the agreed period. This structure can help the buyer obtain longer-term finance while allowing the exporter to receive payment according to contract. It does not remove performance, documentation or eligibility requirements. The exporter cannot assume that any unrelated invoice can be paid from an existing country line.

Buyer's credit similarly focuses on financing the buyer's purchase, but the programme, borrower and support structure must be identified. Compare it with supplier's credit, where the seller extends payment time. A bank evaluating either arrangement should identify the actual debtor, any guarantor and the source of repayment. The commercial objective may be the same, but the legal claim and risk carrier differ. Those differences determine appraisal, pricing, security and monitoring responsibilities.

Project exports and overseas expansion

Project exports can involve construction, installation, consultancy, equipment and services over several years. Payment may depend on milestones, certification and retention amounts. The financing structure must therefore consider performance risk, cost overruns, currency exposures and delayed certification. A single invoice-discounting model may not fit a project whose largest cash outflow occurs long before completion. Forecast cash flows by stage and stress the assumptions that determine repayment.

Suppose a project receives a 10% advance, 70% through progress payments and 20% after commissioning. The exporter may still need substantial working capital because costs precede certification. A performance guarantee and advance-payment guarantee create contingent obligations alongside funded loans. Calculate these exposures separately and consider how they could crystallise together if the project fails. A profitable projected contract margin does not eliminate the need for liquidity during execution or cash to meet a guarantee claim.

Overseas investment support concerns expansion through acquisitions, subsidiaries or other permitted structures. Assess the foreign business, country, governance, valuation and cash-flow access. A parent company's strong domestic performance does not guarantee that funds can be repatriated from a foreign subsidiary when needed. Tax, minority rights, local restrictions and debt covenants can affect access. The financing proposal should explain how repayment reaches the lender, not merely show profit somewhere in the corporate group.

RBI and authorised persons

RBI's exchange-management role includes issuing regulations and directions within the statutory framework and authorising persons to conduct specified foreign-exchange business. Authorised dealers act within their permissions and delegated powers. They are not independent lawmakers, nor are they merely cash counters executing every customer instruction. Their responsibilities include checking relevant conditions, maintaining records and making prescribed reports. A delegated decision remains subject to the conditions attached to the delegation.

The category and scope of an authorised person's permission matter. Not every entity offering currency exchange can undertake every capital-account transaction or complex trade-finance activity. Identify the service and competent channel before proceeding. A money-changing permission does not automatically equal authority to process an ECB. Likewise, a bank branch's internal approval limit can be narrower than the institution's regulatory powers. The officer must satisfy both external eligibility and internal authority.

When a matter falls outside delegated powers, use the prescribed escalation or application route with a complete factual submission. Do not split a transaction or relabel its purpose to make it appear within authority. A good submission explains the customer, legal provision, transaction, supporting documents and precise approval sought. This allows a competent decision and preserves an audit trail. An informal

conversation about a hypothetical case is not equivalent to approval of the actual transaction.

FEMA's structure and core concepts

FEMA governs foreign exchange with a management framework built around residence, transaction type, permissions and obligations. Current account and capital account classifications are central. Current account transactions generally relate to trade, services, income and expenses; capital account transactions alter relevant cross-border assets or liabilities. The legal definitions and rules determine treatment in a particular case. Nationality and physical location alone do not settle residence, and the currency of payment alone does not settle the account classification.

Section 3 addresses restricted dealings and payments except through permitted arrangements. Section 5 concerns current account transactions, while section 6 addresses capital account transactions. Sections 7 and 8 relate to export and foreign-exchange realisation obligations within the framework. Sections 10 and 11 concern authorised persons and RBI directions. These references help locate the legal issue; they should not be memorised as substitutes for reading the applicable rules and regulations made under the Act.

Distinguish an Act from rules, regulations, directions and contractual terms. The Act provides statutory authority; subordinate instruments prescribe detailed conditions; directions guide regulated participants; contracts allocate obligations within the law. A customer contract cannot authorise an otherwise prohibited transaction. A bank policy can impose stricter credit standards without changing the law for everyone. Understanding this hierarchy helps resolve apparent conflicts and prevents treating every document carrying an official-looking heading as equally authoritative.

Contraventions, reporting and resolution

A contravention may concern a substantive restriction, a reporting failure or another obligation. The response depends on the nature of the breach and applicable legal process. Compounding, adjudication, late-submission arrangements and regularisation are not interchangeable words. Where a late-submission fee mechanism applies, it addresses specified reporting delays; it does not automatically cure a prohibited transaction. The bank should identify the actual issue before selecting a resolution path.

Maintain a factual chronology: approval or permission, receipt or payment, document issue, reporting due date, actual submission and discovery of the problem. Separate confirmed facts from assumptions. If the amount is wrong in a return but the underlying transaction is valid, the correction differs from a case involving an ineligible investor or end use. A precise diagnosis avoids unnecessary escalation while ensuring material breaches are not hidden behind a description such as clerical error.

The institution should learn from recurring exceptions. Repeated late filings may indicate unclear ownership, poor reminders or data arriving too late from customers. A control improvement can include event-triggered tasks, reconciliations and escalation before deadlines. Training should explain why the report matters and what evidence supports it. Merely instructing staff to be careful is unlikely to fix a process that systematically lacks the required information until after the reporting date.

FEDAI's role and boundaries

FEDAI is an association of authorised dealers that develops relevant rules, conventions and market practices for foreign-exchange business. Its role differs from RBI's statutory regulatory authority. FEDAI material can standardise handling of matters such as exchange contracts and related banking practices within its scope. It should be read with applicable law, RBI directions and the customer's agreement. An association rule cannot override a statutory prohibition or create an exemption that the regulator has not provided.

For operational calculations, identify the applicable rule edition, contract type, event and bank terms. Forward cancellation, extension, early delivery and overdue handling can involve different rates and charges. Do not assume that a single cancellation formula covers every case. Explain the underlying economic

principle: replacing or reversing a contracted exchange position can produce a gain or loss at the relevant market rate, with other charges governed by the applicable terms.

Suppose a customer contracted to sell USD10,000 at INR84 but later has no dollars to deliver. A simplified replacement purchase at INR85 costs INR10,000 more than the contracted rupee receipt, before charges. This illustrates a replacement-cost loss, not a universal FEDAI quotation rule. The actual cancellation rate and timing must follow the operative arrangement. Transparent labelling prevents a teaching example from being mistaken for a binding tariff or a complete operational prescription.

Other institutions and contractual rule makers

DGFT and the government's trade-policy framework address trade authorisation and related policy matters. Customs processes concern declarations, duties and movement evidence. ECGC provides defined credit-risk protection. ICC publishes contractual trade rules such as UCP and Incoterms, which operate through incorporation and their legal context. IFSCA regulates financial services within the IFSC framework. These roles can intersect in a transaction without merging into one institution's authority.

For example, an LC may incorporate UCP while the shipment remains subject to trade restrictions and the payment remains subject to applicable law. A complying documentary presentation does not authorise the bank to ignore a binding legal restriction. Conversely, a trade-policy permission does not make documents compliant with a credit. Analyse each layer separately, then identify how they interact. This method is more reliable than asking which single institution has the final word on every aspect of a complex transaction.

Use primary sources for operative rules and official product material for programme details. Secondary summaries can help identify an issue but should not be the final authority for a threshold, effective date or permission. Record the version retrieved and whether a later amendment has been checked. The distinction between a draft consultation and a final rule is especially important. A proposal may signal future direction without yet changing what a bank is permitted or required to do.

ADRs, GDRs and FCCBs

Depository receipts represent an interest in underlying securities through a depositary arrangement. ADRs are associated with the American market; GDRs are used in international markets under their relevant structure. The investor holds a receipt while underlying shares are held through the depositary and custodian arrangements. This creates access to capital markets but also introduces programme, listing, disclosure and conversion mechanics. A receipt is not simply a foreign-currency loan with another name.

FCCBs are foreign-currency convertible bonds. They begin with debt features and include a conversion option according to terms. If conversion does not occur, repayment obligations can remain, exposing the issuer to refinancing and currency risk. A rising share price may make conversion attractive to investors; a falling price may leave the issuer with a redemption burden. The financing plan should stress both outcomes rather than assuming every bond will convert because management expects business growth.

Consider a USD1,000 bond convertible into 50 shares under a simplified fixed ratio. The implied conversion price is USD20 per share in that model. If the share value is USD15, conversion would yield USD750 of shares, so other terms equal, the investor may prefer the debt claim. Real instruments can have currency and adjustment provisions, so this arithmetic is only a teaching example. It demonstrates why conversion optionality does not remove the issuer's debt risk automatically.

Authority-selection cases

A customer asks whether a proposed foreign investment is permitted. Start with the applicable investment rules and RBI operational framework, not an insurer's willingness to cover a related sale. A customer asks whether a particular shipment loss is insured. Read the actual ECGC or other insurer policy, not the general FEMA permission. A customer asks how a documentary discrepancy should be handled. Examine the credit and incorporated rules while respecting applicable law. The question determines the relevant source.

A bank sees an older internal manual prescribing a deadline that appears inconsistent with a newer regulatory direction. Verify the newer instrument's scope, effective date and transition provisions, then escalate the policy update through the bank's process. Do not silently apply the old rule because it is familiar, or discard it without checking whether it still governs earlier transactions. Version control is a substantive banking control because different cohorts of transactions can legitimately fall under different rules.

An exporter receives a programme brochure suggesting financing availability. The officer should distinguish product eligibility from sanction, and sanction from disbursement conditions. Each stage requires evidence. A sanctioned facility may still await security or documents before funds can be released. This sequence explains why a customer's statement that the loan was approved does not necessarily authorise immediate payment. Clear communication about remaining conditions avoids both unjustified refusal and premature execution.

Revision through a source hierarchy

Begin with the legal framework, then identify detailed rules and directions, applicable contractual standards and internal procedures. Locate the institution responsible for the question and verify the date. Map each transaction obligation to a document and an owner. This produces a practical authority matrix: permission, finance, insurance, documentary performance, reporting and settlement. A transaction can satisfy one column while failing another, so the final decision should not collapse all columns into a single yes or no.

Remember EXIM as a specialised trade and investment support institution, RBI as a regulator with exchange-management powers, FEMA as the statutory framework and FEDAI as a market association with relevant rules and conventions. ECGC's insurance role and ICC's contractual standards complement those functions. ADRs and GDRs provide depositary-receipt structures; FCCBs combine debt and conversion features. These distinctions are the basis for solving institutional-role and instrument-classification questions accurately.

For professional work, preserve the reasoning behind a decision, not merely a link to a website. State which provision or product term answers which fact, and identify unresolved conditions. For examination preparation, follow the stated cutoff and question assumptions. The purpose of the authority map is to make complex cases manageable without inventing certainty. A well-supported answer can be concise while still showing the correct institution, applicable instrument and practical next step.

Practice with explanations

01. Which institution is principally associated here with specialised export financing support?

A. ECGC as the same institution	B. EXIM Bank
C. ICC as a lending bank	D. FEDAI as a universal insurer

Answer B. EXIM supports trade and international investment financing through relevant programmes. ECGC's insurance role, ICC's contractual standards and FEDAI's market practices are distinct and should not be substituted for a financing institution.

02. What is the best starting point for an authority map?

A. The question or function requiring a decision	B. The shortest acronym
C. Whichever brochure was received first	D. The customer's preferred logo

Answer A. Identify whether the issue concerns permission, finance, insurance, documents or settlement. Acronym length, branding and document arrival order cannot determine legal competence or the appropriate source for the decision.

03. What does an EXIM line of credit commonly enable under its terms?

A. Unlimited personal remittances	B. Eligible overseas purchases from India
C. Automatic insurance of all exporters	D. Any unrelated domestic salary payment

Answer B. The LOC structure supports eligible purchases through the specified overseas borrower and conditions. It is not a general salary facility, universal insurance or personal remittance allowance; contract and disbursement requirements remain.

04. Does an LOC remove the exporter's performance obligations?

A. Yes once a brochure is issued	B. No
C. Only if the shipment is large	D. Yes for every invoice in that country

Answer B. The exporter must fulfil relevant performance and documentation conditions. Programme existence, geography and size do not make every invoice eligible or replace the obligations required for payment under the arrangement.

05. What distinguishes buyer financing from supplier credit?

A. Only the goods' colour	B. The identity and structure of the creditor
C. There is never a distinction	D. Only the invoice language

Answer B. Buyer financing involves the relevant lender-buyer obligation, while supplier credit is seller deferral. Commercial appearance and language do not establish who holds the debt or bears the financed credit risk.

06. Why forecast a project export by milestones?

A. Costs and certified receipts occur at different times	B. Guarantees never affect cash
C. Every project receives full cash upfront	D. Profit automatically provides liquidity

Answer A. Milestone timing reveals working-capital and funding gaps. Project profit is not cash already available, and guarantees can crystallise; assuming full advance payment ignores the actual contract and execution cycle.

07. A performance guarantee should be treated as what?

A. Immediate fee income equal to face value	B. No risk until forgotten
C. A contingent exposure requiring monitoring	D. A substitute for all funded loans

Answer C. The guarantee can create a payment obligation. Its face value is not profit, monitoring cannot wait until an event is missed, and the contingent exposure is distinct from funded lending.

08. What does RBI authorisation establish?

A. Permitted scope of foreign-exchange business subject to conditions	B. Every branch's unlimited internal sanction power
C. Automatic approval of every customer instruction	D. Authority to ignore FEMA

Answer A. Authorisation has a defined scope and conditions. It does not override law, internal delegation or transaction eligibility; the bank must assess both its powers and the specific proposed business.

09. Does money-changing permission automatically authorise ECB processing?

A. Only if cash is used	B. No; permission scope differs
C. Yes if the rate is attractive	D. Yes because both use foreign currency

Answer B. Different authorised-person permissions cover different activities. Sharing a foreign currency or attractive price does not expand the licence, and cash handling does not establish authority for complex borrowing transactions.

10. Which FEMA section is associated with current-account transactions?

A. Section 10 as a product tariff	B. Section 5
C. No statutory provision	D. Section 6 as the current-account provision

Answer B. Section 5 addresses current-account transactions. Section 6 concerns capital-account matters, while section 10 addresses authorised persons rather than a tariff; detailed rules and permissions still need examination.

11. Which FEMA section concerns capital-account transactions?

A. Section 6	B. Section 5 as the capital provision
C. A bank brochure	D. Only the sales contract

Answer A. Section 6 provides the capital-account framework. Section 5 addresses current-account matters, and neither a private contract nor marketing material replaces the statutory and subordinate rules governing the transaction.

12. Can a customer contract authorise a legally prohibited transaction?

A. No	B. Yes if signed twice
C. Yes if commercially profitable	D. Only if written in foreign currency

Answer A. Contractual agreement operates within applicable law. Signatures, profit and denomination cannot create legal permission for a prohibited act; the relevant statutory framework prevails over inconsistent private terms.

13. How does a bank's internal credit policy relate to regulatory permission?

A. It replaces every external rule	B. It changes the law for all banks
C. It always requires lending when legally permitted	D. It may impose stricter lending standards

Answer D. Legal permission allows an eligible activity but does not compel credit sanction. Internal standards can be stricter for the bank; they do not rewrite general law or remove external requirements.

14. What should an escalation submission contain?

A. Only a promised fee	B. A misleading split of the transaction
C. Facts, applicable provision, evidence and precise approval sought	D. Only urgency

Answer C. A complete factual request supports a competent decision. Urgency and commercial incentives are not legal grounds, while splitting to disguise the true transaction undermines rather than establishes compliance.

15. Are compounding and late-submission fees interchangeable remedies?

A. Only the customer's choice determines it	B. Yes for every contravention
C. No; scope and conditions differ	D. Yes if the amount is small

Answer C. Different mechanisms address specified issues under their own authority. Transaction size and preference do not make them equivalent; a substantive breach cannot automatically be treated as a reporting-delay fee matter.

16. What is FEDAI's role in this comparison?

A. Foreign stock exchange	B. Universal cargo insurer
C. Statutory authority replacing RBI	D. Market association with relevant forex rules and conventions

Answer D. FEDAI develops relevant authorised-dealer practices within its role. It does not replace RBI's statutory powers, provide universal cargo coverage or function as a stock exchange; hierarchy and scope remain important.

17. Can a FEDAI rule override a statutory prohibition?

A. No	B. Only for large banks
C. Yes because it is practical	D. Yes if a customer agrees

Answer A. Association rules operate within applicable law. Practical convenience, agreement and institution size do not give them power to override a statutory restriction or create an unsupported exemption.

18. Customer contracted to sell USD10,000 at INR84 but replacement costs INR85. Simplified loss is what?

A. INR10,000	B. INR850,000
C. USD10,000	D. INR840,000

Answer A. The one-rupee difference multiplied by 10,000 dollars gives INR10,000. The other rupee amounts are gross legs, and the dollar principal is not the replacement-cost loss; actual cancellation terms still govern.

19. What does DGFT's role principally relate to here?

A. Every LC document examination	B. Trade policy and authorisation
C. Deposit interest computation	D. All nostro reconciliation

Answer B. DGFT relates to the trade-policy framework. Documentary examination, interbank reconciliation and interest arithmetic are different functions, even though a trade transaction may require all of them through different institutions.

20. When do ICC contractual rules such as UCP become relevant?

A. As a substitute for all national law	B. Through applicable incorporation and legal context
C. Only when no contract exists	D. Only because an invoice is foreign

Answer B. ICC rules operate according to their incorporation and scope alongside law. A foreign invoice alone does not automatically apply every rule set, and contractual rules do not abolish binding legal restrictions.

21. What does a depositary receipt represent?

A. Always a bank deposit	B. Only a short-term trade loan
C. A guarantee of share-price appreciation	D. An interest in underlying securities through an arrangement

Answer D. Depositary receipts connect investors with underlying securities through depositary structures. They are not ordinary deposits or necessarily loans, and their form does not guarantee investment returns or remove market risk.

22. Which market association best fits ADR terminology?

A. An INR savings account	B. A domestic warehouse receipt only
C. An export insurance percentage	D. American depositary receipt structure

Answer D. ADR denotes the American depositary-receipt context. It is a securities access structure, not a savings product, insurance measure or merely a warehouse document; programme terms determine the actual rights.

23. What risk remains if an FCCB does not convert?

A. Debt redemption and associated currency/refinancing exposure	B. Automatic equity without terms
C. No obligation at all	D. Only stationery cost

Answer A. Conversion is conditional on the instrument's terms and investor choice where applicable. If it does not occur, debt obligations can remain; expecting conversion does not remove repayment, currency or refinancing risk.

24. A USD1,000 bond converts into 50 shares. Implied model conversion price is what?

A. USD0.05 per share	B. USD50 per share
C. USD1,000 per share	D. USD20 per share

Answer D. Divide bond amount by shares: 1,000/50 equals 20. The share count and face amount are not the per-share price, while 0.05 is the reciprocal relationship with different units.

25. An old manual conflicts with a newer direction. What is appropriate?

A. Always use the familiar manual	B. Verify scope, effective date and transition, then update through policy process
C. Always ignore earlier transactions	D. Treat a draft as final

Answer B. Version control requires checking which instrument governs which transactions. Familiarity is not authority, earlier transactions may have transition treatment, and a draft does not automatically change operative obligations.

A08 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 International banking involves several institutions whose names frequently appear together.	**15** FEMA governs foreign exchange with a management framework built around residence, transaction type, permissions and obligations.
02 Consider an exporter seeking funds for an overseas project.	**16** Section 3 addresses restricted dealings and payments except through permitted arrangements.
03 This chapter develops that map and explains how to resolve apparently conflicting instructions.	**17** Distinguish an Act from rules, regulations, directions and contractual terms.
04 The Export-Import Bank of India is a specialised institution established under its governing statute to support India's international trade and investment activities.	**18** A contravention may concern a substantive restriction, a reporting failure or another obligation.
05 Think of EXIM support across a business's growth path.	**19** Maintain a factual chronology: approval or permission, receipt or payment, document issue, reporting due date, actual submission and discovery of the problem.
06 For a branch officer, the practical skill is recognising when a specialised programme may be relevant and assembling a credible referral.	**20** The institution should learn from recurring exceptions.
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08 Map the cash flows carefully.	**22** For operational calculations, identify the applicable rule edition, contract type, event and bank terms.
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10 Project exports can involve construction, installation, consultancy, equipment and services over several years.	**24** DGFT and the government's trade-policy framework address trade authorisation and related policy matters.
11 Suppose a project receives a 10% advance, 70% through progress payments and 20% after commissioning.	**25** For example, an LC may incorporate UCP while the shipment remains subject to trade restrictions and the payment remains subject to applicable law.
12 Overseas investment support concerns expansion through acquisitions, subsidiaries or other permitted structures.	**26** Use primary sources for operative rules and official product material for programme details.
13 The category and scope of an authorised person's permission matter.	**27** Depository receipts represent an interest in underlying securities through a depositary arrangement.
14 When a matter falls outside delegated powers, use the prescribed escalation or application route with a complete factual submission.	**28** FCCBs are foreign-currency convertible bonds.

A09 IFSC and GIFT City

Practice / Quick Revision

Understand the purpose before the location

An international financial services centre brings together institutions providing cross-border financial services under a defined regulatory framework. Its purpose is not simply to create a district of office towers. Banks, markets, insurers, funds and supporting professionals need compatible rules, infrastructure and access to clients. GIFT City provides the Indian setting for the IFSC discussed here. The physical location and the financial-regulatory framework are related but should not be treated as the same concept.

An Indian company might seek foreign-currency funding, an overseas investor might seek market access and a bank might wish to book permitted international business through an IFSC unit. Each use case has its own eligibility and documentation. Being located in the centre does not automatically authorise every financial service. The institution needs the appropriate permission, and the customer transaction must satisfy its applicable conditions. This distinction prevents the common misconception that an IFSC is a regulation-free zone.

This chapter explains the opportunities, IFSCA's role, banking-unit structure, permitted-activity analysis, risk controls and portfolio-investment considerations. It avoids presenting tax concessions or capital thresholds as universal facts without their current conditions. The official banking handbook and later circulars should be read together. The source register records the retrieved versions and flags that a later FAQ or consultation must be examined before relying on a changed operational rule.

The financial ecosystem

An IFSC can support banking, capital markets, insurance, fund management, leasing and other authorised financial activities. These services can reinforce one another: a borrower raises funds, a bank manages payments and currency risk, an insurer covers defined exposures and professional firms support documentation. The benefit comes from functioning connections among institutions, not merely their proximity. A transaction still needs legally enforceable contracts, reliable settlement and clear responsibilities across the service chain.

Consider an aircraft-leasing business. It may need asset finance, insurance, foreign-currency accounts, lease documentation and risk management. A bank can support eligible financial needs while the lessor remains subject to its own authorisation and commercial obligations. The existence of a leasing ecosystem does not make every lease creditworthy. Analyse lessee payment capacity, asset value, repossession rights and currency matching. The same discipline applies to other specialised activities offered within the centre.

For an Indian corporate, potential benefits include access to international products, counterparties and funding arrangements within an Indian jurisdictional setting. Potential costs include compliance, specialist staffing, technology and liquidity requirements. An opportunity is not automatically a business case. A bank should estimate client demand and profitability after risk and operating costs rather than opening a unit solely because competitors have done so. The centre's growth supports possibilities, but each institution remains responsible for its own strategy.

IFSCA and the regulatory map

IFSCA is the statutory authority responsible for developing and regulating financial products, services and institutions within its IFSC jurisdiction under the applicable legislation. Its integrated role helps address activities that would otherwise involve different financial-sector regulators. This does not mean every Indian law ceases to apply inside the centre. The institution must consider the IFSCA framework alongside relevant exchange-management, tax, company, anti-money-laundering and other requirements.

Read the legal hierarchy carefully. The governing Act creates powers; regulations establish requirements; directions and circulars provide operational detail; guidance and FAQs explain application within their status. A consultation paper proposes a change but does not necessarily implement it. The banking handbook organises directions across general, conduct and prudential themes. The appropriate provision depends on the question, such as establishment, customer treatment, risk management or permitted business.

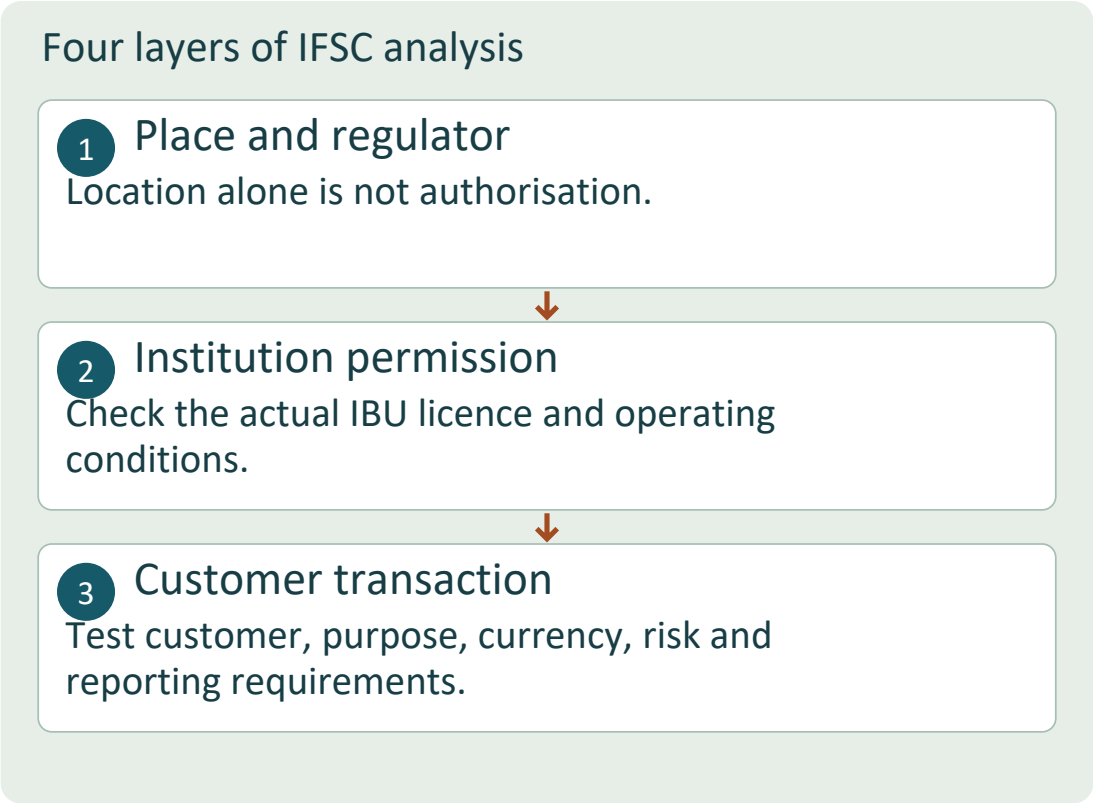
Suppose a brochure says an activity is available in GIFT IFSC. The bank should verify whether its own licence permits the activity, whether the customer is eligible and whether the proposed transaction meets conditions. General ecosystem availability is not institution-specific authority. Similarly, another firm's licence cannot be used as evidence that the bank may offer the same service. A regulatory map connects the product to the actual permission holder and the relevant operating requirements.

IFSC banking units

An IFSC Banking Unit is a banking operation established under the applicable permission and framework. Its relationship with the parent bank matters for governance, capital support, risk aggregation and operational accountability. It should not be treated as an informal overseas desk with no distinct controls. The parent and unit must understand who approves products, who monitors exposures, how records are maintained and which obligations apply at unit and consolidated levels.

Establishment involves the required regulatory permissions, business plan, governance arrangements, resources and compliance with applicable capital and liquidity requirements. Exact thresholds and conditions should be taken from the operative rules rather than an old presentation. The business plan should explain customers, products, funding, systems, staffing and risk controls. A licence application that forecasts revenue without explaining settlement or compliance capacity is incomplete from a practical banking perspective even before formal requirements are considered.

Operational readiness includes account systems, reporting, treasury access, customer onboarding, sanctions screening and incident management. Test these before launching material business. The unit needs a reliable connection to parent oversight while preserving clear local responsibilities. If a transaction is booked in the unit but executed or supported elsewhere, define the allocation of duties and records. Remote support does not remove accountability for the business actually undertaken by the licensed operation.



Location alone is not authorisation. Check the actual IBU licence and operating conditions. Test customer, purpose, currency, risk and reporting requirements.

Permitted activities and customer eligibility

Banking activities can include eligible deposits, lending, trade finance, guarantees, investments and derivatives within the applicable permissions and conditions. The correct question is not simply whether an IBU can lend, but to whom, in what currency, for what purpose and under which restrictions. Customer residence, legal form and transaction type can change the answer. A broad list of possible activities is a starting point for analysis, not a complete approval checklist.

Foreign-currency business is central to the IFSC model, but do not infer that every rupee transaction is either automatically allowed or universally forbidden. Specific permissions and conditions govern particular arrangements. Likewise, access by resident individuals or entities may depend on relevant exchange-management routes and product rules. An account opening does not independently authorise all subsequent investments or remittances. Each material transaction must fit both account conditions and the applicable underlying framework.

Consider a resident company seeking a foreign-currency loan from an IBU. The location of the lender does not by itself remove the need to examine the borrower's applicable borrowing rules, end use and reporting. The unit must assess creditworthiness and legal eligibility separately. If the proposal fails an end-use condition, a favourable credit assessment cannot cure it. If it is legally eligible but commercially weak, permission does not require the bank to lend.

Funding, liquidity and currency matching

An IBU's assets and liabilities may involve different currencies, maturities and counterparties. Funding a three-year loan with short-term deposits creates refinancing risk even if both are in dollars. Funding a dollar loan with another currency adds exchange and swap-market dependence. The unit should monitor liquidity by currency and time bucket rather than rely only on a single aggregate balance. Consolidated parent support is useful but must be operationally available when required.

Assume a unit has USD20 million of cash and confirmed inflows against USD28 million of outflows over a defined stress period. The simplified gap is negative USD8 million before additional funding. If USD5 million of inflows are uncertain, treating them as guaranteed conceals a larger potential shortfall. The calculator separates available resources and required outflows; it does not claim to calculate a regulatory liquidity ratio. Such ratios have specific definitions, weights and caps beyond this simple illustration.

Stress scenarios should include deposit withdrawals, market funding closure, delayed asset receipts and higher collateral calls. A derivative hedge can reduce currency risk while creating liquidity needs through margin. Therefore, hedging does not eliminate every funding concern. Identify eligible collateral, settlement currencies and the timing of calls. A unit that is economically hedged can still fail to meet a cash obligation if its liquidity plan assumes that offsetting gains arrive before they actually do.

Credit and market risk controls

Credit appraisal considers borrower cash flows, leverage, industry, country, structure and enforceability. Cross-border lending may involve legal systems and recovery processes unfamiliar to the originating team. Obtain appropriate expertise rather than assuming a standard domestic security document works everywhere. A guarantee should be assessed for the guarantor's capacity and enforceability, not accepted solely because it is issued by a related company with a well-known name.

Market risk arises from rates, currencies and other traded factors. Limits should distinguish customer-driven hedging, investment positions and proprietary exposures where permitted. Independent valuation and risk monitoring help prevent the front office from being the sole judge of its own positions. Product approval should cover model assumptions, accounting, settlement and stress behaviour. A derivative can be legally available yet unsuitable for a customer whose understanding or exposure does not support the proposed structure.

Concentration can arise across a parent bank and its IBU. Lending to the same group through different booking locations does not create economic diversification. Aggregate exposures where required and consider correlated country or sector risks. A unit-level limit can be respected while consolidated exposure becomes excessive. The governance system should therefore connect local monitoring with parent-level oversight and define how conflicting limits are resolved before a new transaction is executed.

Conduct, onboarding and financial-crime controls

Customer onboarding establishes identity, beneficial ownership, purpose, expected activity and risk profile. International structures can involve trusts, funds, special-purpose entities and several jurisdictions. Complexity is not automatically improper, but it requires a clear explanation of ownership and control. Documents should be consistent with the business purpose and expected flows. A prestigious intermediary or professional introducer does not remove the bank's own obligations under the applicable framework.

Screen transactions and counterparties using the relevant controls, and investigate meaningful alerts rather than clearing them solely to meet turnaround targets. Keep customer information current as ownership and activity change. A previously low-risk account can become materially different after a new investor or business line appears. Monitoring should compare actual activity with the expected profile and produce specific questions where there is a mismatch, rather than relying only on transaction-size thresholds.

Conduct standards also concern fair communication, product suitability where applicable, conflicts and complaint handling. Explain fees, risks, early termination costs and the legal role of each institution. A customer should know whether it is buying a deposit, investment, derivative or another instrument, and which protections apply. Do not imply that all products offered by a bank have the same capital protection or liquidity. Clear disclosure reduces misunderstanding but does not excuse selling an inappropriate product.

FPI entities and conditional relaxations

Foreign portfolio investment involves a specific regulatory category and requirements. IFSC-based structures may benefit from particular permissions or relaxations, but these are conditional and should not be presented as a universal exemption from investor eligibility, beneficial-ownership or market rules. Identify the entity, registration status, investor composition and intended investment. A rule designed for one class of fund or intermediary does not automatically apply to every company with an IFSC address.

The syllabus asks learners to understand relaxations for FPI entities at GIFT City. The reliable approach is to read the current applicable IFSCA and securities-market framework together and identify the exact relief, eligible recipient and continuing conditions. This chapter does not invent a numerical investor threshold from an unverified summary. Its role map shows where the question belongs, while the source-gap register marks the need for the operative transaction-specific provision before using such a threshold in practice.

In a case, an IFSC fund proposes to invest in Indian securities and claims that its location removes all investment restrictions. The correct response is to test the applicable registration and investment route and any specific relaxation. Location alone is insufficient. Conversely, rejecting the structure simply because investors are overseas also ignores the purpose of the permitted framework. Good analysis avoids both blanket approval and blanket rejection by connecting the facts to the precise category and conditions.

Economics of an IBU transaction

Suppose an illustrative USD10 million loan earns 6% annually and its matched funding costs 4%. Gross annual interest spread is USD200,000 before fees, operating expenses, expected credit losses and capital costs. Calling the 2% spread profit overstates the result. If operating and risk costs total USD120,000, the simplified contribution becomes USD80,000. A business case should include these costs and examine whether the return compensates for the resources and risks consumed.

Maturity mismatch changes the result. If funding reprices after three months while the loan rate remains fixed for a year, a rise in funding cost can compress or reverse the spread. A hedge may help but has its own price and operational requirements. The calculator's matched-rate example therefore states its assumptions explicitly. It is a teaching tool for contribution arithmetic, not a forecast that a particular IBU can always borrow and lend at those rates.

Tax incentives, if relevant, should be assessed under current law with their qualifying conditions, periods and exclusions. Do not multiply a headline concession by projected revenue and call it assured savings. The entity, activity and income type matter, as do compliance and future changes. For examination preparation, distinguish a question supplying an assumed tax rate from one asking for the actual operative provision. The former permits arithmetic; the latter requires a verified dated rule.



USD10 million at 6% for one year Gross spread after funding: USD200,000 Deduct USD120,000 other costs; tax omitted.

Integrated launch and transaction cases

A bank plans an IBU focused on trade finance for existing corporate customers. Its launch checklist should connect target business with licence scope, customer eligibility, systems, staffing, funding and risk limits. Existing domestic customer files may help but need review for the new relationship and activities. The unit should test an entire transaction from onboarding through settlement and reporting. A successful login screen or a signed office lease does not establish operational readiness.

The first customer requests a dollar trade facility and a derivative hedge. Treat them as related but distinct products. Check the borrowing or trade-credit route, repayment source, hedge exposure, documentation and settlement arrangements. The hedge amount should not exceed the supported exposure merely because the customer expects favourable market movements. Monitor changes in the underlying transaction so a cancelled shipment does not leave an unmanaged derivative position after the original financing need disappears.

Later, a market disruption delays receipts while funding falls due. The unit activates its contingency plan, confirms available parent support and prioritises settlement obligations under policy. It should not count an uncommitted credit line as cash already available. The case demonstrates how strategy, licensing, credit and liquidity controls join in practice. A strong institution prepares these responses before stress rather than attempting to negotiate every responsibility after the payment deadline has arrived.

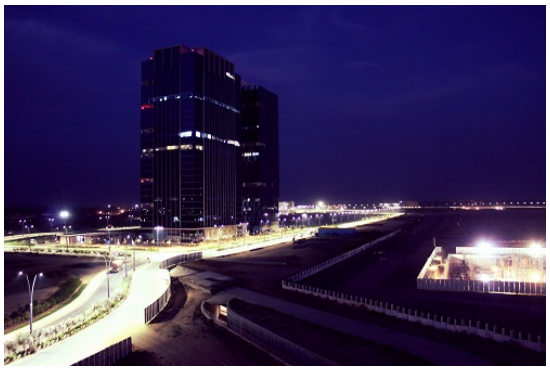
Revision and regulatory reading method

Remember four layers: the place, the regulator, the licensed institution and the individual transaction. GIFT City is the location and ecosystem; IFSCA provides the relevant regulatory framework; an IBU operates under its permission; each customer transaction must satisfy its own conditions. Confusing these layers leads to claims that all activities are permitted, all taxes disappear or all resident restrictions cease. None follows merely from the institution's address.

For numerical questions, separate spread from profit, cash gap from a regulatory liquidity ratio and currency matching from maturity matching. For qualitative questions, identify licence scope, customer eligibility,

conduct obligations and consolidated risk. A product can be permissible yet unsuitable, profitable in a base case yet fragile under stress, or safe locally yet concentrated at group level. These distinctions help a candidate explain the business implications rather than repeat a list of possible IFSC services.

Use the official handbook, regulations and later instruments for operational details, checking whether each is final and effective. Record the source version rather than labelling an old presentation current. The chapter's dated references support the institutional framework; unresolved transaction-specific thresholds remain explicitly identified. This preserves a useful complete conceptual lesson while directing operational decisions to the exact rule that governs them, which is the discipline expected of a careful international banker.



GIFT City, Gandhinagar, photographed in 2016. Identify which activities belong to the IFSC framework.

Gift City · Pooja T S · CC BY-SA 4.0

Practice with explanations

01. What distinguishes GIFT City from IFSCA?

A. One is a currency and one a bank	B. Both are individual deposit products
C. Location/ecosystem versus regulatory authority	D. They are identical legal entities

Answer C. GIFT City is the setting and ecosystem; IFSCA is the relevant authority. Neither distinction is about a currency or deposit product, and the place should not be confused with its financial regulator.

02. Does an IFSC location authorise every financial activity?

A. Yes without a licence	B. No; permissions and transaction conditions matter
C. Yes if another firm offers it	D. Only the office address matters

Answer B. An institution needs its own relevant authorisation and must meet transaction conditions. Geography and a competitor's licence do not confer powers, and an address alone cannot establish eligibility.

03. What should an IBU business plan address beyond revenue?

A. Only office decoration	B. Funding, systems, staffing, controls and customer demand
C. Nothing beyond forecast income	D. Only competitor announcements

Answer B. A viable plan needs operational and risk capacity as well as demand. Physical appearance and competitors do not establish readiness, while revenue forecasts alone omit the resources and controls required to deliver the service.

04. Why does the IBU's parent relationship matter?

A. Governance, support and consolidated risk	B. It removes reporting
C. It guarantees every asset is risk-free	D. It eliminates all unit accountability

Answer A. Parent links affect oversight and aggregation but do not abolish local responsibilities, risk or reporting. The unit and parent need clear allocation of duties and reliable support arrangements rather than assumed immunity.

05. What is a consultation paper?

A. A proposal whose final status must be checked	B. A completed customer approval
C. A bank licence	D. Automatically effective law

Answer A. Consultations seek input and may lead to final instruments. They do not themselves necessarily implement a rule, grant an institution's licence or approve an individual transaction; status and effective date require checking.

06. A brochure lists lending as available. What must the IBU still test?

A. Only whether another bank lends	B. Its licence, customer, currency, purpose and conditions
C. Only the brochure colour	D. Nothing once the customer agrees

Answer B. A broad activity list is not transaction-specific permission. The institution's authority and customer facts remain essential; branding, competitors and agreement do not replace those conditions.

07. Does an IBU loan automatically bypass the resident borrower's applicable borrowing rules?

A. Only if interest is low	B. Yes if denominated in dollars
C. No	D. Yes because it is in GIFT

Answer C. Lender location and currency do not erase the borrower's applicable framework. Eligibility, end use and reporting must still be assessed; a low price affects economics rather than legal permission.

08. Matching asset and liability currencies eliminates which risk least directly?

A. The direct currency mismatch on matched cash flows	B. Some conversion exposure
C. Currency imbalance from those matched amounts	D. Maturity refinancing risk

Answer D. Currency matching does not align due dates. A long loan funded by short deposits can still face rollover risk even when both are dollars; the currency benefit must not be mistaken for maturity matching.

09. Resources USD20 million against outflows USD28 million create what simplified gap?

A. Positive USD8 million	B. Negative USD8 million
C. Zero	D. USD48 million available

Answer B. Subtract outflows from resources: 20 minus 28 equals negative 8. Reversing the sign, adding flows or assuming zero conceals the funding need; this is a simple gap, not a regulatory ratio.

10. Why should uncertain inflows be distinguished in stress analysis?

A. They can automatically repay every liability	B. They remove collateral calls
C. They are always cash already held	D. They may not arrive when needed

Answer D. Uncertain receipts can fail or arrive late, increasing liquidity needs. They are not available cash and cannot be assumed to meet liabilities or eliminate margin requirements merely because they appear in a forecast.

11. Can a derivative hedge create liquidity needs?

A. Yes through collateral or settlement calls	B. No because hedges remove every risk
C. Only if the hedge has no documentation	D. Never in foreign currency

Answer A. Hedging can reduce market exposure while requiring cash at particular times. It does not eliminate all risks; collateral and settlement obligations can arise under documented foreign-currency arrangements as well.

12. Why aggregate parent and IBU exposures to the same group?

A. Two offices mean two unrelated borrowers	B. Concentration is impossible in international banking
C. Booking locations do not create economic diversification	D. Only the unit limit matters

Answer C. The same debtor group can create shared loss exposure across locations. Local compliance alone may not control consolidated concentration; separate offices do not make the borrowers or underlying risks independent.

13. What is a key onboarding issue for complex international entities?

A. Only the introducer's prestige	B. Beneficial ownership and control
C. Automatic rejection of every complex structure	D. Only the length of the company name

Answer B. Complexity requires understanding ownership and purpose, not superficial checks or blanket rejection. A respected introducer does not replace the bank's obligations, while legitimate structures can be accepted if conditions are met.

14. Does valid authentication prove a transaction is suitable for the customer?

A. Only if submitted online	B. No
C. Yes in every case	D. Only if the amount is large

Answer B. Authentication identifies authorised access or instruction but does not establish suitability, understanding or eligibility. Channel and amount cannot replace assessment of the product, customer need and applicable conduct requirements.

15. Why distinguish deposits, investments and derivatives in disclosure?

A. All bank products guarantee principal	B. Every product permits instant withdrawal
C. Only their colours differ	D. Their risks and protections differ

Answer D. Different legal and economic structures carry different loss, liquidity and protection features. Bank distribution does not make all products principal-guaranteed or instantly redeemable, so customers need clear distinctions.

16. An IFSC fund claims its address removes all portfolio-investment restrictions. What is appropriate?

A. Only inspect the building photograph	B. Reject all foreign investors automatically
C. Accept the claim automatically	D. Test registration, route and specific conditions

Answer D. IFSC-based permissions and relaxations are conditional. Neither blanket approval nor blanket rejection is sound; registration, investor composition and the applicable investment framework determine the actual treatment.

17. What is a conditional relaxation?

A. An instruction to stop KYC	B. A universal exemption from all rules
C. Specific relief for eligible entities meeting stated requirements	D. A permanent promise for every investor

Answer C. Relief has a defined recipient, scope and conditions. It does not automatically waive all regulations, remain unchanged forever or abolish customer due diligence; the operative provision must be read precisely.

18. USD10 million earning 6% and funded at 4% produces what gross annual spread?

A. USD1 million	B. USD400,000 profit
C. USD600,000 profit	D. USD200,000

Answer D. The spread is principal times the 2% difference, or 200,000. Six hundred thousand is gross interest income, 400,000 is funding cost and neither equals net profit; one million incorrectly adds the legs.

19. Deducting USD120,000 operating and risk costs from USD200,000 spread leaves what?

A. USD120,000	B. USD80,000
C. USD320,000	D. USD200,000 unchanged

Answer B. The simplified contribution is 200,000 minus 120,000, or 80,000. Costs reduce rather than increase it; the cost figure and unchanged gross spread are not the remaining contribution.

20. Fixed-rate annual lending funded by three-month repricing creates what exposure?

A. Only a document-storage problem	B. No interest-rate risk because currency matches
C. Funding-cost repricing risk	D. Guaranteed constant spread

Answer C. Funding may reprice while asset income remains fixed, compressing spread. Currency matching does not align rate resets; the risk is economic, not merely a storage issue, and profit is not guaranteed.

21. How should a tax incentive be evaluated?

A. As a substitute for licence approval	B. As universal tax exemption
C. By multiplying all revenue without review	D. Under current conditions for the entity and income

Answer D. Tax benefits have qualifying conditions and scope. They do not exempt every income or replace authorisation, and an unsupported revenue multiplication can overstate benefits by ignoring eligibility, costs and timing.

22. Which event best demonstrates operational readiness?

A. Publishing a brochure alone	B. Tested end-to-end transaction and control workflow
C. Launching a login screen alone	D. Signing an office lease alone

Answer B. Readiness requires functioning onboarding, approvals, settlement, records and reporting. Premises, interface access and marketing are useful milestones but cannot prove that the bank can safely complete the underlying transaction.

23. An underlying shipment is cancelled after a hedge. What needs attention?

A. The remaining derivative exposure and financing changes	B. Nothing because it was once a hedge
C. Automatic profit recognition	D. Deletion of all records

Answer A. Cancellation can leave an unmatched derivative and changed repayment assumptions. Prior hedge purpose does not resolve the new exposure; profit and record deletion are not substitutes for review and appropriate action.

24. Why is an uncommitted line not equivalent to cash?

A. It always equals settled funds	B. It may not be available when stress occurs
C. It cannot have any value	D. It removes every funding obligation

Answer B. An uncommitted facility can be uncertain under stress, so availability must be tested. It may still have value, but it is not settled cash and cannot be assumed to extinguish all upcoming obligations.

25. Which four-layer framework best organises IFSC analysis?

A. Logo, building, slogan, colour	B. Only country and currency
C. Place, regulator, licensed institution, transaction	D. Only customer and interest rate

Answer C. The four layers distinguish ecosystem, authority, permission holder and specific activity. Visual branding or only two commercial facts cannot establish the complete regulatory and operational context for an IFSC transaction.

A09 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 An international financial services centre brings together institutions providing cross-border financial services under a defined regulatory framework.	**15** Stress scenarios should include deposit withdrawals, market funding closure, delayed asset receipts and higher collateral calls.
02 This chapter explains the opportunities, IFSCA's role, banking-unit structure, permitted-activity analysis, risk controls and portfolio-investment considerations.	**16** Credit appraisal considers borrower cash flows, leverage, industry, country, structure and enforceability.
03 An IFSC can support banking, capital markets, insurance, fund management, leasing and other authorised financial activities.	**17** Market risk arises from rates, currencies and other traded factors.
04 Consider an aircraft-leasing business.	**18** Concentration can arise across a parent bank and its IBU.
05 For an Indian corporate, potential benefits include access to international products, counterparties and funding arrangements within an Indian jurisdictional setting.	**19** Customer onboarding establishes identity, beneficial ownership, purpose, expected activity and risk profile.
06 Read the legal hierarchy carefully.	**20** Screen transactions and counterparties using the relevant controls, and investigate meaningful alerts rather than clearing them solely to meet turnaround targets.
07 Suppose a brochure says an activity is available in GIFT IFSC.	**21** Conduct standards also concern fair communication, product suitability where applicable, conflicts and complaint handling.
08 An IFSC Banking Unit is a banking operation established under the applicable permission and framework.	**22** Foreign portfolio investment involves a specific regulatory category and requirements.
09 Operational readiness includes account systems, reporting, treasury access, customer onboarding, sanctions screening and incident management.	**23** The syllabus asks learners to understand relaxations for FPI entities at GIFT City.
10 Banking activities can include eligible deposits, lending, trade finance, guarantees, investments and derivatives within the applicable permissions and conditions.	**24** In a case, an IFSC fund proposes to invest in Indian securities and claims that its location removes all investment restrictions.
11 Foreign-currency business is central to the IFSC model, but do not infer that every rupee transaction is either automatically allowed or universally forbidden.	**25** Suppose an illustrative USD10 million loan earns 6% annually and its matched funding costs 4%.
12 Consider a resident company seeking a foreign-currency loan from an IBU.	**26** Maturity mismatch changes the result.
13 An IBU's assets and liabilities may involve different currencies, maturities and counterparties.	**27** Tax incentives, if relevant, should be assessed under current law with their qualifying conditions, periods and exclusions.
14 Assume a unit has USD20 million of cash and confirmed inflows against USD28 million of outflows over a defined stress period.	**28** A bank plans an IBU focused on trade finance for existing corporate customers.

A10 Technology in International Banking

Practice / Quick Revision

Technology changes the workflow, not the obligation

International banking coordinates customers, banks, transport providers, insurers, regulators and markets across borders. Technology can move instructions and evidence faster, improve data quality and make status visible. It does not eliminate the underlying obligations to pay, deliver, verify identity or comply with law. A digital transaction can fail for the same commercial reason as a paper transaction, while also introducing cyber, data and system risks. Understanding both sides prevents exaggerated claims about automation.

Consider an exporter uploading an invoice and shipping information to a bank portal. The upload reduces physical handling and can support automatic checks. But the bank still needs to establish who submitted the information, whether the documents are authentic, whether the trade is genuine and whether the financing is permitted. A successful upload is a technical event. Credit approval, documentary compliance and settlement are different business events requiring their own evidence and controls.

This chapter follows the evolution from paper and messaging to structured data, APIs, digital platforms and distributed ledgers. It explains benefits, limitations, fintech channels and an illustrative blockchain trade workflow. The aim is to evaluate technology by the banking problem it solves. A useful system should improve a measurable outcome such as error reduction, settlement visibility or processing time while preserving accountability, security and the ability to resolve exceptions.

Evolution from paper to structured data

Early cross-border processes relied heavily on paper documents, manual registers and separate communications. Electronic messaging reduced transmission delays and standardised instructions. Core systems improved accounting and customer records. Web portals allowed customers to initiate and track transactions. More recent developments use structured messages, APIs and shared platforms to reduce repeated entry and connect stages of a transaction. The stages overlap: many institutions still operate mixed paper and digital processes.

Digitisation converts information into digital form, such as scanning a document. Digitalisation redesigns a process around digital capabilities, such as capturing structured invoice data once and reusing it for validation, financing and reporting. A scanned image alone may leave most manual work unchanged. Optical character recognition can extract text, but extraction accuracy must be checked. The business benefit depends on what the bank does with the information after it becomes digital.

Structured data supports consistent validation. A currency code in a defined field is easier to test than a currency name buried in a scanned letter. However, structured fields can contain wrong information. A valid account-number format does not prove that the account belongs to the intended beneficiary. Systems should distinguish syntactic validation, semantic consistency and external verification. Treating all three as the same check creates a dangerous impression that technically accepted data must be commercially correct.

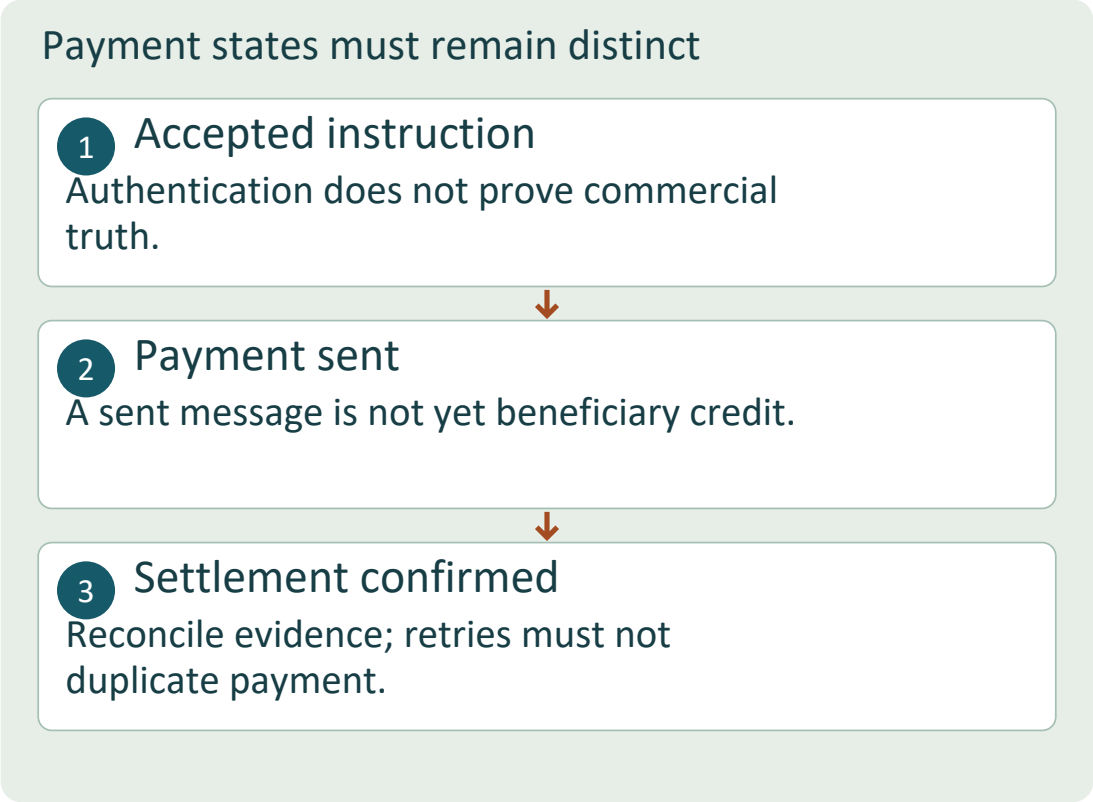
Messaging standards and payment status

SWIFT supports financial messaging and related services; account movements and settlement occur through the relevant banking and payment arrangements. ISO 20022 provides a structured financial-message standard with richer data capabilities. Neither term should be used as a synonym for instant settlement. A message can be delivered while a payment is still awaiting screening, liquidity, intermediary handling or beneficiary posting. Status messages should identify the actual stage rather than use an ambiguous completed label.

The November 2025 end-of-coexistence milestone concerned the relevant SWIFT cross-border payment-instruction migration. It should not be generalised into a claim that every legacy message

everywhere ceased to exist. Migration requires mapping, validation, testing and handling of information that may be truncated or lost during translation. A richer standard offers benefits only if systems and users preserve the useful data. Sending structured fields and then reducing them to free text can undermine those benefits.

End-to-end tracking helps customers and operations teams locate delays. A unique reference can connect initiation, intermediaries, settlement and return events. But visibility depends on participation and accurate status reporting. If a customer sees a debit, it should not be described as beneficiary credit without evidence. Good communication separates bank acceptance, dispatch, settlement and final credit. This distinction is especially important when a payment is returned after an earlier stage appeared successful.



Authentication does not prove commercial truth. A sent message is not yet beneficiary credit. Reconcile evidence; retries must not duplicate payment.

Portals, mobile channels and APIs

Customer portals can support applications, document submission, rate acceptance, authorisation and status tracking. Mobile channels improve access but require careful design for sensitive approvals and document review. APIs allow systems to exchange structured requests and responses, such as a corporate treasury system submitting a payment. The channel changes how instructions arrive; it does not remove the need for authority, authentication, limits and validation. A valid API credential should have only the permissions required for its role.

Corporate workflows often require maker-checker approval. One employee prepares a transaction and another authorises it within limits. Systems should enforce this separation rather than rely on users to remember policy. A change to beneficiary details after approval should trigger the appropriate renewed review. Otherwise, an attacker could obtain approval for a legitimate payment and then redirect its destination. The system must protect the approved instruction as a whole, not just the amount.

API design should handle retries safely. If a client resends a request after a timeout, the bank must avoid creating a duplicate payment merely because the first response was lost. An idempotency mechanism links repeated submissions to the same intended transaction. The system should return the existing status where appropriate and distinguish a genuine new payment. This is a practical banking control: a technically common

network problem should not result in two transfers from the customer's account.

Straight-through processing and exception queues

Straight-through processing means eligible transactions move through defined stages with minimal manual intervention. It works best when data is complete, rules are clear and systems connect reliably. Not every transaction should pass automatically. Exceptions need a controlled queue with reason, priority, owner and evidence of resolution. A process that automates routine items but leaves exceptions invisible can create a larger risk than a slower fully manual process with clear accountability.

Suppose a bank receives 1,000 trade submissions and 820 pass the defined checks without manual repair. The illustrative straight-through rate is 82%. The remaining 180 require analysis. If most fail because customers omit one field, improving the form may reduce work more effectively than adding staff. If failures reflect unusual transaction structures, expert review may be appropriate. The metric should prompt diagnosis rather than pressure staff to override alerts merely to improve the percentage.

Measure quality alongside speed. A higher automatic-processing rate is not beneficial if it increases incorrect payments or missed sanctions matches. Track repair rate, false positives, confirmed errors, processing time and customer complaints. Define denominators consistently: submitted, accepted and completed transactions are different populations. A dashboard that silently changes its denominator can appear to improve while the underlying service deteriorates. Reliable management information depends on stable definitions and traceable source events.

Digital trade documents and legal effect

Electronic documents can reduce courier delays, duplicate entry and lost papers. Their usefulness depends on authenticity, integrity, accessibility and legal recognition. An electronic copy of a document is not always equivalent to an electronic transferable record carrying the same legal function as an original negotiable paper instrument. The applicable law and contractual framework determine the effect. Technology teams and trade specialists must therefore design the process together rather than assume a PDF solves every document problem.

Digital signatures can support authentication and integrity, but the certificate, signing authority and validation process matter. A valid signature proves particular technical facts, not that the commercial statement is true. A signed false invoice remains false. Access controls should also preserve confidentiality and prevent unauthorised changes. Keep an audit trail showing who submitted, reviewed, approved and amended the record, with timestamps and links to the operative version.

Where electronic presentations are used under documentary credits, examine the relevant incorporated rules and agreed format requirements, including applicable eUCP provisions where adopted. A bank should not force an electronic workflow on a credit written for incompatible presentation conditions. Define what constitutes receipt, how corrupted files are handled and how records remain accessible during examination. Operational clarity reduces disputes about whether a presentation occurred on time or whether the examiner could actually read the required document.



An authenticated instruction may still need review. A validated document state does not mean money has moved. Record payment sent separately from confirmed settlement; handle…

Blockchain and distributed ledgers

A distributed ledger maintains shared records across participating nodes according to a consensus and governance arrangement. Blockchain is one form of such record structure. In a permissioned trade platform, identified participants may share selected transaction states and evidence. The potential benefit is a common record that reduces reconciliation between separate databases. It is not necessary to use a public cryptocurrency, and the existence of a ledger does not by itself prove the truth of information entered into it.

Immutability is better understood as resistance to unauthorised alteration under the system's design, rather than an absolute guarantee that no correction or governance action is possible. Errors still need a controlled way to be corrected or superseded. Privacy also needs attention: sharing every document with every participant may be commercially unacceptable. The design should specify who can see which data and how confidential information is protected while necessary transaction evidence remains verifiable.

The oracle problem concerns information arriving from outside the ledger. A smart contract may release a step when a shipping event is reported, but the system must trust the source of that event. If a false shipment confirmation is accepted, automated execution can amplify the error. Sensors, carriers and document issuers require authentication and controls. The ledger preserves what was recorded; it cannot independently inspect the goods inside a container or decide every legal dispute.

An illustrative blockchain trade workflow

Begin with buyer and seller agreeing a contract and authorised banks onboarding the parties. The platform records agreed terms and permissions. The issuing bank creates the relevant undertaking through the permitted process. The seller submits shipment evidence from authorised sources. Participants validate the required information and record the resulting state. A payment instruction may then be triggered according to the arrangement, while actual settlement occurs through the relevant money and account infrastructure.

Separate document state from money state. A record marked documents accepted does not necessarily mean funds have settled. The platform should receive settlement confirmation and update the transaction

accordingly. If payment fails because of insufficient liquidity or a legal restriction, the workflow needs an exception path. A smart contract cannot safely ignore those constraints simply because the documentary condition was met. Clear state transitions prevent users from interpreting one completed stage as completion of the entire trade.

For a practical exercise, follow six states: initiated, approved, shipped, documents checked, payment sent and settled. At each state, identify the actor, evidence and permitted next action. Introduce a missing transport document or failed payment and decide which state should remain pending. The interactive stepper groups this sequence into three teaching stages without claiming to be a real blockchain. It teaches the operational sequence and the need for exception handling, which matter more than displaying a decorative chain of blocks.

Fintech opportunities and business models

Fintech firms can specialise in onboarding, payments, trade-data extraction, receivables platforms, compliance tools or analytics. A bank may build capabilities internally, partner with a provider or connect through an industry platform. The choice depends on customer need, integration effort, cost, control and reliability. Buying a popular product is not a strategy unless the bank can explain which problem it solves and how success will be measured after implementation.

Partnerships need clear allocation of responsibilities. Determine who holds customer funds, who performs regulated activities, who owns data, who handles complaints and what happens when the provider fails. A technology vendor's interface may look like the bank's service to a customer, so failures can still damage the bank's reputation. Outsourcing a process does not necessarily outsource accountability. Contracts should support audit access, security requirements, incident notification, continuity and an orderly exit.

Financial inclusion and smaller exporters can benefit from simpler digital access and lower processing costs. But digital channels can exclude users with weak connectivity, limited language support or difficulty preparing electronic documents. Provide clear instructions, accessible interfaces and support for exceptions. The goal is not to force every customer through the same automated path regardless of circumstances. A useful digital service makes routine tasks easier while preserving a workable route for legitimate complex cases.

Cybersecurity, data and operational resilience

International banking systems face phishing, credential theft, malware, payment manipulation and service disruption. Protect authentication, authorisation and transaction integrity with layered controls. Multi-factor authentication helps, but it should be combined with least privilege, approval limits, independent verification of sensitive changes and monitoring. A fraudster using a compromised authorised account can submit technically valid instructions, so the system must also examine context and unusual behaviour rather than trusting credentials alone.

Encrypt sensitive data in transit and at rest where appropriate, manage keys securely and minimise unnecessary data collection. Define retention and deletion requirements with legal and operational needs. Cross-border data handling can involve additional restrictions and contractual considerations. Do not copy production customer records into an unapproved testing tool merely because it accelerates development. Test environments should use suitable synthetic or protected data and controlled access, with clear separation from live payment authority.

Resilience includes backups, recovery procedures, alternative channels and tested response plans. Recovery time objective concerns how quickly a service should be restored; recovery point objective concerns tolerable data loss measured in time. They are different targets. A backup that has never been restored is uncertain protection. Test recovery and reconcile transactions after disruption so that resubmission does not create duplicates and uncertain payment states are investigated before customers are advised to send again.

Analytics, AI and controlled automation

Analytics can identify patterns, prioritise exceptions and improve forecasts. AI may assist document extraction, anomaly detection or customer support. Its outputs require validation appropriate to the risk. A model can confidently misread a number, overlook a document condition or produce an unsupported explanation. High-impact decisions need defined controls and human accountability. The bank should know where the model is advisory, where it can trigger actions and where it must not act without review.

Evaluate false positives and false negatives separately. In a screening example, a false positive delays a legitimate transaction, while a false negative may miss a prohibited or risky one. Optimising only for fewer alerts can worsen the second problem. Use representative test data, monitor drift and review outcomes. Explainability should support investigation: staff need enough information to understand why an item was flagged and what evidence can resolve it, rather than an opaque score with no operational meaning.

For numerical illustration, assume manual processing takes 20 minutes per item and a digital process takes 8 minutes for 600 items. Gross time saved is 7,200 minutes, or 120 hours, before implementation, review and exception costs. If 60 exceptions each add 15 minutes, 15 hours are consumed and net model saving becomes 105 hours. This is a workload estimate, not proof of staff reductions or profitability. Include quality and service effects when evaluating the real business case.

Integrated incident case and revision

A corporate submits a payment through an API and receives a timeout. The system should check the unique transaction reference before allowing a retry to create another payment. Operations then discovers that the first instruction was accepted but settlement is pending. The customer needs that precise status, not a request to send again without investigation. Idempotency, tracking and reconciliation work together to prevent duplicate loss from a routine communication failure.

A second case involves an AI-extracted invoice amount that differs from the signed document. The discrepancy should enter review with the source image and extracted value visible. Automatically overwriting the document record with the model's result would destroy useful evidence. Once corrected, preserve the change history and assess whether similar errors affected other transactions. A controlled exception process converts a detected error into learning; an invisible correction can leave a systemic problem undiscovered.

For revision, distinguish digitisation from process redesign, messaging from settlement, authentication from commercial truth and automation from authority. Explain APIs, structured data and distributed ledgers through the specific workflow they support. Assess benefits with clear metrics and risks with concrete controls. The strongest technology answer does not claim that a new platform removes banking judgement. It shows how reliable data, well-defined states, secure access and accountable exception handling make that judgement more effective.

Practice with explanations

01. What distinguishes digitisation from process redesign?

A. Scanning makes data digital; redesign changes the workflow	B. Scanning guarantees legal validity
C. Redesign removes all controls	D. They always mean identical automation

Answer A. A digital copy changes format, while digitalisation can change how work is performed. Neither automatically validates the underlying record nor removes controls; benefits depend on the actual redesigned process and evidence.

02. A valid account-number format proves what?

A. That funds settled	B. That the intended beneficiary owns it
C. Only that the format check passed	D. That the invoice is genuine

Answer C. Syntactic validity is narrower than ownership, settlement or commercial authenticity. Each requires separate evidence; a technically accepted field can still contain the wrong account for the intended transaction.

03. What does ISO 20022 principally provide?

A. A guaranteed instant-settlement bank	B. A structured financial-message standard
C. A cryptocurrency required for every payment	D. A foreign currency

Answer B. ISO 20022 concerns message structure and data. It is not money, a bank or a mandatory cryptocurrency, and richer instructions do not independently guarantee settlement or beneficiary credit.

04. Why preserve structured data during migration?

A. More fields automatically mean truth	B. Old records can be deleted immediately
C. All free text is always equivalent	D. Translation can lose useful information

Answer D. Mapping and truncation can reduce screening and reconciliation value. Structure improves handling but does not guarantee truth, while record deletion and assuming every free-text conversion is equivalent ignore operational and retention needs.

05. What should a payment status describe?

A. The actual verified processing stage	B. An optimistic expected outcome as fact
C. Always final credit after debit	D. Only a vague completed label

Answer A. Acceptance, dispatch, settlement and beneficiary credit are different events. A debit or expectation cannot prove final receipt; precise stage reporting supports investigations and prevents customers acting on a misleading completion claim.

06. Why use maker-checker controls?

A. Replace beneficiary verification entirely	B. Allow the same user to bypass all limits
C. Guarantee no fraud can ever occur	D. Separate preparation and authorised approval

Answer D. Separation reduces concentrated authority but is one control among several. It should enforce limits, not bypass them; it neither replaces destination checks nor makes fraud impossible under every circumstance.

07. Beneficiary details change after approval. What is appropriate?

A. Hide the change from the checker	B. Preserve approval regardless of change
C. Trigger the required renewed review	D. Send before comparing versions

Answer C. Approval should protect the actual instruction, including destination. A later material change can redirect funds, so retaining approval blindly, hiding it or checking only after sending undermines transaction integrity.

08. What problem does idempotency address?

A. Duplicate execution after retries	B. The need for any authentication
C. Every credit-default risk	D. All exchange-rate movements

Answer A. Idempotency links retries to the same intended operation and helps avoid duplicate payments. It does not assess borrower solvency, hedge currencies or replace access controls; those are separate banking functions.

09. An API times out after submission. What is the safest next step?

A. Tell the customer money certainly arrived	B. Assume failure without evidence
C. Check the transaction reference and existing status	D. Create a new payment immediately

Answer C. A timeout may mean the response was lost after acceptance. Checking the original reference avoids duplication; neither automatic resending, assumed failure nor guaranteed receipt follows from the communication error alone.

10. 820 of 1,000 submissions pass without manual repair. STP rate is what?

A. 18%	B. 820%
C. 82%	D. 122%

Answer C. Divide eligible straight-through items by total submissions: 820/1,000 equals 82%. Eighteen percent is the exception share; the reciprocal and percentage-scale errors do not measure the defined processing rate.

11. Why inspect the reasons for 180 exceptions?

A. Every exception should be overridden	B. All exceptions prove fraud
C. The denominator should be changed to hide them	D. Different causes need different remedies

Answer D. Missing fields, unusual structures and risk alerts require distinct responses. Overrides, unsupported fraud assumptions and denominator manipulation improve neither service nor control; diagnosis supports appropriate process changes.

12. What should accompany a speed metric?

A. Quality, error and control outcomes	B. Automatic reward for fewer alerts
C. No record of failures	D. Only a higher throughput target

Answer A. Fast processing is valuable only with acceptable quality and controls. Hiding failures or rewarding alert suppression can increase risk; combine time measures with actual error, repair and customer outcomes.

13. Is a PDF copy always legally equivalent to an electronic transferable record?

A. Yes because both are files	B. Yes if the filename says original
C. No; function and legal framework matter	D. Only the file size decides

Answer C. A copy's digital form does not establish negotiability or equivalent legal function. Applicable law and arrangements govern; filenames and size cannot create the rights associated with an original transferable instrument.

14. A valid digital signature proves the invoice's commercial statement is true. Is that correct?

A. Only for large invoices	B. No; integrity/authentication differ from truth
C. Yes in every case	D. Only when emailed

Answer B. A signature can support technical authentication and integrity but a signer can make a false statement. Value and transmission method do not transform those technical assurances into proof of genuine trade.

15. What must an electronic LC presentation workflow establish?

A. Only a scanner purchase	B. No need to read the credit
C. Only a shared password	D. Applicable rules, formats, receipt and access arrangements

Answer D. Electronic processing must fit the operative credit and incorporated rules. Hardware and shared credentials do not establish compliant receipt or accessibility, and ignoring the instrument can create presentation and timing disputes.

16. What is a potential benefit of a shared ledger?

A. Reduced reconciliation of agreed transaction states	B. Guaranteed truth of every input
C. Elimination of all legal disputes	D. Mandatory use of public cryptocurrency

Answer A. A common record can reduce inconsistent copies, but source data can still be wrong and disputes remain. Permissioned trade ledgers need not use a public cryptocurrency; governance and verification remain essential.

17. What is the oracle problem in a trade ledger?

A. Reliability of external facts supplied to the system	B. An automatic interest calculation error
C. The need to print every page	D. The colour of ledger blocks

Answer A. A ledger relies on authenticated external information such as shipment events. It cannot independently inspect goods; visual design, printing and ordinary arithmetic do not describe the external-data trust problem.

18. Documents are accepted on a platform. What still needs separate confirmation?

A. That the buyer cannot default elsewhere	B. Actual payment settlement
C. That all future trade is profitable	D. That every participant uses the same font

Answer B. Document acceptance and money settlement are different states. Payment can fail or await processing; typography, future profitability and unrelated debtor risks do not establish receipt of funds for this transaction.

19. Why define exception paths in smart-contract workflows?

A. No human accountability remains	B. Every failed payment should be labelled settled
C. Legal or operational conditions can interrupt execution	D. Automation removes all constraints

Answer C. Automated logic still encounters missing evidence, liquidity and legal restrictions. Controlled exceptions preserve accurate states and accountability; declaring failures settled or assuming constraints vanish creates misleading records.

20. Does outsourcing technology remove the bank's accountability?

A. Yes if vendor branding is hidden	B. Not necessarily; responsibilities and oversight remain
C. Yes once fees are paid	D. Only if the provider is overseas

Answer B. Vendor contracts should allocate duties while preserving applicable bank oversight and accountability. Payment, white labelling and foreign location do not automatically transfer all regulatory and customer responsibilities away.

21. What does recovery time objective concern?

A. Maximum tolerable data-loss period	B. Loan repayment maturity
C. Target time to restore service	D. The currency conversion date

Answer C. RTO concerns restoration time, while RPO concerns the tolerable data-loss window. Loan maturity and FX dates are unrelated concepts; distinguishing the two recovery targets supports realistic continuity planning.

22. What does recovery point objective concern?

A. Tolerable data loss measured in time	B. A guaranteed zero-loss promise
C. The customer's interest rate	D. The office reopening hour only

Answer A. RPO defines the data-loss window the plan seeks to meet. It differs from service restoration time and is not automatically zero; deposit pricing has no role in defining this resilience target.

23. 600 items save 12 minutes each. Gross time saved is what?

A. 12 hours	B. 120 hours
C. 50 hours	D. 7,200 hours

Answer B. Six hundred times twelve gives 7,200 minutes, divided by 60 gives 120 hours. Leaving minutes labelled hours or using unrelated divisions misstates the workload benefit under the assumptions.

24. Sixty exceptions add 15 minutes each to the preceding model. Net saving is what?

A. 15 hours total saving	B. 105 hours
C. 120 hours unchanged	D. 135 hours

Answer B. Exceptions consume 900 minutes, or 15 hours; subtract from 120 to obtain 105. Adding costs or ignoring them overstates savings, while 15 hours is the exception workload rather than net benefit.

25. An AI-extracted amount differs from the source invoice. What should happen?

A. Review with source evidence and preserve correction history	B. Trust confidence score alone
C. Delete the transaction immediately	D. Overwrite the source silently

Answer A. A controlled review resolves the discrepancy and preserves evidence. Silent overwriting and blind confidence can hide errors; immediate deletion may destroy a valid transaction rather than correct the extraction problem.

A10 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 International banking coordinates customers, banks, transport providers, insurers, regulators and markets across borders.	**15** Measure quality alongside speed.
02 Consider an exporter uploading an invoice and shipping information to a bank portal.	**16** Electronic documents can reduce courier delays, duplicate entry and lost papers.
03 This chapter follows the evolution from paper and messaging to structured data, APIs, digital platforms and distributed ledgers.	**17** Digital signatures can support authentication and integrity, but the certificate, signing authority and validation process matter.
04 Early cross-border processes relied heavily on paper documents, manual registers and separate communications.	**18** A distributed ledger maintains shared records across participating nodes according to a consensus and governance arrangement.
05 Digitisation converts information into digital form, such as scanning a document.	**19** The oracle problem concerns information arriving from outside the ledger.
06 Structured data supports consistent validation.	**20** Begin with buyer and seller agreeing a contract and authorised banks onboarding the parties.
07 SWIFT supports financial messaging and related services; account movements and settlement occur through the relevant banking and payment arrangements.	**21** Separate document state from money state.
08 The November 2025 end-of-coexistence milestone concerned the relevant SWIFT cross-border payment-instruction migration.	**22** For a practical exercise, follow six states: initiated, approved, shipped, documents checked, payment sent and settled.
09 End-to-end tracking helps customers and operations teams locate delays.	**23** Fintech firms can specialise in onboarding, payments, trade-data extraction, receivables platforms, compliance tools or analytics.
10 Customer portals can support applications, document submission, rate acceptance, authorisation and status tracking.	**24** Partnerships need clear allocation of responsibilities.
11 Corporate workflows often require maker-checker approval.	**25** Financial inclusion and smaller exporters can benefit from simpler digital access and lower processing costs.
12 API design should handle retries safely.	**26** International banking systems face phishing, credential theft, malware, payment manipulation and service disruption.
13 Straight-through processing means eligible transactions move through defined stages with minimal manual intervention.	**27** Encrypt sensitive data in transit and at rest where appropriate, manage keys securely and minimise unnecessary data collection.
14 Suppose a bank receives 1,000 trade submissions and 820 pass the defined checks without manual repair.	**28** Resilience includes backups, recovery procedures, alternative channels and tested response plans.

B01 Risk and Basic Risk Management Framework

Practice / Quick Revision

A banking decision always contains uncertainty

A bank promises depositors access to money while investing those funds in loans, securities and payment services. The promised payments and the realised receipts do not necessarily arrive together. Borrowers can disappoint, prices can change and a perfectly sound transaction can fail operationally. Risk therefore belongs inside the original business decision. It is not a separate inspection performed after the business has already been booked. A useful starting question is: which future events could prevent this decision from achieving its objective?

Consider a fictional branch financing a small food processor. The projected interest margin is attractive, but sales depend on one supermarket chain, the factory occupies a flood-prone location and the borrower pays suppliers before collecting invoices. These facts describe different sources of uncertainty. Simply calling the account risky gives the sanctioning officer little help. Naming the uncertainty allows the officer to examine customer concentration, interruption cover, cash conversion and the conditions under which additional drawings should stop.

Risk is often measured as the possibility or magnitude of an adverse deviation from an expected outcome. Uncertainty is broader: some outcomes can be assigned defensible probabilities, while others cannot. Historical default records may support an estimate; a new technology failure may require scenarios and judgement. A numerical answer should never conceal this distinction. In examination problems, use the assumptions supplied. In an actual bank, also ask whether those assumptions remain relevant to the exposure being approved today.

Separate exposure, event, consequence and control

Exposure is the position that makes the bank vulnerable. A risk event is what happens to that position; the consequence is its effect on money, service or obligations. A control changes the likelihood, impact or detection of that event. For a loan, outstanding principal is an exposure, borrower default is an event, unrecovered principal is a consequence, and appraisal plus monitoring are controls. Collateral changes potential recovery; it does not automatically prevent the borrower from defaulting in the first place.

This chain prevents vague risk registers. “Technology” is a category, not a sufficiently defined event. “An unauthorised payment file is accepted because privileged access is not independently reviewed” identifies a failure that can be tested. The relevant control could include dual approval, access recertification and transaction limits. Evidence would show who performed each check, when it happened and which exceptions remained unresolved. A policy document alone proves that a control was designed, not that it operated effectively.

Distinguish gross or inherent risk from residual risk after controls. If a payment process can expose the bank to a large incorrect transfer, a maker-checker arrangement may reduce residual risk, but collusion or shared passwords could defeat it. Residual does not mean zero. The decision maker must assess whether the remaining exposure is acceptable, who owns it, and what monitoring will reveal deterioration. This also explains why purchasing insurance does not remove the need for effective operational controls.

Link risk, return and capital

Return compensates the bank for funding, operations, expected losses and the use of scarce capital. Comparing loan interest rates alone therefore produces misleading decisions. A high-coupon borrower may consume more monitoring resources, suffer greater expected losses and require a larger capital allocation. A lower-coupon exposure can create more value after these differences are recognised. The relevant comparison is between consistent measures for the same horizon, currency and business perimeter, rather than between isolated headline rates.

Capital provides a loss-absorbing layer protecting creditors and supporting confidence. Economic capital is an internal estimate of capital needed for unexpected loss at a chosen confidence and horizon. Regulatory capital is defined by supervisory rules, including eligibility and deductions. Accounting equity is a financial-statement amount. These concepts overlap but are not interchangeable. A bank might report accounting profit yet have insufficient eligible regulatory capital, or satisfy a regulatory minimum while its internal stress assessment indicates a need for more protection.

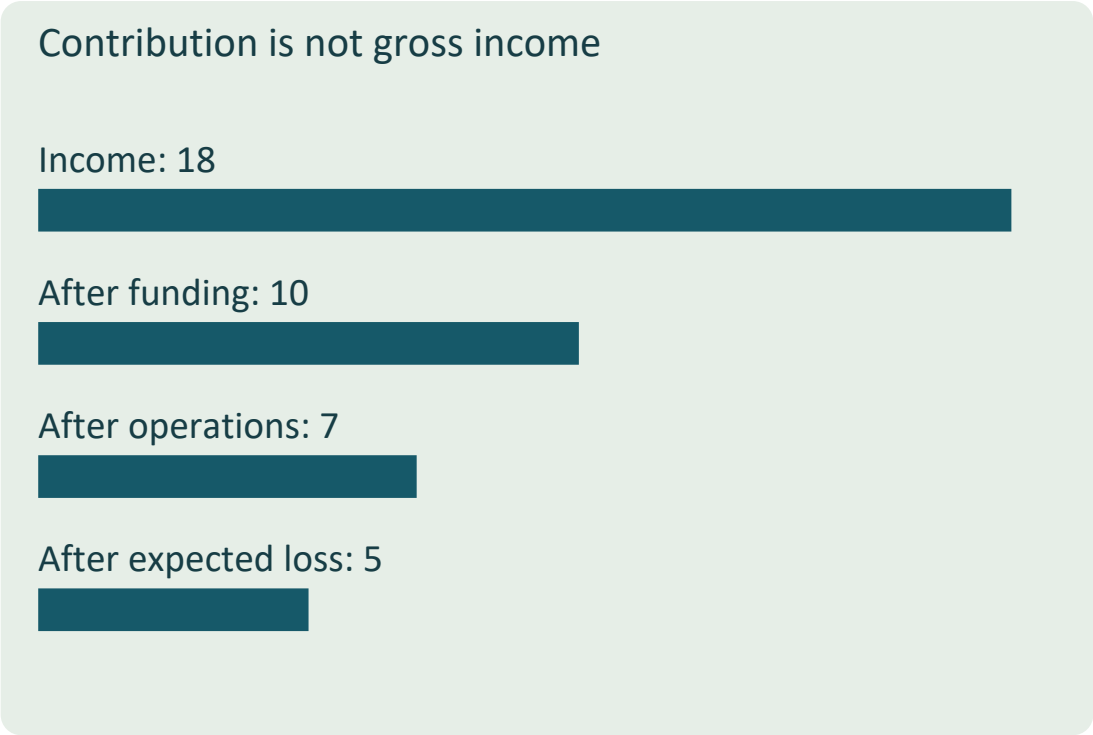
Expected loss should normally influence pricing, provisions and business planning. Unexpected loss reflects adverse variation around that expectation and helps motivate capital allocation. The distinction is conceptual: realised losses need not arrive neatly separated into two piles. If expected defaults were underestimated, the bank can consume capital through what should have been recognised as an ordinary business cost. Good management consequently challenges both the average loss assumption and the adverse tail rather than treating capital as a substitute for accurate pricing.

Work a risk-adjusted return example

Assume a one-year portfolio earns INR18 crore of income, incurs INR8 crore funding cost, INR3 crore operating cost and INR2 crore expected loss. Its risk-adjusted contribution is 18 minus 8 minus 3 minus 2, or INR5 crore. If allocated economic capital is INR25 crore, the illustrative risk-adjusted return on capital, or RAROC, is 5 divided by 25: 20%. This is a teaching convention; institutions may define the numerator differently and include tax or other adjustments.

Suppose a competing portfolio produces INR6 crore contribution but requires INR40 crore capital. Its RAROC is 15%, despite its higher contribution. Against an assumed 16% hurdle, the first portfolio clears the hurdle and the second does not. Economic profit under the same convention is contribution less hurdle multiplied by capital: INR1 crore for the first and minus INR0.4 crore for the second. The hurdle is an assumed management requirement, not a universal RBI percentage.

A sensible recommendation still considers capacity, strategy, customer relationships, concentration and estimation uncertainty. RAROC can be improved superficially by understating expected loss or capital. A short observation window can make a risky activity look excellent before losses emerge. In the calculator, change expected loss and allocated capital separately and notice how both reduce the ratio. Never compare a monthly numerator with annual capital returns without a clearly explained conversion; inconsistent periods can overwhelm the apparent precision of the calculation.



INR crore; 18 − 8 − 3 − 2 = 5 contribution. [('Income', 18), ('After funding', 10), ('After operations', 7), ('After expected loss', 5)]

Translate appetite into usable boundaries

Risk capacity is the maximum risk the institution can bear given financial resources and other constraints. Risk appetite describes the risk it chooses to accept while pursuing its objectives. Tolerance and limits translate that choice into operational boundaries. Terminology varies between institutions, so an answer should explain the relationship instead of relying solely on labels. Capacity is not a target: running continuously at the edge leaves little room for estimation error, unexpected losses or delayed management action.

An appetite statement becomes useful when connected to observable measures. A bank might restrict dependence on a single funding provider, limit exposure to one sector, require a liquidity cushion and prohibit activities it cannot reliably value. Some boundaries are quantitative; others are qualitative, such as refusing products whose legal terms cannot be understood. An annual statement that never affects sanctioning, pricing, staffing or product approval is weak evidence that appetite actually guides the business.

Limits need owners, measurement definitions, reporting frequency and escalation rules. A warning threshold should permit action before a hard boundary is reached. If a dealer breaches a limit, the answer is not automatically to raise it after the event. Record the breach, establish the cause, apply authorised action and reassess whether the control design failed. Temporary exceptions require a defined authority, rationale and expiry. Otherwise an exception register becomes an informal replacement for the approved framework.

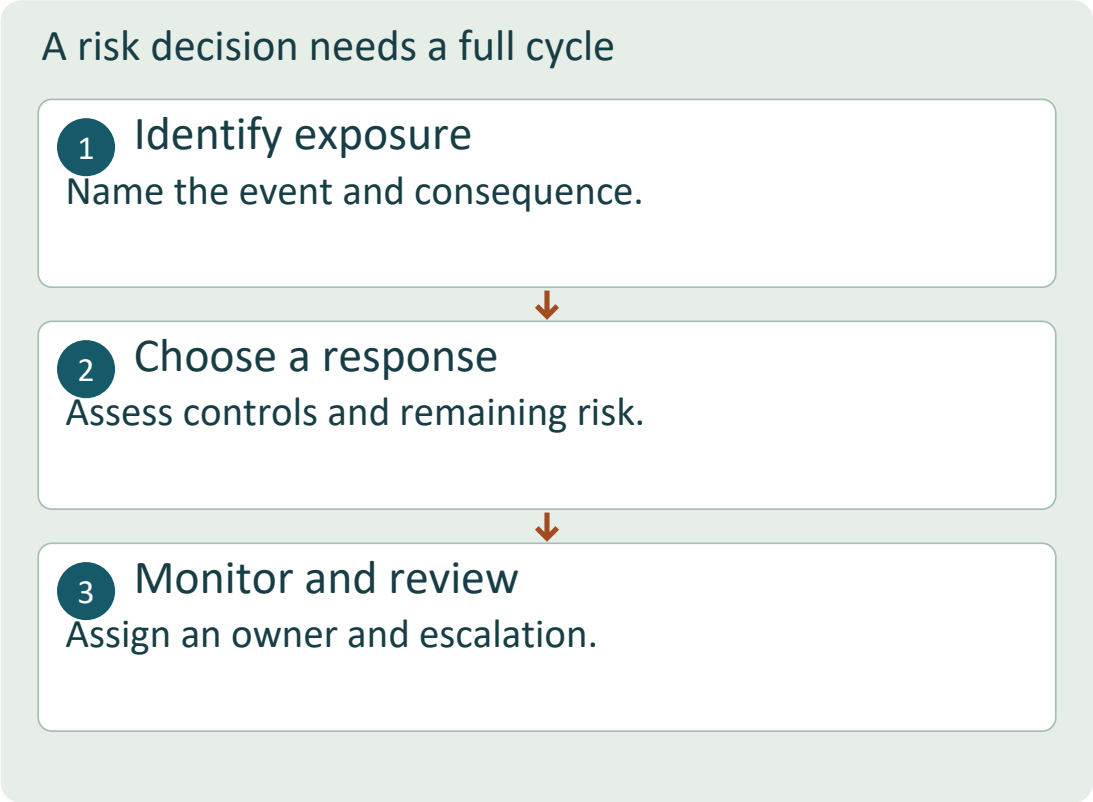
Build the management cycle

The basic cycle is identification, assessment, response, monitoring and review. Identification begins with products, processes, counterparties and dependencies. Assessment considers likelihood, severity, timing and correlation. Response can avoid, reduce, transfer or accept an exposure within authority. Monitoring checks whether the assumptions and controls still hold. Review feeds experience into policies and future decisions. These stages repeat throughout the life of an exposure; they are not completed permanently by a favourable appraisal at inception.

Apply the cycle to a proposed online collection service. Identify fraud, failed settlement, customer complaints and third-party outages. Assess transaction sizes, peak volumes and the time available to intervene. Reduce risk through authentication, reconciliation and tested recovery arrangements; transfer only eligible losses

under a suitable contract. Monitor failed transactions, unresolved breaks and access changes. Review actual incidents and near misses. Each stage should produce evidence that another person can inspect, not merely a tick against a broad checklist.

Response selection involves cost and effectiveness. Avoiding an activity removes its particular exposure but also sacrifices its benefits. A hedge exchanges one pattern of cash flows for another and can introduce basis or counterparty risk. Insurance can leave deductibles, exclusions and claim delays. Acceptance is a deliberate decision within authority, supported by monitoring. It is different from ignoring a problem because its expected loss appears small or because no department wants responsibility for it.



Name the event and consequence. Assess controls and remaining risk. Assign an owner and escalation.

Allocate responsibility without losing ownership

The board establishes direction and oversight; senior management implements the framework and ensures resources. Business teams own the risks created by their activities. Independent risk and compliance functions challenge decisions and monitor adherence, while internal audit provides independent assurance on governance and controls. These broad responsibilities must fit the bank's actual structure. The central lesson is that a separate risk department does not take away a branch manager's responsibility to follow limits and report warning signs.

Independence matters most when commercial incentives are strong. If the same person originates a transaction, approves its limit, values it and reconciles settlement, errors or misconduct can remain hidden. Separation of duties creates opportunities for challenge. However, multiplying committees without clear decisions can make accountability weaker. Every important escalation should identify who decides, the deadline, the information required and the evidence of resolution. Otherwise a serious issue can circulate repeatedly without anyone taking ownership of the remaining exposure.

Culture determines whether the written structure works under pressure. Employees should be able to report mistakes promptly without being encouraged to conceal them to protect a target. Incentives should recognise quality and sustainable outcomes alongside volume. Training must use actual decisions, including inconvenient exceptions. A high number of reported near misses might initially indicate better reporting

rather than worse control. Managers should interpret indicators in context instead of rewarding silence and treating the absence of recorded incidents as proof of safety.

Measure with models and with judgement

Quantitative tools support consistent comparisons. Expected loss, sensitivity, value at risk, concentration ratios and stress losses answer different questions. A single measure cannot describe every important feature of an exposure. Two portfolios can have equal expected loss but very different worst-case outcomes. A bank should specify the purpose, horizon, assumptions, data and limitations of each model before its output becomes a limit or a pricing input. Otherwise users may apply a technically correct number to the wrong decision.

Model risk arises when an estimate is wrong, misunderstood or used outside its intended setting. Sources include poor data, inappropriate assumptions, implementation errors and unrecognised structural change. Validation should challenge conceptual soundness, independently check calculations and compare outcomes with forecasts. A spreadsheet that reproduces a formula perfectly can still embody an unsuitable model. Controls should also cover changes, access, documentation and fallback arrangements so that an estimate remains traceable after staff or systems change.

Qualitative assessments remain necessary where observations are sparse. A risk heat map combines likelihood and impact categories, but category labels are not automatically numerical probabilities. Multiplying arbitrary scores can imply precision that does not exist. Use the map to organise discussion, identify priorities and record uncertainty. A low-frequency catastrophic event deserves attention even if a simplistic average score looks modest. The appropriate response may depend on service obligations or legal consequences as much as on an estimated financial loss.

Stress testing asks a different question

A forecast asks what is likely under specified assumptions; stress testing asks what could happen under an adverse but relevant scenario. Sensitivity analysis changes one factor, while a scenario can change several connected factors together. For a manufacturing portfolio, weaker sales, delayed collections, falling collateral values and reduced refinancing may occur together. Testing them separately can miss the mechanism through which a manageable problem becomes a serious loss. State the scenario narrative before calculating its financial consequences.

Reverse stress testing starts from an unacceptable outcome, such as exhausting a liquidity buffer, and asks which conditions could produce it. It helps reveal combinations that standard scenarios overlook. The result is not a prediction that the bank will fail. Its value lies in identifying vulnerabilities, leading indicators and feasible preventive actions. Management should distinguish actions it can execute quickly from those dependent on favourable markets, customer cooperation or another institution's willingness to provide emergency support.

Stress results should lead to decisions: reduce a concentration, increase a buffer, alter pricing, improve a recovery process or test a contingency plan. Record the owner and completion date. Repeatedly producing colourful reports without tracking actions adds little protection. Equally, a proposed action should be included in a stress result only when its timing and capacity are credible. Selling the same securities to fund several simultaneous shortfalls double counts resources and gives a misleading impression of resilience.

Practise an approval conversation

Imagine that the food processor requests a seasonal increase from INR4 crore to INR6 crore. Its manager points to an excellent repayment record. The risk officer should recognise the favourable evidence without treating it as a guarantee. Ask what changed in the order book, whether the supermarket concentration increased, when the additional stock becomes cash and how a rejected shipment would affect repayment. The proposal concerns the new exposure and its future repayment source, not merely the history of the existing limit.

Assume the bank approves only INR1 crore of additional drawings, conditional on verified orders and monthly receivable reporting. This is risk reduction through structure and monitoring, rather than complete avoidance. The condition needs an operational owner: who checks the report, which ageing threshold triggers escalation and who can suspend further drawings? An unenforced condition contributes little to residual risk reduction. The sanction should also explain the treatment of exceptions and when the seasonal increase automatically expires.

Finally, compare the decision with appetite and capital capacity. A well-secured individual account can still worsen a sector concentration. An attractive return can be outweighed by funding pressure elsewhere in the bank. The strongest recommendation integrates transaction quality, portfolio effects and implementation capability. That is why risk management cannot be reduced to collecting security documents or calculating one ratio, even when both activities are necessary parts of the approval process.

Read reports as decision tools

A useful risk report connects exposure, limits, movement, causes and action. “Utilisation is 84%” is incomplete without the limit definition, date and trend. A rapid increase from 40% may require attention before a breach occurs. Reports should distinguish actual data from estimates, identify missing records and explain material exceptions. Aggregation must not erase a severe local weakness: a comfortable consolidated position may hide a shortage in one currency, legal entity or operational location.

Leading indicators provide early warning, while lagging indicators show outcomes already realised. Increasing overdue reviews, reconciliation breaks or concentration can precede losses. Write-offs and realised fraud losses are lagging measures. Both are useful, but neither should stand alone. A new control may reduce losses only after a delay; a temporary loss decline may reflect luck. Good reporting therefore links control performance and exposure changes with outcomes, rather than judging a framework by the latest profit figure alone.

For revision, work backwards from a decision. Identify the exposure and event; name the financial or service consequence; distinguish expected cost from adverse variation; select a response; assign an owner; choose a meaningful indicator; and specify escalation. Then test whether capital, liquidity and operational capacity support the proposal under stress. This sequence turns risk management from a list of definitions into a practical banking discipline. The later chapters apply the same logic to market, credit, operational and liquidity risks.

Practice with explanations

01. Which question best begins a risk assessment of a proposed loan?

A. Can monitoring wait until default?	B. What could prevent the expected repayment cash from arriving?
C. Does a high coupon remove uncertainty?	D. What colour should the report use?

Answer B. Risk assessment starts with the objective and adverse events. Report styling adds no evidence, waiting until default loses preventive opportunities, and a high coupon compensates for risk only if the borrower can actually pay it.

02. A factory loan is outstanding when a flood stops production. Which item is the risk event?

A. The outstanding principal alone	B. The collateral register
C. The flood interrupting production	D. The monitoring policy

Answer C. The interruption is the event acting on the exposure. Principal describes the position at risk; the register records protection and the policy describes controls. Separating these elements helps identify an effective response and accountable owner.

03. What is residual risk?

A. Risk remaining after relevant controls	B. Risk before any controls
C. A guarantee of no loss	D. Only losses already paid

Answer A. Residual risk remains after controls are considered. Inherent risk precedes controls, neither term guarantees safety, and realised losses are outcomes rather than a definition of the remaining prospective exposure.

04. Which evidence best demonstrates that a control operated?

A. Dated review records with resolved exceptions	B. An unused checklist template
C. A policy title alone	D. A manager's unsupported assurance

Answer A. Execution evidence shows who checked what and how exceptions were handled. A policy and blank template establish design at most; unsupported assurance cannot demonstrate consistent operation or timely resolution of actual problems.

05. Expected annual loss should primarily inform which decision?

A. Whether monitoring is unnecessary	B. Whether all capital can be removed
C. Only the office decoration budget	D. Pricing and ordinary loss planning

Answer D. Expected loss is an anticipated business cost relevant to pricing and planning. It does not eliminate adverse variation requiring capital or the need for monitoring. Decoration expenditure has no direct role in estimating credit loss.

06. Economic capital is best described as what?

A. A universal fixed percentage for every bank	B. Always identical to accounting equity
C. An internal estimate for unexpected loss under stated assumptions	D. Every cash balance in a branch

Answer C. Economic capital depends on internal risk, horizon and confidence assumptions. Cash is a liquidity resource; accounting equity and regulatory capital use different definitions. No universal percentage makes those concepts automatically identical.

07. Income is 18, funding cost 8, operating cost 3 and expected loss 2, all in crore. Contribution is?

A. INR10 crore	B. INR7 crore
C. INR5 crore	D. INR18 crore

Answer C. Subtract all stated costs: 18 minus 8 minus 3 minus 2 equals 5. Seven omits expected loss, ten deducts only funding, and eighteen treats gross income as if it were net risk-adjusted contribution.

08. Contribution is INR5 crore and allocated capital INR25 crore. Illustrative RAROC is?

A. 25%	B. 500%
C. 5%	D. 20%

Answer D. RAROC under the stated convention is contribution divided by allocated capital, or 5/25 times 100 = 20%. The alternatives confuse the input amounts with a percentage or apply an incorrect denominator or scale.

09. Contribution is INR6 crore, capital INR40 crore and hurdle 16%. Economic profit is?

A. INR6.4 crore	B. Minus INR0.4 crore
C. INR0.4 crore	D. INR15 crore

Answer B. The capital charge is 40 times 16% = 6.4 crore. Contribution less that charge is minus 0.4 crore. Reversing the subtraction changes the sign; neither gross contribution nor the 15% RAROC is economic profit.

10. Why might a higher-profit portfolio be less attractive?

A. It may require disproportionately more capital	B. Capital has no opportunity cost
C. Profit automatically proves lower risk	D. The largest coupon always wins

Answer A. Risk-adjusted comparison considers the capital consumed as well as contribution. Higher profit alone does not establish better economics, capital has a required return, and coupon ignores funding, operating costs and expected losses.

11. Risk capacity means what?

A. The maximum risk the institution can bear	B. The number of branches
C. The current marketing target	D. The exact risk management chooses to take

Answer A. Capacity concerns ability to bear risk within resources and constraints. Appetite is the chosen level within that capacity. Marketing targets and branch counts can affect strategy but do not define the institution's loss-bearing capacity.

12. A warning threshold should ideally do what?

A. Hide unfavourable trends	B. Automatically raise the hard limit
C. Allow action before a hard limit is reached	D. Replace all reporting

Answer C. Early warning creates time to respond. Automatic limit increases defeat the boundary, suppressing trends weakens oversight, and one threshold cannot replace the information needed to understand exposure, causes and feasible management actions.

13. A temporary limit exception should include what?

A. Only a verbal promise	B. Authority, reason, conditions and expiry
C. Deletion of the original limit	D. Permanent exemption from review

Answer B. An exception remains controlled when its rationale, authority and duration are explicit. Verbal promises are weak evidence, permanent exemption undermines review, and deleting the original limit conceals rather than manages the departure.

14. Which sequence best represents the risk cycle?

A. Book business, ignore changes, close file	B. Identify, assess, respond, monitor, review
C. Insure everything, stop monitoring	D. Report profit, assume safety

Answer B. The cycle connects initial analysis with continuing feedback. Booking and forgetting misses changing exposure; insurance has conditions and residual risks; profit alone can reflect luck or delayed losses rather than effective management.

15. Purchasing insurance is primarily which response?

A. Automatic immediate cash recovery	B. Proof that controls are unnecessary
C. Elimination of every risk	D. Transfer of specified eligible consequences

Answer D. Insurance transfers only contract-defined consequences subject to conditions. Exclusions, deductibles and delays remain, so neither complete elimination, removal of controls nor immediate recovery follows simply from buying a policy.

16. Who owns risks created by business activity?

A. Nobody once a risk department exists	B. Only internal audit
C. Only the regulator	D. The business teams, within the governance framework

Answer D. Business teams retain ownership and must operate controls. Independent risk challenges and monitors; audit provides assurance; supervision does not take over business responsibility. A central function therefore supports rather than replaces accountable ownership.

17. Why separate deal origination from independent checking?

A. To reduce conflicts and opportunities for concealment	B. To guarantee every trade makes profit
C. To remove the need for records	D. To eliminate all judgement

Answer A. Independent checking creates challenge where incentives or errors may conflict with control. It cannot guarantee profitability or eliminate judgement, and records remain necessary to demonstrate what was approved, executed and reconciled.

18. A rise in reported near misses may indicate what?

A. Improved reporting rather than necessarily worse controls	B. Certain proof of more realised losses
C. That monitoring should stop	D. Certain proof of fraud

Answer A. Reporting changes can increase recorded near misses without an increase in underlying events. Investigate context and severity. A near miss is not automatically a realised loss or fraud, and the information supports further monitoring.

19. A mathematically correct model can still be unsafe when?

A. Its assumptions do not fit the exposure	B. It is independently checked
C. Its output contains decimals	D. Its documentation is readable

Answer A. Conceptual suitability matters alongside implementation accuracy. Decimals and readable documentation do not make a model unsafe, while independent checking is a safeguard. A correct formula applied to the wrong setting can mislead decisions.

20. What is a limitation of multiplying qualitative heat-map scores?

A. It always measures tail loss exactly	B. It produces legally binding probabilities
C. It can imply unjustified numerical precision	D. It removes the need for discussion

Answer C. Ordinal labels need not behave like measured probabilities or monetary impacts. Multiplying them can conceal that limitation. The resulting score is neither a legal probability nor an exact tail estimate, and interpretation remains essential.

21. Sensitivity analysis usually changes what?

A. Every factor without a narrative	B. One specified factor at a time
C. The definition of profit after seeing the result	D. Only the report font

Answer B. A single-factor change isolates a relationship. Multi-factor scenarios need a coherent narrative, formatting is irrelevant to exposure, and changing definitions after observing results undermines comparability rather than providing valid sensitivity analysis.

22. Reverse stress testing starts with what?

A. A claim that failure is certain	B. A random list of unrelated shocks
C. Yesterday's profit and a guarantee it repeats	D. An unacceptable outcome and conditions that could cause it

Answer D. Reverse testing works backwards from a critical outcome to vulnerabilities. It is not a prediction of certain failure, a repetition forecast or arbitrary shock collection. Its value is identifying preventive actions and warning indicators.

23. Why should a stress action have an execution time?

A. Authority can always be assumed	B. Resources may not be available before the obligation falls due
C. Timing never affects risk	D. All assets sell instantly

Answer B. A delayed action may fail to prevent a shortfall even if eventually feasible. Asset sales take time and authority must be established. Stress planning therefore tests execution, rather than treating theoretical resources as immediately usable.

24. Which is a leading indicator rather than a realised loss measure?

A. A settled insurance recovery	B. A paid fraud loss
C. A completed write-off	D. Increasing overdue credit reviews

Answer D. Overdue reviews can signal control deterioration before a loss occurs. Write-offs and paid fraud losses record realised outcomes; an insurance recovery is a later cash consequence. Both leading and lagging information are useful but different.

25. A well-secured loan still requires portfolio review because?

A. Collateral always supplies cash instantly	B. Individual approval replaces all aggregate limits
C. Security makes every portfolio diversified	D. It can increase a common sector concentration

Answer D. Transaction protection does not eliminate common-driver concentration. Collateral may be illiquid and correlated with the borrower. Individual approval and portfolio limits address different dimensions, so both need consideration before increasing exposure.

B01 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 A bank promises depositors access to money while investing those funds in loans, securities and payment services.	**15** The basic cycle is identification, assessment, response, monitoring and review.
02 Consider a fictional branch financing a small food processor.	**16** Apply the cycle to a proposed online collection service.
03 Risk is often measured as the possibility or magnitude of an adverse deviation from an expected outcome.	**17** Response selection involves cost and effectiveness.
04 Exposure is the position that makes the bank vulnerable.	**18** The board establishes direction and oversight; senior management implements the framework and ensures resources.
05 Distinguish gross or inherent risk from residual risk after controls.	**19** Independence matters most when commercial incentives are strong.
06 Return compensates the bank for funding, operations, expected losses and the use of scarce capital.	**20** Culture determines whether the written structure works under pressure.
07 Capital provides a loss-absorbing layer protecting creditors and supporting confidence.	**21** Quantitative tools support consistent comparisons.
08 Expected loss should normally influence pricing, provisions and business planning.	**22** Model risk arises when an estimate is wrong, misunderstood or used outside its intended setting.
09 Assume a one-year portfolio earns INR18 crore of income, incurs INR8 crore funding cost, INR3 crore operating cost and INR2 crore expected loss.	**23** Qualitative assessments remain necessary where observations are sparse.
10 Suppose a competing portfolio produces INR6 crore contribution but requires INR40 crore capital.	**24** A forecast asks what is likely under specified assumptions; stress testing asks what could happen under an adverse but relevant scenario.
11 A sensible recommendation still considers capacity, strategy, customer relationships, concentration and estimation uncertainty.	**25** Reverse stress testing starts from an unacceptable outcome, such as exhausting a liquidity buffer, and asks which conditions could produce it.
12 Risk capacity is the maximum risk the institution can bear given financial resources and other constraints.	**26** Stress results should lead to decisions: reduce a concentration, increase a buffer, alter pricing, improve a recovery process or test a contingency plan.
13 An appetite statement becomes useful when connected to observable measures.	**27** Imagine that the food processor requests a seasonal increase from INR4 crore to INR6 crore.
14 Limits need owners, measurement definitions, reporting frequency and escalation rules.	**28** Assume the bank approves only INR1 crore of additional drawings, conditional on verified orders and monthly receivable reporting.

B02 Risks in Banking Business

Practice / Quick Revision

Start with the economic position

A banking transaction can create several risks at once. A five-year foreign-currency loan involves borrower repayment, exchange rates, funding maturity, documentation and payment execution. Labelling it only as credit risk hides the other channels. Start by writing what the bank owns, owes or has promised, in which currency, to whom and on which dates. Then identify the events that can change its value or prevent payment. This transaction map is more reliable than memorising an isolated list of risk names.

Use the fictional Meridian Bank throughout this chapter. It accepts short-term deposits, lends to manufacturers, holds government securities, issues guarantees and enters foreign-exchange forwards. Its assets and liabilities are connected. Depositor withdrawals can force securities sales; falling securities prices can weaken capital; weaker capital can reduce confidence and cause further withdrawals. The initial event and its later consequences may belong to different risk categories, so a complete analysis should describe the chain rather than force every consequence into one box.

Risk classification serves management, reporting and capital assessment, but the purpose matters. Accounting presentation, regulatory book allocation and an internal risk taxonomy answer different questions. An item shown off balance sheet can still create material exposure. A security in a banking portfolio can still react to market rates. A government obligation can have limited credit risk under a specified treatment while remaining sensitive to interest rates or settlement timing. Avoid interpreting any single classification as a declaration that all risk has disappeared.

Understand the banking book

The banking book generally contains positions outside the regulatory trading book, such as ordinary loans and deposits. Its central activities include collecting funds, transforming maturities and earning interest over time. A loan held to maturity still carries default, repricing and liquidity risks. The intention to retain it does not make its economic value constant. If funding costs rise faster than asset income, the bank's earnings can weaken even though no loan has been sold and no borrower has yet defaulted.

Suppose Meridian lends INR100 crore at a fixed 8% for five years and finances it with deposits repricing annually. Initially the deposit rate is 5%, leaving a gross annual spread of INR3 crore before other costs. If deposit cost rises to 7%, that spread falls to INR1 crore. This is a simple illustration of repricing mismatch. It excludes amortisation, reserves, credit losses and operating expenses, but it reveals why a performing fixed-rate loan can still create significant interest-rate risk.

Banking-book management also considers behavioural assumptions. A contractual deposit maturity may differ from its observed renewal behaviour, and a borrower may prepay when refinancing becomes attractive. These embedded options change expected cash flows. Analysts should distinguish contractual schedules from behavioural estimates and test how sensitive results are to the latter. Using optimistic renewal assumptions without evidence can make a maturity mismatch look harmless. A robust report shows the assumptions, the empirical basis and the effect of an adverse change.

Understand the trading book

The trading book contains positions assigned under the applicable regulatory rules for trading-related purposes. Dealers may seek gains from short-term price movements, make markets for customers or hedge trading exposures. Such positions require reliable valuation, active monitoring and appropriate controls. The precise boundary is a regulatory question, not a free managerial choice made after prices move. Moving a loss-making position between books simply to improve reported risk or capital would undermine the purpose of the framework.

Consider a dealer holding INR20 crore of fixed-rate bonds while quoting purchase and sale prices to customers. A rise in yields reduces the bonds' value. Even without a default, the bank may incur a trading loss. If market liquidity deteriorates, the quoted valuation may not be achievable for the whole position. Market risk and market-liquidity risk therefore interact. The risk team needs both price sensitivities and a realistic assessment of how quickly the exposure can be reduced without excessive price impact.

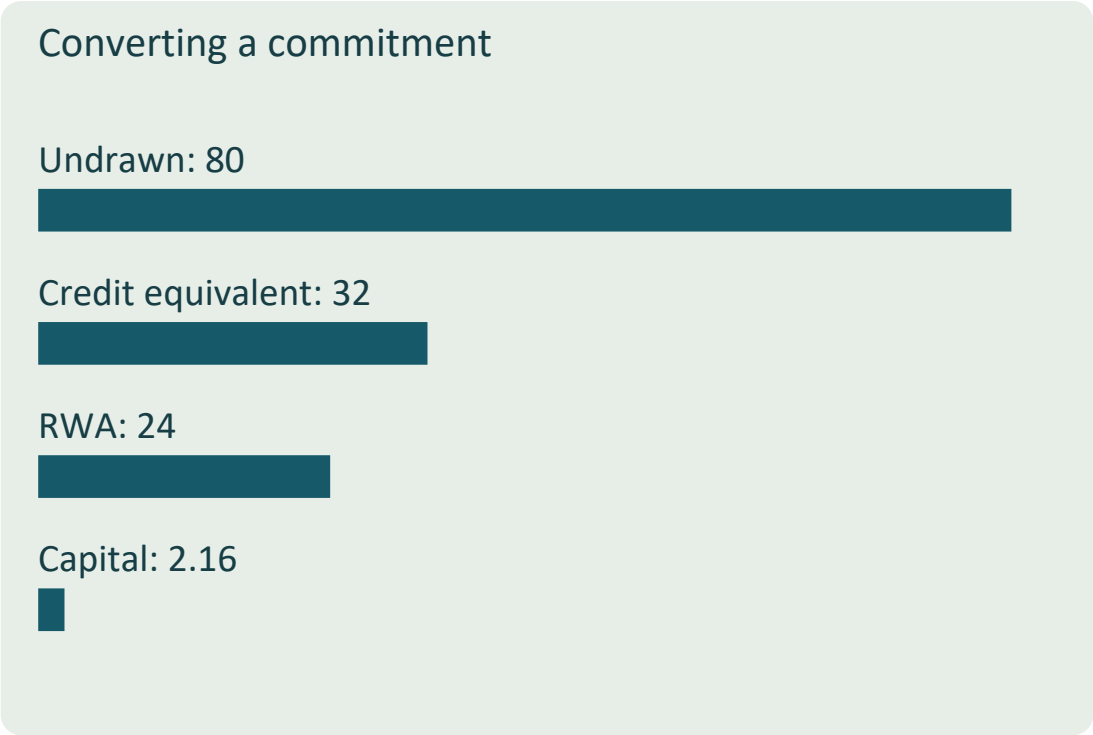
Trading controls commonly distinguish transaction execution from independent valuation, limit monitoring, confirmation and settlement. These functions are often described as front, middle and back office, although actual structures vary. The essential principle is independent challenge and a reliable record from deal capture to final settlement. A correct price-risk estimate will not protect the bank if an unauthorised transaction is omitted from the position system. Completeness and reconciliation are therefore foundational to every sophisticated measurement that follows.

Off-balance-sheet does not mean no exposure

A guarantee creates a contingent payment obligation. A commitment can become a funded loan when drawn. A derivative can acquire positive replacement value as market prices move. These exposures may not initially resemble a conventional loan balance, yet they can generate credit losses or urgent cash demands. The bank must identify the contractual trigger, maximum obligation, maturity, counterparty and enforceable protections. The accounting label alone does not establish either the likely drawdown or the severity of a default outcome.

A simplified credit-conversion example uses an undrawn commitment of INR80 crore and an assumed credit conversion factor, or CCF, of 40%. Its credit-equivalent amount is INR32 crore. If the supplied risk weight is 75%, risk-weighted assets are INR24 crore. At an assumed 9% capital rate, the arithmetic requirement is INR2.16 crore. These inputs are teaching assumptions, not a statement that every commitment attracts those factors. Actual classification and applicable rules must be established before using regulatory percentages.

Do not apply that commitment formula indiscriminately to derivatives. Derivative counterparty exposure can depend on replacement cost, potential future exposure, collateral and recognised netting arrangements under the applicable method. Notional principal is a reference amount, not automatically the amount at risk today. Conversely, a contract with zero initial value can produce substantial future exposure. A liquidity stress assessment may also require cash collateral or settlement flows that differ from the credit-equivalent amount used in a capital calculation.



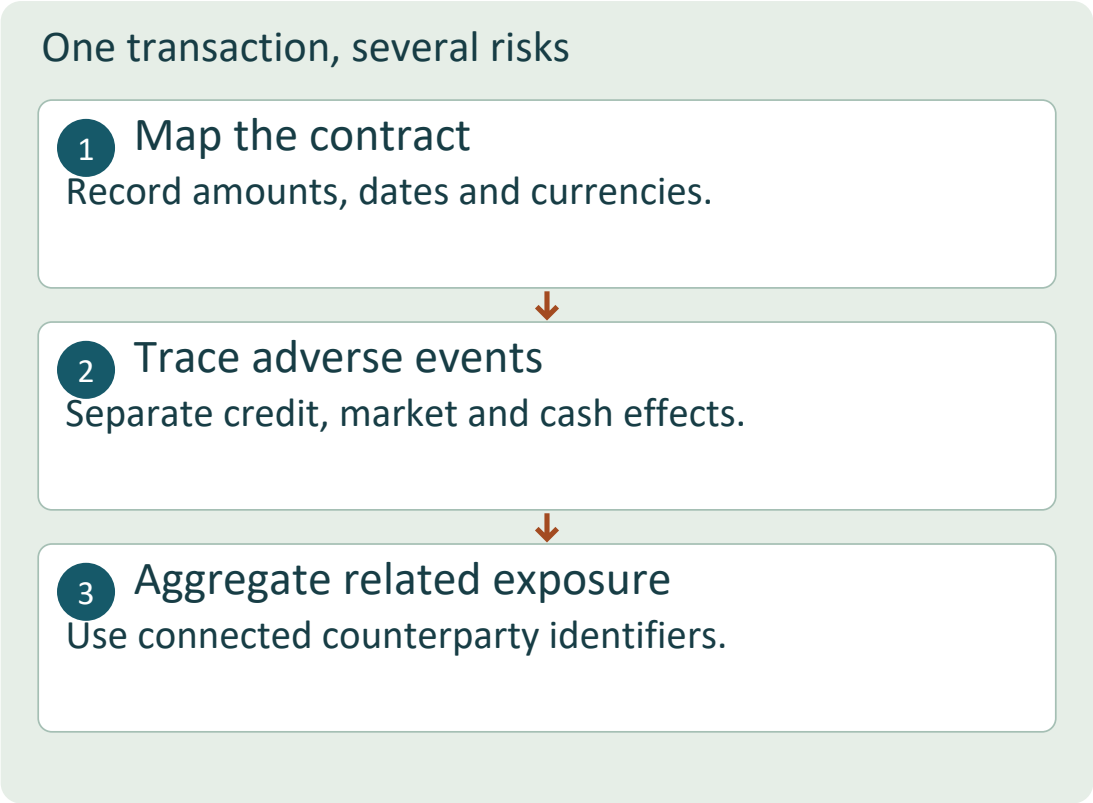
INR crore; assumed CCF 40%, weight 75%, capital rate 9%. [('Undrawn', 80), ('Credit equivalent', 32), ('RWA', 24), ('Capital', 2.16)]

Distinguish the main financial risks

Credit risk concerns a counterparty's failure to meet obligations or deterioration in credit quality. It applies to loans, investments, interbank placements and derivatives, among other exposures. Market risk concerns adverse movements in market variables such as interest rates, exchange rates, equity prices or commodity prices. A foreign bond can contain both: its issuer may weaken while its market yield or exchange rate changes. The analyst should separate the drivers so that a proposed hedge addresses the actual source of exposure.

Liquidity risk concerns meeting obligations when due without unacceptable losses. Funding liquidity describes access to cash or financing; market liquidity describes the ability to trade an asset in sufficient size at reasonable cost. They reinforce each other. If wholesale lenders refuse renewal, a bank may sell assets; if those markets are thin, realised sale proceeds may be low. An accounting profit or a positive net worth does not guarantee that usable cash is available at the required time and location.

Interest-rate risk has several forms. Repricing risk arises from different reset dates; yield-curve risk from changes across maturities; basis risk from imperfect movement between reference rates; and option risk from customer or contractual choices. A bank can match average maturities yet retain these exposures. For example, a loan linked to one benchmark and a hedge linked to another can leave residual basis risk. Recognising the mismatch explains why a hedge can reduce risk without eliminating every adverse outcome.



Record amounts, dates and currencies. Separate credit, market and cash effects. Use connected counterparty identifiers.

Separate settlement, country and transfer risks

Settlement risk appears when an obligation is not completed as expected during the exchange of cash or assets. In a foreign-exchange transaction, paying one currency before receiving the other can expose the bank to loss of principal if the counterparty fails in between. This is more than a small replacement-cost fluctuation. Payment-versus-payment arrangements can address a particular settlement mechanism, but they do not automatically eliminate every operational, legal or liquidity risk surrounding the transaction.

Country risk reflects adverse conditions associated with a country, including political, economic or legal developments. Transfer risk is a more specific channel: a borrower may have local-currency resources yet be unable to obtain or remit the foreign currency needed for repayment because of restrictions or shortages. Sovereign risk concerns obligations of the sovereign itself. These ideas overlap but should not be treated as synonyms. A private company can face transfer difficulties even when it remains commercially viable in its domestic market.

Suppose Meridian lends dollars to a foreign importer whose local sales are healthy. New restrictions prevent dollar remittance. The borrower-specific financial analysis may remain favourable while the bank's ability to collect deteriorates. Increasing local collateral might not solve the transfer problem. Country limits, currency matching, contract structure and eligible protection may be relevant responses. The correct answer follows the cause of non-payment, not merely the observation that a repayment instalment has failed to arrive on time.

Operational, legal and compliance exposures

Operational risk arises from failures involving processes, people, systems or external events. An incorrect beneficiary account, a dishonest employee, a power failure and a destructive flood illustrate different mechanisms. Legal risk is included in the conventional Basel operational-risk definition; strategic and reputational risks are excluded from that definition, although all three matter to the institution. A taxonomy boundary does not make an excluded risk unimportant. It simply helps determine how the bank organises measurement and responsibility.

Compliance risk involves failure to observe applicable obligations and standards, potentially leading to sanctions, restrictions, financial loss or reputational harm. It can interact with operational and legal risk. For instance, a weak customer-screening process may create both a control failure and a breach of applicable requirements. The aim is not to count the same loss repeatedly under several labels. Maintain a consistent primary classification while recording related causes and consequences so that all responsible functions can act.

Technology and outsourcing create dependencies rather than transferring the bank's entire responsibility to a vendor. If a service provider fails, customers still expect the bank to complete essential services. Assess access controls, data handling, resilience, concentration, subcontractors and exit arrangements. A service-level agreement is useful only if performance can be monitored and remedies are practical. A vendor penalty may compensate a small contractual amount while the bank suffers much larger customer, operational and confidence consequences.

Strategic and reputational risks need evidence

Strategic risk can arise from unsuitable business choices, poor execution or failure to adapt. Entering a new market without distribution capability, pricing discipline or skilled staff can create losses even if individual transactions follow their procedures. A strategy should therefore be tested against resources, competition and plausible adverse developments. High projected growth is not evidence of sustainable value. Management should identify the conditions under which the plan stops being attractive and specify when it will be revised.

Reputational risk concerns adverse stakeholder perceptions and their consequences. It can emerge after a real failure, misleading communication or a loss of trust in how a problem is handled. A payments outage, for example, may lead customers to withdraw funds even after the technical system is restored. The bank should communicate accurately and consistently, resolve underlying issues and monitor customer behaviour. Public relations cannot substitute for fixing the operational or conduct problem that created the concern.

These risks are difficult to compress into a single probability. Scenario analysis, complaints, customer attrition, staff turnover and control findings can provide relevant evidence. Their interpretation requires context. A sudden rise in complaints may reflect a genuine service deterioration or a newly accessible reporting channel. Reports should explain changes in measurement before drawing conclusions. The objective is to identify actionable weaknesses without pretending that every broad business concern can be assigned a precise and stable monetary estimate.

Concentration and correlation connect exposures

Concentration means dependence on a limited set of counterparties, sectors, regions, products, collateral types or funding sources. Fifty borrowers do not ensure diversification if all depend on the same employer or commodity price. Connected counterparties can also share repayment resources. Look beyond account counts to common economic drivers. A bank may diversify loan names while concentrating collateral in the same property market, making defaults and recoveries deteriorate together during a local downturn.

Correlation describes how variables move together within a specified model and dataset. Lower correlation can reduce aggregate variability, but it is not a guarantee that losses will never occur simultaneously. Historical relationships can change during stress. For two illustrative exposures with loss standard deviations of INR4 crore and INR3 crore, portfolio standard deviation is the square root of 16 plus 9 plus twice correlation multiplied by 4 and 3. At zero correlation it is INR5 crore; at perfect positive correlation it is INR7 crore.

This calculation assumes a simplified variance model, not a complete credit-loss distribution. Expected losses add even when volatility benefits from diversification. Tail dependence, concentration and changing correlations can make severe outcomes larger than the model suggests. A prudent assessment combines

quantitative aggregation with common-driver analysis and stress scenarios. The risk officer should explain both the estimated diversification benefit and the conditions under which it might disappear, especially when capital or business limits rely on that benefit.

Trace a combined banking case

Meridian issues a guarantee for a contractor and funds a related equipment loan. Construction delays weaken the contractor's cash flow. The beneficiary invokes the guarantee, converting a contingent obligation into a cash payment. Other contractors in the same region also draw facilities. Meridian now faces credit deterioration, concentration and funding pressure. If documentation was defective or the invocation was mishandled, operational and legal issues join the chain. Each exposure needs an owner, but the overall scenario requires coordinated management.

The immediate response is to establish valid obligations, payment timing and available resources. Credit staff reassess repayment and recovery prospects; treasury evaluates cash needs; legal and operations confirm the contractual process; independent risk aggregates related exposures and reports limits. Treating each department's view as a separate final answer could miss the combined demand on cash and capital. A shared transaction and counterparty identifier helps avoid omissions and double counting across loans, guarantees and derivatives.

For examination revision, ask four questions: what can change, what obligation exists, when can cash be required, and which control addresses the cause? A price hedge does not cure a documentation defect. More collateral does not necessarily provide cash today. A capital buffer does not complete an interrupted payment. Classifying risks accurately improves the response because it links a named mechanism to a practical action, while recognising that one event can spread through several risk channels at once.

Use a disciplined classification worksheet

Create a simple worksheet for any unfamiliar product. Record the bank's asset, liability or contingent promise; contractual and behavioural dates; currency; counterparty group; collateral; valuation source; and settlement mechanism. Add a column for each plausible adverse event and its consequence. Finally record the control and the remaining exposure after that control. This structure is especially useful when a new product combines familiar elements in an unfamiliar way, such as a currency-linked facility with an embedded option and an undrawn commitment.

Do not force an exact regulatory treatment before establishing the facts. A commitment's cancellation terms, original maturity and purpose may affect its classification. A security's issuer, credit quality and book allocation may affect different measurements. The worksheet should identify missing information explicitly rather than filling gaps with a convenient assumption. In a numerical examination case, stated assumptions permit calculation; in a real approval, missing material facts may require further investigation before the bank can make a defensible decision.

After completing the worksheet, check consistency across systems. The loan amount, guarantee limit and derivative exposure should refer to the same counterparty group where appropriate. Reconcile currencies and units before aggregation. A number expressed in lakh cannot be added directly to a number expressed in crore, and a percentage cannot substitute for a cash amount. Many serious reporting errors begin with these simple mismatches, so disciplined data definitions remain as important as advanced risk models.

Practice with explanations

01. What should be mapped first in an unfamiliar banking product?

A. Only the branch selling it	B. Only its initial fee
C. Only its marketing name	D. Assets, obligations, dates, currencies and counterparties

Answer D. Economic positions reveal the channels through which losses and cash demands arise. Marketing names, fees and distribution location may be relevant details, but none alone identifies the full contractual and contingent exposure.

02. A performing fixed-rate loan funded by annually repricing deposits faces what?

A. Guaranteed widening margins	B. Repricing risk
C. Only physical damage risk	D. No risk until default

Answer B. Funding costs can reset before asset income changes, reducing spread without borrower default. Physical damage is a different mechanism, and rising funding rates can narrow rather than guarantee an increase in the margin.

03. INR100 crore earns 8% and funding cost rises from 5% to 7%. Gross spread becomes?

A. INR3 crore annually	B. INR1 crore annually
C. INR7 crore annually	D. INR8 crore annually

Answer B. Income remains 8 crore while funding becomes 7 crore, leaving 1 crore before other costs. Three is the old spread; seven and eight are individual cost and income amounts rather than the net spread.

04. Why distinguish contractual and behavioural maturity?

A. Behaviour is certain	B. Both schedules must always be identical
C. Contracts never matter	D. Actual renewal or prepayment can differ from the contract

Answer D. Behavioural estimates capture renewal and optionality but remain uncertain. Contractual dates still establish obligations. The two schedules answer different questions and should be compared and stressed rather than assumed identical or treated as guarantees.

05. May a bank freely move a loss-making position between regulatory books to improve capital?

A. No, the applicable boundary rules govern allocation	B. Yes, whenever profit falls
C. Yes, if the dealer prefers	D. Yes, because accounting labels erase risk

Answer A. Book allocation follows applicable criteria and controls. Profit pressure or dealer preference does not authorise arbitrary movement, and relabelling cannot erase economic exposure. The boundary protects consistent measurement and discourages regulatory arbitrage.

06. A government bond falls in value after yields rise. Which risk is illustrated?

A. No economic effect	B. Interest-rate market risk
C. Only employee fraud	D. Certain issuer default

Answer B. A yield movement can reduce a fixed-rate bond's price even when the issuer performs. Default and fraud are separate events, and an economic value change exists even if the bank does not immediately sell the bond.

07. Which control supports complete trading positions?

A. Ignoring amended trades	B. Independent trade confirmation and reconciliation
C. Using only the dealer's memory	D. Calculating VaR on an incomplete file

Answer B. Confirmation and reconciliation detect missing or altered records. Memory is unreliable, ignoring amendments loses exposure information, and an advanced model cannot compensate for an incomplete position dataset supplied to it.

08. A guarantee is important for liquidity because?

A. It can never be drawn	B. Its accounting presentation removes obligations
C. Invocation can create a cash payment	D. Only the beneficiary faces risk

Answer C. A contingent obligation can become payable when the contractual conditions are met. Off-balance-sheet presentation does not cancel that promise. The issuing bank therefore needs to assess both credit consequences and the timing of possible cash demands.

09. An undrawn commitment is 80 crore with assumed 40% CCF. Credit equivalent is?

A. INR80 crore	B. INR200 crore
C. INR40 crore	D. INR32 crore

Answer D. The supplied conversion gives 80 times 0.40 = 32 crore. Eighty is the unconverted amount, forty is a percentage input misread as money, and division by the factor reverses the required calculation.

10. Credit equivalent is 32 crore and assumed risk weight 75%. RWA is?

A. INR42.67 crore	B. INR24 crore
C. INR75 crore	D. INR32 crore

Answer B. RWA equals 32 times 75% = 24 crore. The credit equivalent precedes weighting; the percentage is not a cash amount, and dividing by the weight would incorrectly increase rather than apply the stated weighted measure.

11. RWA is 24 crore and the supplied capital rate is 9%. Requirement is?

A. INR2.16 crore	B. INR9 crore
C. INR24 crore	D. INR0.216 crore

Answer A. Multiply 24 by 0.09 to obtain 2.16 crore. The alternatives confuse RWA with capital, use the rate as an amount or introduce a decimal-place error. Conversion, weighting and capital application are separate stages.

12. Why is derivative notional not automatically current credit exposure?

A. Notional is always zero	B. Collateral always covers every future movement
C. Derivatives cannot default	D. Exposure also depends on value, future changes and applicable treatment

Answer D. Notional is a reference amount, while replacement value and potential future exposure matter. Derivatives can have counterparty risk even at zero initial value, and collateral coverage depends on terms, timing and market movements.

13. A loan borrower weakens while the currency moves adversely. What is the best classification?

A. No risk if documentation is complete	B. Only reputational risk
C. Only one risk may exist per transaction	D. Multiple interacting risk drivers

Answer D. A transaction can contain credit, currency and other exposures simultaneously. Documentation addresses particular controls, not all economic risks. Restricting analysis to one label or reputation alone would omit material mechanisms.

14. Funding liquidity differs from market liquidity because it concerns what?

A. Only bond duration	B. Only borrower ratings
C. Only selling assets without price impact	D. Obtaining cash or financing to meet obligations

Answer D. Funding liquidity concerns cash access; market liquidity concerns execution in asset markets. Duration and credit ratings describe other dimensions. The two liquidity types interact but should not be treated as identical definitions.

15. A loan and hedge reference different benchmarks. Residual exposure is commonly called?

A. Physical asset risk	B. Basis risk
C. Guaranteed perfect hedging	D. Only principal settlement risk

Answer B. Different benchmarks may not move together, leaving basis risk. Equal notionals do not guarantee an offset. Principal settlement and physical damage concern different mechanisms and do not describe the benchmark mismatch itself.

16. Paying one currency before receiving the other can expose the bank to what?

A. Only a small bid-ask cost	B. Only strategic risk
C. No exposure after payment	D. Principal settlement risk

Answer D. If the counterparty fails between payments, the amount already paid can be at risk. That is more than a spread cost; payment does not end the exposure until receipt, and strategic risk is not the immediate mechanism.

17. A viable foreign borrower cannot obtain currency to remit repayment. This most directly illustrates?

A. No credit-related concern	B. Transfer risk
C. Only domestic interest-rate risk	D. Proof of employee fraud

Answer B. Transfer restrictions or shortages can prevent foreign-currency payment despite local viability. The facts do not establish fraud or a domestic rate movement. The bank still faces collection risk and must assess country and transfer conditions.

18. Sovereign risk refers most directly to obligations of whom?

A. Only an insurance broker	B. Only a bank employee
C. Every private shop automatically	D. The sovereign

Answer D. Sovereign risk concerns the sovereign's obligations. Private firms can face country and transfer risks without becoming sovereign borrowers. Employees and brokers may create other exposures, but their roles do not define sovereign risk.

19. Which risk is included in the conventional Basel operational-risk definition?

A. Every possible business risk without distinction	B. Legal risk
C. Reputational risk as such	D. Strategic risk as such

Answer B. The conventional definition includes legal risk and excludes strategic and reputational risk as categories, though consequences can overlap. The boundary supports classification; it does not imply that excluded risks are unimportant to management.

20. What happens to responsibility when processing is outsourced?

A. The bank retains responsibility for managing its service risks	B. Every obligation transfers automatically
C. Monitoring becomes unnecessary	D. Vendor penalties guarantee full compensation

Answer A. Outsourcing creates dependencies that require oversight. Contracts do not automatically transfer all responsibilities, monitoring remains necessary, and penalties may be much smaller than customer, financial and reputational consequences of a failure.

21. Many borrowers all supply one factory. What can remain high?

A. Common-driver concentration	B. A certainty of no simultaneous loss
C. Only currency risk	D. Guaranteed diversification

Answer A. Different legal names can depend on the same economic source. A factory disruption can affect many borrowers together, so name count alone overstates diversification. The facts do not limit exposure to currency or guarantee independent outcomes.

22. Loss standard deviations are 4 and 3 crore with zero correlation. Combined standard deviation is?

A. INR1 crore	B. INR5 crore
C. INR7 crore	D. INR25 crore

Answer B. The variance is 4 squared plus 3 squared = 25, whose square root is 5. Seven corresponds to perfect positive correlation, one to perfect negative correlation, and twenty-five is variance rather than standard deviation.

23. For the same standard deviations, perfect positive correlation gives what?

A. Zero	B. INR7 crore
C. INR5 crore	D. INR1 crore

Answer B. At correlation one, the square-root expression becomes the sum of the standard deviations, 4+3=7. Five is the zero-correlation case, one the negative-one case, and zero is impossible here because the magnitudes differ.

24. Does a diversification benefit reduce the sum of expected losses automatically?

A. Yes, all expected losses disappear	B. Yes, only the largest expected loss remains
C. No portfolio analysis is needed	D. No, expected losses add while variability depends on joint behaviour

Answer D. Linearity of expectation means expected losses add. Dependence affects variability and tail outcomes, not an automatic cancellation of average losses. Portfolio analysis remains important for concentration, correlated defaults and changing recoveries.

25. Which worksheet entry is most dangerous to assume without evidence?

A. The verified counterparty identity	B. The stated contract currency
C. The documented payment date	D. That a contingent obligation cannot be drawn

Answer D. Assuming away a possible drawdown removes a real exposure without support. Verified currency, dates and identity are useful facts. Missing material terms should be investigated or explicitly assumed in a teaching case, not silently invented.

B02 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 A banking transaction can create several risks at once.	**15** Interest-rate risk has several forms.
02 Use the fictional Meridian Bank throughout this chapter.	**16** Settlement risk appears when an obligation is not completed as expected during the exchange of cash or assets.
03 Risk classification serves management, reporting and capital assessment, but the purpose matters.	**17** Country risk reflects adverse conditions associated with a country, including political, economic or legal developments.
04 The banking book generally contains positions outside the regulatory trading book, such as ordinary loans and deposits.	**18** Suppose Meridian lends dollars to a foreign importer whose local sales are healthy.
05 Suppose Meridian lends INR100 crore at a fixed 8% for five years and finances it with deposits repricing annually.	**19** Operational risk arises from failures involving processes, people, systems or external events.
06 Banking-book management also considers behavioural assumptions.	**20** Compliance risk involves failure to observe applicable obligations and standards, potentially leading to sanctions, restrictions, financial loss or reputational harm.
07 The trading book contains positions assigned under the applicable regulatory rules for trading-related purposes.	**21** Technology and outsourcing create dependencies rather than transferring the bank's entire responsibility to a vendor.
08 Consider a dealer holding INR20 crore of fixed-rate bonds while quoting purchase and sale prices to customers.	**22** Strategic risk can arise from unsuitable business choices, poor execution or failure to adapt.
09 Trading controls commonly distinguish transaction execution from independent valuation, limit monitoring, confirmation and settlement.	**23** Reputational risk concerns adverse stakeholder perceptions and their consequences.
10 A guarantee creates a contingent payment obligation.	**24** These risks are difficult to compress into a single probability.
11 A simplified credit-conversion example uses an undrawn commitment of INR80 crore and an assumed credit conversion factor, or CCF, of 40%.	**25** Concentration means dependence on a limited set of counterparties, sectors, regions, products, collateral types or funding sources.
12 Do not apply that commitment formula indiscriminately to derivatives.	**26** Correlation describes how variables move together within a specified model and dataset.
13 Credit risk concerns a counterparty's failure to meet obligations or deterioration in credit quality.	**27** This calculation assumes a simplified variance model, not a complete credit-loss distribution.
14 Liquidity risk concerns meeting obligations when due without unacceptable losses.	**28** Meridian issues a guarantee for a contractor and funds a related equipment loan.

B03 Risk Regulations in Banking Industry

Practice / Quick Revision

Why banking needs prudential regulation

Banks connect savers, borrowers and payment systems. A failure can therefore affect people who never chose to lend directly to the failed institution. Depositors may lack the information or expertise to evaluate a complex balance sheet, and disruption can spread through funding markets and settlement networks. Prudential regulation addresses these vulnerabilities by setting requirements for resilience, governance and supervision. It does not promise that every transaction will succeed or that regulation can replace sound commercial judgement by the bank itself.

A useful distinction is between the soundness of an individual institution and stability of the system. An action that helps one bank can harm others when everyone attempts it simultaneously. Selling securities may raise cash for one institution, but widespread forced sales can depress prices and weaken many balance sheets. Capital and liquidity requirements, supervisory attention to concentrations and system-wide analysis address different parts of this problem. No single ratio can capture the whole interaction between individual incentives and collective outcomes.

Risk-based regulation links requirements to the nature and magnitude of exposures rather than treating all assets as equally risky. It also needs safeguards against model error and regulatory arbitrage. If requirements depend entirely on estimates that can be manipulated, apparent compliance may conceal fragility. This explains the combination of risk-weighted measures, simpler backstops, supervisory judgement and disclosure. Learn the purpose of each element before memorising a percentage: the purpose helps identify the correct measure in a case question.

Understand the Basel sequence

The 1988 Basel Capital Accord established an internationally agreed capital framework focused primarily on credit risk. The 1996 market-risk amendment extended the framework to market exposures. Basel II, published in 2004 and consolidated in 2006, developed the three-pillar structure and more risk-sensitive approaches. Basel III strengthened capital quality and resilience following the global financial crisis and introduced additional safeguards. This historical sequence explains why a syllabus discusses earlier approaches even where later standards or domestic rules have changed.

Basel standards are international supervisory standards, not automatically a directly enforceable rule for every Indian bank. Domestic implementation determines scope, effective dates, permitted approaches and additional requirements. A global minimum and an RBI requirement can differ without contradiction. When answering a numerical question, identify the jurisdiction, institution category, date and assumptions. An answer that applies a global percentage to an Indian case without checking the question can be arithmetically correct and still be conceptually wrong.

This chapter uses the retrieved RBI commercial-bank capital directions for a dated rule card and explains other calculations as teaching models. The readable consolidated page displayed an update of 1 July 2026; the official index indicated a later 7 October 2026 update that could not be retrieved in full during preparation. Accordingly, the card is version-specific rather than a certification of the complete November rulebook. The package records this limitation so that publication review can resolve it explicitly.

Read the three pillars together

Pillar 1 establishes minimum capital requirements for specified risks using prescribed approaches. It is the most visibly numerical part of the framework, but it is not a complete assessment of every vulnerability. A bank can have risks that are insufficiently captured by a standard formula, including particular concentrations or weaknesses in management. Meeting a minimum does not establish that the institution has enough capital for its own circumstances, future strategy or severe but plausible stress conditions.

Pillar 2 connects the bank's internal assessment with supervisory review. The internal capital adequacy assessment process, or ICAAP, should relate material risks, capital resources, business plans and stress results. Supervisors assess the credibility of that process and can require remedial action. A report prepared only to satisfy a filing requirement misses the point. Its assumptions should influence actual limits, growth plans, dividends, contingency actions and management decisions when risk or available capital changes.

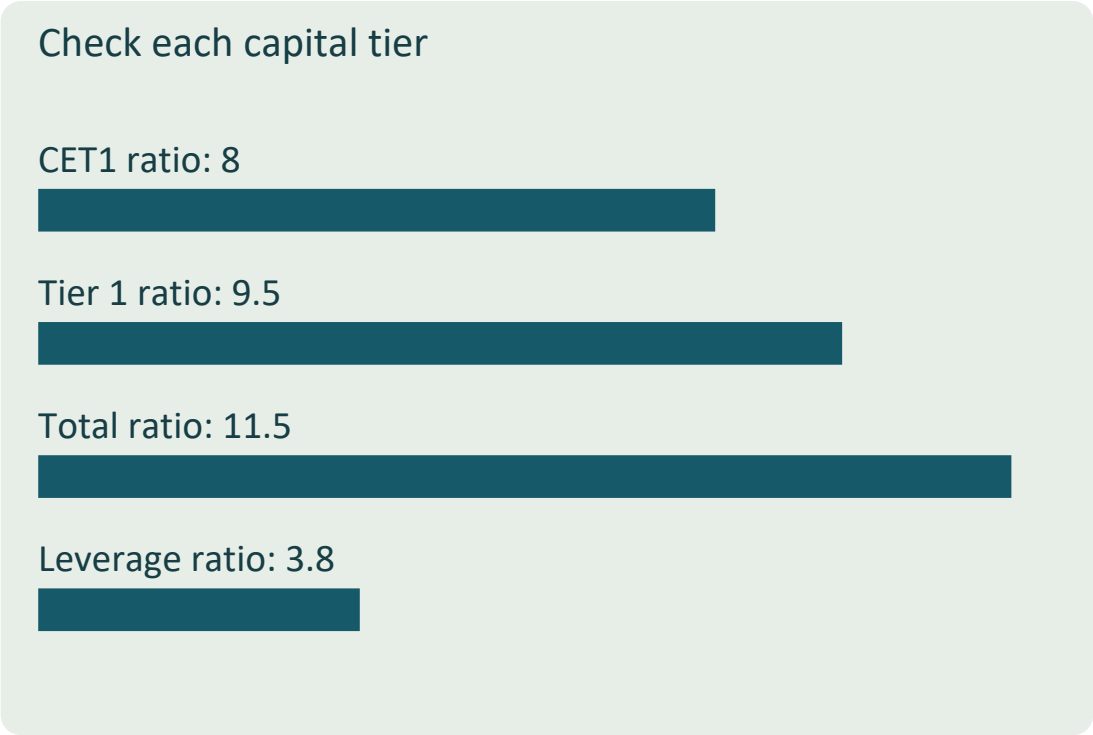
Pillar 3 uses disclosure to support market discipline. Comparable information helps stakeholders understand exposures, capital and risk management, subject to the applicable disclosure framework. Disclosure does not replace supervision or guarantee that every reader will interpret information correctly. The three pillars reinforce one another: minimum rules provide a baseline, review addresses institution-specific issues and disclosure improves transparency. A case about public reporting belongs primarily to Pillar 3; an internal stress-based capital assessment belongs primarily to Pillar 2.

Identify capital before calculating ratios

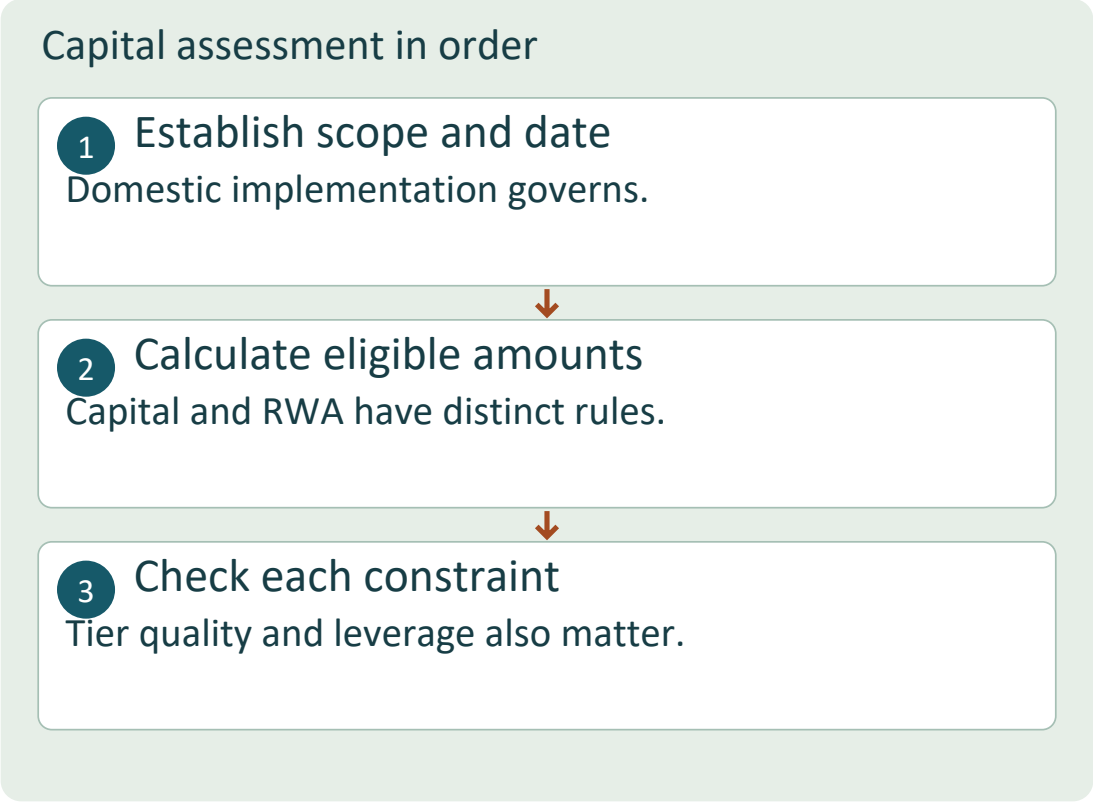
Regulatory capital depends on eligibility, loss absorption and prescribed adjustments. Common Equity Tier 1 is the core category; Additional Tier 1 and Tier 2 have different characteristics and conditions. Ordinary balance-sheet descriptions are insufficient to determine eligibility. An instrument called capital in a commercial presentation may fail a regulatory condition, while deductions can reduce the amount recognised. In an examination calculation, use the eligible amounts supplied unless the question specifically asks you to apply adjustments.

The retrieved RBI rule card gives minimum CET1 of 5.5%, Tier 1 of 7% and total capital of 9% of risk-weighted assets, with a 2.5% CET1 capital conservation buffer. Its stated commercial-bank scope excludes Small Finance Banks, Payments Banks and Local Area Banks. These figures are not universal requirements for every entity bearing the word bank. Additional applicable buffers or supervisory requirements can change the effective constraint, so the basic total plus conservation buffer is not always the final requirement.

Consider supplied eligible capital of INR80 crore CET1, INR15 crore AT1 and INR20 crore Tier 2 against INR1,000 crore RWA. The ratios are 8%, 9.5% and 11.5%, respectively. Calculate each tier separately: total capital of 11.5% cannot compensate automatically for a shortfall in a required higher-quality component. Also distinguish a minimum breach from entering a conservation-buffer range. Buffer use has consequences for distributions and supervisory engagement; it is not accurately described as unrestricted surplus capital.



Percent; capital 80/15/20 crore, RWA 1,000, leverage exposure 2,500. Different denominators. [('CET1 ratio', 8), ('Tier 1 ratio', 9.5), ('Total ratio', 11.5), ('Leverage ratio', 3.8)]



Domestic implementation governs. Capital and RWA have distinct rules. Tier quality and leverage also matter.

Build risk-weighted assets consistently

Risk-weighted assets transform exposures into a regulatory measure using the applicable methodology. In a simple credit example, INR100 crore at an assumed 50% weight gives INR50 crore RWA, while INR60 crore at an assumed 100% weight gives INR60 crore RWA. The combined credit RWA is INR110 crore. These weights are deliberately supplied for arithmetic. Actual weights depend on classification and applicable rules, and should not be inferred solely from the interest rate charged to the borrower.

Off-balance-sheet positions may require conversion before risk weighting. If an assumed INR40 crore commitment has a 50% conversion factor and a 100% weight, its illustrative RWA is INR20 crore. Add it to the previous INR110 crore to obtain INR130 crore credit RWA. Do not multiply by the capital percentage twice. The weight creates the RWA denominator; the capital rate then determines a requirement against that denominator. Keeping the stages separate makes units and mistakes easier to detect.

Market and operational risk may enter a total RWA calculation through prescribed conversions of capital charges. Use the conversion stated in the applicable framework or question. The retrieved RBI operational-risk section expressly uses 12.5 times the relevant charge for notional RWA. Do not replace that prescribed factor with the reciprocal of 9% merely because the Indian total minimum is 9%. A rule-defined conversion and the final minimum ratio are separate steps; confusing them produces a plausible but incorrect denominator.

Capital charges and mitigation need scope

Credit-risk mitigation can change recognised exposure or treatment where eligibility conditions are met. Collateral, guarantees and netting are not automatically interchangeable. Legal enforceability, coverage, maturity and currency mismatches can affect recognition. A pledged asset with a high headline valuation may provide much less effective protection after volatility, liquidation costs or legal limitations. Management should distinguish commercial comfort from regulatory recognition and avoid assuming that a security document reduces capital simply because it exists in the credit file.

Market-risk capital concerns relevant trading and market exposures under the applicable approach. The charge should not be confused with a dealer's internal stop-loss limit or a single daily VaR estimate. Operational-risk capital concerns another risk class and is not the same as an annual fraud budget. Capital frameworks can evolve internationally before local implementation changes. A teaching answer should identify which approach is historical, which is the retrieved domestic treatment and which is a future or global development.

In the retrieved domestic capital text, the Basic Indicator Approach uses 15% of the average positive annual gross-income observations over the previous three years, excluding zero or negative years from both numerator and count. If eligible observations are INR100 crore, minus INR20 crore and INR140 crore, the illustrative charge is 15% of INR120 crore, or INR18 crore. The same text refers separately to readiness for a forthcoming standardised approach. Do not treat a forthcoming instruction as already effective without checking commencement.

Buffers serve different purposes

The capital conservation buffer creates additional loss-absorbing capacity above minima and links depletion to restrictions on distributions. A countercyclical buffer addresses the build-up of cyclical systemic risk and can vary with supervisory decisions and geographic exposures. The two have different purposes even though both can require high-quality capital. A countercyclical framework's maximum is not proof that the maximum is currently activated. Questions about an actual requirement need the applicable decision and date, not merely the published range.

Systemically important institutions can attract additional requirements because their distress would have wider consequences. Importance can reflect size, interconnectedness, complexity or substitutability rather than simply the institution's current profit. Do not assume that a higher buffer means a guarantee against failure. It is an additional resilience measure. The applicable designation and surcharge can change, so this chapter teaches the mechanism without presenting an undated list of institutions as permanently correct.

Suppose a case explicitly requires 9% minimum total capital, 2.5% conservation buffer and a further 1% applicable surcharge. Against INR2,000 crore RWA, the illustrative combined amount is 12.5% times INR2,000 crore, or INR250 crore. This arithmetic does not establish which capital quality must meet every component.

Check CET1 and Tier 1 constraints separately and avoid double counting the same capital allocation where a detailed buffer calculation requires adjustments. The case must state whether other requirements are excluded.

Leverage supplies a different backstop

The leverage ratio compares Tier 1 capital with a defined exposure measure rather than risk-weighted assets. It can constrain a bank whose assets receive low risk weights but whose total exposures are large. It is not simply the accounting equity-to-assets ratio: derivatives, securities financing and off-balance-sheet items can require specific treatment in the denominator. The purpose is to complement risk-sensitive requirements and limit excessive leverage, including leverage that a risk model might underestimate.

In the retrieved RBI rule card, the minimum leverage ratio is 4% for domestic systemically important banks and 3.5% for other banks within scope. For an illustrative Tier 1 amount of INR90 crore and a supplied exposure measure of INR2,500 crore, the ratio is 3.6%. Under an assumed 3.5% threshold it passes; under an assumed 4% threshold it does not. The calculation cannot decide which threshold applies without the institution's classification and the dated governing requirement.

A bank can pass its risk-weighted ratio and fail leverage, or the reverse. For example, reducing measured RWA while retaining the same total exposure can improve a capital ratio without improving leverage. Raising eligible Tier 1 can improve both, but business and legal constraints matter. In the calculator, change the exposure measure independently from RWA to see why the two ratios answer different questions. Never substitute one denominator for the other because both are expressed in monetary units.

Risk-based supervision follows vulnerabilities

Risk-based supervision directs attention toward material vulnerabilities, governance and the effectiveness of controls. It considers the institution's risk profile rather than treating every activity as equally important. On-site work, off-site information and engagement with management can contribute to this assessment. The bank should maintain reliable data and evidence of corrective actions. A superficially favourable ratio cannot resolve concerns about unreliable reporting, weak risk ownership or an inability to identify exposures across legal entities and business lines.

Supervisory findings need accountable remediation. If loan reviews repeatedly identify missing covenant checks, management should address workflow, staffing, system prompts and escalation, not merely close individual file exceptions. Effective remediation includes a cause, owner, deadline and verification that the problem has stopped recurring. Independent assurance should test the completed action. Marking an issue closed because a new policy was circulated is insufficient when the original weakness concerned actual execution or inadequate evidence.

Risk-based does not mean that small exposures can disregard mandatory rules. Proportionality affects intensity and design, but applicable obligations remain. Nor does supervision transfer responsibility for business decisions to the regulator. The board and management retain responsibility for the bank's soundness and conduct. In a case answer, explain what the bank should do internally before referring to supervisory intervention: identify the issue, quantify exposure, contain immediate risk and implement a credible corrective plan.

Solve a combined capital case

Assume eligible CET1 of INR72 crore, AT1 of INR18 crore and Tier 2 of INR20 crore. Supplied RWA is INR900 crore and the leverage exposure measure is INR2,400 crore. CET1 is 8%, Tier 1 is 10%, total capital is approximately 12.22%, and leverage is 3.75%. These calculations are independent outputs from the same capital data. They should be compared only with the thresholds explicitly applicable to the case, including any additional buffer or institution-specific requirement.

Now suppose a loss of INR9 crore reduces CET1, with no other changes. CET1 becomes INR63 crore, Tier 1 INR81 crore and total capital INR101 crore. Their RWA ratios become 7%, 9% and approximately 11.22%; leverage becomes 3.375%. A single loss can therefore affect several constraints at once. The exercise holds RWA and exposure fixed to isolate the numerator effect; actual stress may change exposures, provisions, deductions and risk weights simultaneously.

For revision, write the sequence before calculating: identify scope and date, establish eligible capital, calculate the correct denominator, compute each required ratio, compare with the relevant requirement and explain consequences. Keep historical Basel facts separate from current implementation. The sources and version note are part of this chapter, not optional decoration. They allow a reviewer to update a changed rule without rewriting the original teaching cases or confusing a future commencement date with today's applicable treatment.

Avoid the most persuasive calculation traps

The most common wrong answer often looks reasonable because it uses a correct number in the wrong place. Applying a capital rate to total assets instead of RWA, including Tier 2 in a leverage numerator, or averaging a negative gross-income year into the Basic Indicator calculation can all produce tidy results. Check definitions before arithmetic. Write the numerator and denominator in words, then insert numbers. This habit is particularly valuable when a question includes extra figures that are not needed.

Another trap is treating a calculated surplus as freely distributable cash. Capital is an eligibility and loss-absorption concept; cash availability is a liquidity question. A bank can have capital headroom while facing immediate payment pressure. Conversely, borrowing cash can improve liquidity without creating eligible equity capital. A proposed remedy must match the problem. If the case concerns a CET1 shortage, a new short-term deposit does not solve it merely because the bank's cash balance rises.

Finally, distinguish a teaching calculation from an approval. A computed ratio supports a conclusion only within its assumptions. A full regulatory assessment may require consolidation, deductions, transitional provisions and separate institutional requirements. The chapter's calculators deliberately expose their inputs so students can understand the mechanism and test sensitivity. They do not silently classify a real bank or choose legal weights. This transparent boundary is more useful for learning than a complicated tool that produces an unexplained green compliance badge.

Practice with explanations

01. Why can prudential regulation consider system-wide effects?

A. Private profit always equals social stability	B. Banks have no connections
C. One bank's distress or asset sales can affect others	D. Every depositor can fully value complex assets

Answer C. Funding, payment and asset-market links transmit stress. Depositors face information limits, and individually profitable decisions can create collective vulnerability. Regulation therefore considers both institutional resilience and broader stability rather than assuming isolated balance sheets.

02. What was the main initial focus of the 1988 Basel Accord?

A. Credit-risk capital	B. Retail product advertising
C. Cybersecurity insurance	D. The modern NSFR only

Answer A. The historical accord primarily addressed credit-risk capital. NSFR belongs to later liquidity reforms, while insurance and advertising are different subjects. The chronology helps distinguish syllabus history from current domestic implementation.

03. The 1996 Basel amendment added attention to which capital risk?

A. Only workplace safety	B. Only climate disclosure
C. Only deposit marketing	D. Market risk

Answer D. The amendment extended the capital framework to market risk. Workplace safety can create operational exposure, and marketing or disclosure topics have other roles, but none describes the central purpose of that historical amendment.

04. Which statement about Basel standards and India is correct?

A. Publication and commencement are always the same date	B. Every global standard applies immediately to every Indian entity
C. RBI requirements must always equal global minima	D. Domestic implementation determines applicable scope and dates

Answer D. International standards require domestic implementation. Scope, timing and additional requirements can differ; publication can precede commencement. Therefore the jurisdiction, institution and effective date must be established before applying a percentage or method.

05. Minimum prescribed capital calculations belong primarily to which pillar?

A. Pillar 2 only	B. No pillar
C. Pillar 3 only	D. Pillar 1

Answer D. Pillar 1 provides minimum capital calculations. Pillar 2 concerns internal assessment and supervisory review, while Pillar 3 concerns disclosure and market discipline. The pillars complement one another rather than describe interchangeable activities.

06. ICAAP belongs primarily to which pillar?

A. An insurance policy	B. Pillar 1 disclosure
C. Pillar 3 pricing	D. Pillar 2

Answer D. ICAAP connects material risks, business planning and internal capital assessment under Pillar 2. It is not public disclosure alone, a pricing label or insurance. Its assumptions should influence management decisions rather than only a filing.

07. Public risk and capital disclosures support which mechanism?

A. Guaranteed correct investor judgement	B. Pillar 3 market discipline
C. Replacement of supervision	D. Automatic elimination of losses

Answer B. Disclosure supports informed stakeholder assessment and market discipline. It does not eliminate losses, replace supervisory review or guarantee interpretation. Minimum rules and institution-specific review remain necessary alongside transparent reporting.

08. Which amount should enter a regulatory capital ratio?

A. Every liability labelled funding	B. Any instrument marketed as capital
C. Only the cash balance	D. Eligible capital after applicable adjustments

Answer D. Eligibility and adjustments determine recognised capital. Funding liabilities and cash describe different concepts, and a marketing label does not establish loss-absorption characteristics or compliance with the conditions for regulatory recognition.

09. CET1 is 80 crore and RWA 1,000 crore. CET1 ratio is?

A. 80%	B. 12.5%
C. 8%	D. 0.8%

Answer C. Divide 80 by 1,000 and multiply by 100 to obtain 8%. The other values reflect scale or inversion errors. This ratio uses CET1 specifically, not total capital or the leverage exposure measure.

10. CET1 is 80 and AT1 15 crore against RWA 1,000. Tier 1 ratio is?

A. 9.5%	B. 8%
C. 1.5%	D. 11.5%

Answer A. Tier 1 combines CET1 and AT1: 95/1,000 = 9.5%. Eight excludes AT1, 11.5 would include an additional 20 of Tier 2, and 1.5 measures AT1 alone rather than total Tier 1.

11. Why must capital tiers be checked separately?

A. All tiers have identical eligibility	B. Only the largest ratio matters
C. Tier 2 is always CET1	D. Total capital cannot automatically cure a higher-quality tier shortfall

Answer D. Different tiers have different loss-absorption and eligibility requirements. A strong total does not automatically satisfy CET1 or Tier 1 constraints. Treating Tier 2 as CET1 or checking only one ratio obscures those requirements.

12. A 100 crore exposure has an assumed 50% weight. RWA equals?

A. INR5 crore	B. INR100 crore
C. INR50 crore	D. INR200 crore

Answer C. Apply the supplied weight once: 100 times 0.50 = 50 crore. The original exposure is unweighted, five introduces an extra factor, and two hundred divides by the weight instead of multiplying.

13. A 40 crore commitment has assumed 50% CCF and 100% weight. RWA equals?

A. INR40 crore	B. INR2 crore
C. INR20 crore	D. INR80 crore

Answer C. Conversion gives 20 crore and the 100% weight leaves that amount unchanged. Forty skips conversion, two applies an unstated factor, and eighty reverses the conversion. Actual factors require proper classification outside this illustration.

14. Eligible gross-income observations are 100, minus 20 and 140 crore. Under the retrieved BIA convention, the positive-year average is?

A. INR73.33 crore	B. INR240 crore
C. INR120 crore	D. INR80 crore

Answer C. Exclude the negative year from both sum and count: (100+140)/2 = 120. Averaging all three gives 73.33, dividing positive sums by three gives 80, and 240 is the sum rather than the average.

15. At a supplied BIA alpha of 15%, an average of 120 crore gives what charge?

A. INR120 crore	B. INR180 crore
C. INR18 crore	D. INR8 crore

Answer C. The charge is 120 times 0.15 = 18 crore. The alternatives omit the percentage, use an unrelated amount or shift the decimal. This is a version-specific teaching application, not a claim about every future method.

16. Why not replace a prescribed RWA conversion factor with 1 divided by 9%?

A. The conversion and final minimum ratio are separate rule-defined steps	B. RWA and capital are identical
C. Conversion factors never need sources	D. Any convenient reciprocal is valid

Answer A. A framework can prescribe a conversion independently of the domestic minimum ratio. Substituting a reciprocal changes the method without authority. RWA and capital are different quantities, and the applicable rule must support the factor used.

17. The conservation buffer primarily supports what?

A. Elimination of every minimum	B. Unlimited dividends under stress
C. Additional resilience with distribution consequences when depleted	D. A cash reserve identical to vault cash

Answer C. The buffer provides additional loss absorption and affects distributions when used. It does not abolish minima or guarantee unrestricted payouts. Regulatory capital is not the same thing as a physical or immediately spendable cash reserve.

18. A countercyclical framework's maximum proves what about current activation?

A. That the buffer never applies	B. That conservation requirements disappear
C. That the maximum always applies	D. Nothing without the applicable dated decision

Answer D. A permitted maximum is different from an activated requirement. The relevant decision, date and geographic exposure matter. Neither permanent maximum application nor permanent absence follows, and the conservation buffer remains a separate concept.

19. A case requires 9% plus 2.5% plus 1% on 2,000 crore RWA. Combined amount is?

A. INR230 crore	B. INR250 crore
C. INR25 crore	D. INR180 crore

Answer B. The supplied rates total 12.5%; multiplying by 2,000 gives 250 crore. The other amounts omit components or mis-scale the answer. Capital-quality constraints still require separate checking beyond this simple total.

20. The leverage ratio uses which numerator?

A. Expected annual profit	B. Tier 2 alone
C. Total deposits	D. Tier 1 capital

Answer D. The leverage measure uses Tier 1 against its defined exposure denominator. Tier 2 alone, deposits and expected profit do not replace that capital measure. The denominator also differs from risk-weighted assets and may include specific adjustments.

21. Tier 1 is 90 crore and leverage exposure 2,500 crore. Ratio is?

A. 36%	B. 27.78%
C. 9%	D. 3.6%

Answer D. The ratio is 90/2,500 times 100 = 3.6%. The alternatives confuse scale, another regulatory percentage or an inverted relationship. Applicability of a threshold remains a separate question requiring the institution's category and date.

22. Can a bank pass a risk-weighted ratio but fail leverage?

A. No, Tier 2 fixes leverage automatically	B. No, they are the same formula
C. Yes, the denominators measure different things	D. Only if arithmetic is impossible

Answer C. Low risk weights can improve a risk-weighted ratio without reducing total leverage exposure. The measures complement each other. Tier 2 does not enter the leverage numerator, and different outcomes can be perfectly consistent arithmetic.

23. A new short-term deposit directly solves which problem more plausibly?

A. Automatic creation of CET1	B. Permanent elimination of liquidity risk
C. Removal of all credit RWA	D. Immediate cash availability, not necessarily a CET1 shortage

Answer D. Borrowing can bring cash but generally creates a liability rather than eligible common equity. It does not erase credit exposure or all future funding needs. Remedies should match the distinction between capital and liquidity problems.

24. What is strong evidence of remediation after repeated missing covenant checks?

A. A tested workflow that now obtains and reviews the information	B. Waiting for a loss
C. Deleting the finding	D. Only a new circular

Answer A. Remediation should address the cause and demonstrate changed execution. A circular alone may not alter behaviour, deleting a finding hides it, and waiting for loss sacrifices the opportunity to correct a known control weakness.

25. How should a future-effective rule be taught?

A. As permanently irrelevant	B. As identical to every historical approach
C. With its commencement date distinguished from current treatment	D. As immediately effective on publication without checking

Answer C. Publication and effective dates can differ. A future rule may be important but should not silently replace current treatment. Explicit dating preserves both historical learning and accurate application of the rules governing the case.

B03 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 Banks connect savers, borrowers and payment systems.	**15** Market and operational risk may enter a total RWA calculation through prescribed conversions of capital charges.
02 A useful distinction is between the soundness of an individual institution and stability of the system.	**16** Credit-risk mitigation can change recognised exposure or treatment where eligibility conditions are met.
03 Risk-based regulation links requirements to the nature and magnitude of exposures rather than treating all assets as equally risky.	**17** Market-risk capital concerns relevant trading and market exposures under the applicable approach.
04 The 1988 Basel Capital Accord established an internationally agreed capital framework focused primarily on credit risk.	**18** The capital conservation buffer creates additional loss-absorbing capacity above minima and links depletion to restrictions on distributions.
05 Basel standards are international supervisory standards, not automatically a directly enforceable rule for every Indian bank.	**19** Systemically important institutions can attract additional requirements because their distress would have wider consequences.
06 This chapter uses the retrieved RBI commercial-bank capital directions for a dated rule card and explains other calculations as teaching models.	**20** Suppose a case explicitly requires 9% minimum total capital, 2.5% conservation buffer and a further 1% applicable surcharge.
07 Pillar 1 establishes minimum capital requirements for specified risks using prescribed approaches.	**21** The leverage ratio compares Tier 1 capital with a defined exposure measure rather than risk-weighted assets.
08 Pillar 2 connects the bank's internal assessment with supervisory review.	**22** In the retrieved RBI rule card, the minimum leverage ratio is 4% for domestic systemically important banks and 3.5% for other banks within scope.
09 Pillar 3 uses disclosure to support market discipline.	**23** A bank can pass its risk-weighted ratio and fail leverage, or the reverse.
10 Regulatory capital depends on eligibility, loss absorption and prescribed adjustments.	**24** Risk-based supervision directs attention toward material vulnerabilities, governance and the effectiveness of controls.
11 The retrieved RBI rule card gives minimum CET1 of 5.5%, Tier 1 of 7% and total capital of 9% of risk-weighted assets, with a 2.5% CET1 capital conservation buffer.	**25** Supervisory findings need accountable remediation.
12 Consider supplied eligible capital of INR80 crore CET1, INR15 crore AT1 and INR20 crore Tier 2 against INR1,000 crore RWA.	**26** Risk-based does not mean that small exposures can disregard mandatory rules.
13 Risk-weighted assets transform exposures into a regulatory measure using the applicable methodology.	**27** Assume eligible CET1 of INR72 crore, AT1 of INR18 crore and Tier 2 of INR20 crore.
14 Off-balance-sheet positions may require conversion before risk weighting.	**28** Now suppose a loss of INR9 crore reduces CET1, with no other changes.

B04 Market Risk

Practice / Quick Revision

Identify the variable that can move

Market risk arises when changes in market variables adversely affect the value or earnings of a position. For a bank, relevant variables include interest rates, exchange rates, equity prices, commodity prices and related spreads or volatilities. Begin with the position and its sensitivity. A fixed-rate bond generally loses value when its required yield rises; a long dollar position gains in rupees when the dollar strengthens. These directional relationships are more useful than memorising a risk label without understanding the cash flows.

Consider fictional Meridian Bank holding INR50 crore of fixed-rate bonds and a net long USD1 million position. A rise in domestic yields can hurt the bonds, while an increase in INR per USD benefits the currency position. The combined outcome depends on both movements and position sizes. A report showing only net profit can hide a large loss in one activity offset by an unrelated gain in another. Risk identification should therefore preserve meaningful drivers before aggregating them.

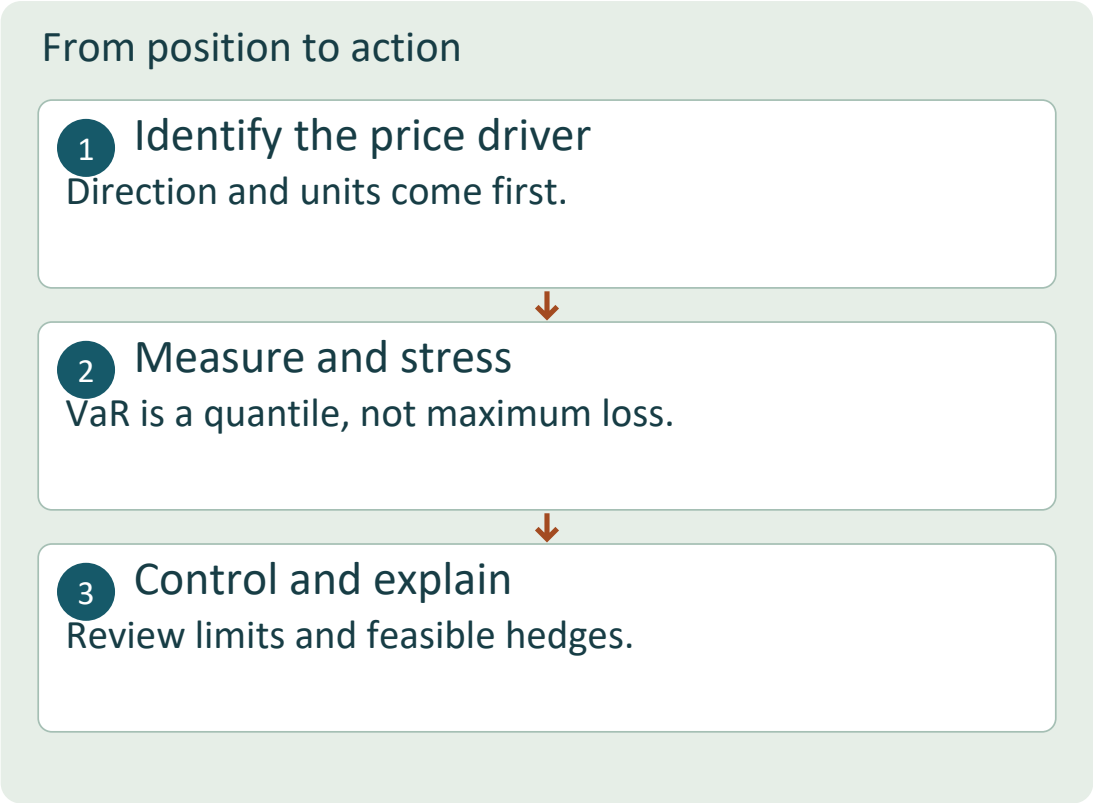
Market risk can exist even when a counterparty performs every contractual obligation. The bond issuer may pay in full while the market value falls. Credit-spread changes can also affect price before default occurs. Management must distinguish price sensitivity, issuer credit quality and settlement obligations while recognising their interaction. A hedge selected for the wrong driver can leave the main exposure untouched. For example, a currency hedge does not eliminate the interest-rate sensitivity of a foreign-currency fixed-rate bond.

Organise the dealing control framework

The board-approved framework should connect permitted activities, risk appetite, limits, valuation and escalation. Senior management needs a clear view of which instruments the bank can understand, price and control. Product approval should precede dealing and consider legal documentation, accounting, settlement, systems, staff skills and stress behaviour. An instrument should not become acceptable merely because a dealer can obtain a market quote. The bank must also be able to verify the quote and manage the exposure after execution.

Front-office staff execute authorised business; independent risk oversight monitors exposures and challenges measurements; settlement and accounting functions confirm and reconcile transactions. The actual organisational labels can vary, but conflicting duties need effective separation. Independent price verification matters because a trader's incentive may conflict with conservative valuation. Reconciliations should detect missing, duplicated or amended trades. A sophisticated VaR model is unreliable if the position file excludes a material contract or uses an incorrect notional amount.

Limits should match the risk. Notional limits constrain size, sensitivity limits constrain response to a specified movement, VaR limits constrain a modelled quantile and stop-loss limits respond to realised or marked losses under defined rules. None is a complete substitute for the others. The framework should specify monitoring frequency, breach authority and required action. A limit increase after a breach should require genuine review, rather than becoming the routine means of avoiding an inconvenient reduction in exposure.



Direction and units come first. VaR is a quantile, not maximum loss. Review limits and feasible hedges.

Measure bond sensitivity with duration

Modified duration approximates the percentage price change of a bond for a small change in yield. The first-order relationship is percentage price change approximately equal to minus modified duration multiplied by the yield change expressed as a decimal. For a bond portfolio worth INR50 crore with modified duration 4, a 0.50 percentage-point yield rise is 0.005 in decimal form. The approximate price change is minus 4 times 0.005, or minus 2%, equivalent to an INR1 crore loss.

One basis point is 0.01 percentage point, or 0.0001 as a decimal yield change. DV01 expresses the approximate monetary value change for one basis point. In the example, DV01 is INR50 crore times 4 times 0.0001, or INR0.02 crore: INR2 lakh. State whether DV01 is reported as a positive magnitude or a signed sensitivity. The calculator reports the magnitude and separately explains the sign of the price change for the supplied yield shock.

Duration is a local approximation. Large changes, non-parallel yield-curve movements and embedded options can make actual results differ materially. Convexity provides a second-order adjustment for suitable instruments, but requires a consistent definition and units. Callable bonds can behave differently as the likelihood of exercise changes. Use duration to understand and compare first-order exposure, then apply appropriate revaluation or scenario methods when the position is nonlinear or the proposed shock is too large for a simple approximation.

Read foreign-exchange exposure correctly

A net long foreign-currency position benefits from appreciation of that currency against the reporting currency, while a short position benefits from depreciation, ignoring other effects. If Meridian is long USD1 million and INR per USD rises from 84 to 85, the simple translation gain is INR1 million, or INR10 lakh. The direction reverses for a short dollar position. Always state the quotation convention because an increase in a reciprocal quote means the opposite economic movement.

Netting assets and liabilities in the same currency can reduce exposure, but dates and contractual conditions still matter. A dollar receivable in six months does not automatically fund a dollar payment tomorrow. A

forward can hedge an exchange-rate movement while introducing counterparty, liquidity or settlement requirements. If the underlying amount or date changes, the hedge may become imperfect. Monitoring should therefore track the underlying exposure alongside the derivative rather than treating a signed hedge contract as permanent proof of protection.

Basis risk arises when the hedge and exposure do not move identically. A proxy currency hedge, a benchmark mismatch or different maturities can leave residual sensitivity. Over-hedging can create a new speculative position. The hedge decision should specify the objective, amount, horizon, permitted instruments and effectiveness monitoring. A favourable derivative result alone is not evidence of success; it should be assessed together with the underlying loss or gain and the costs incurred to maintain the hedge.

Interpret value at risk precisely

Value at risk, or VaR, is a loss quantile for a specified horizon and confidence level under a stated model. A one-day 99% VaR of INR2 crore means that the model assigns approximately 1% probability to a loss exceeding INR2 crore over one day. It is not a maximum possible loss, a promised limit or the expected loss on the worst day. The phrase is incomplete without the confidence level, horizon, portfolio definition and measurement method.

For a simplified zero-mean normal-return model, VaR equals portfolio value multiplied by return volatility multiplied by the normal quantile. With INR100 crore value, daily volatility of 1% and a 99% quantile of approximately 2.32635, one-day VaR is about INR2.32635 crore. Volatility entered as 1% must become 0.01 in the formula. The chapter calculator supports specified confidence choices and reports its assumptions; it does not estimate volatility from prices or claim to implement a regulatory capital model.

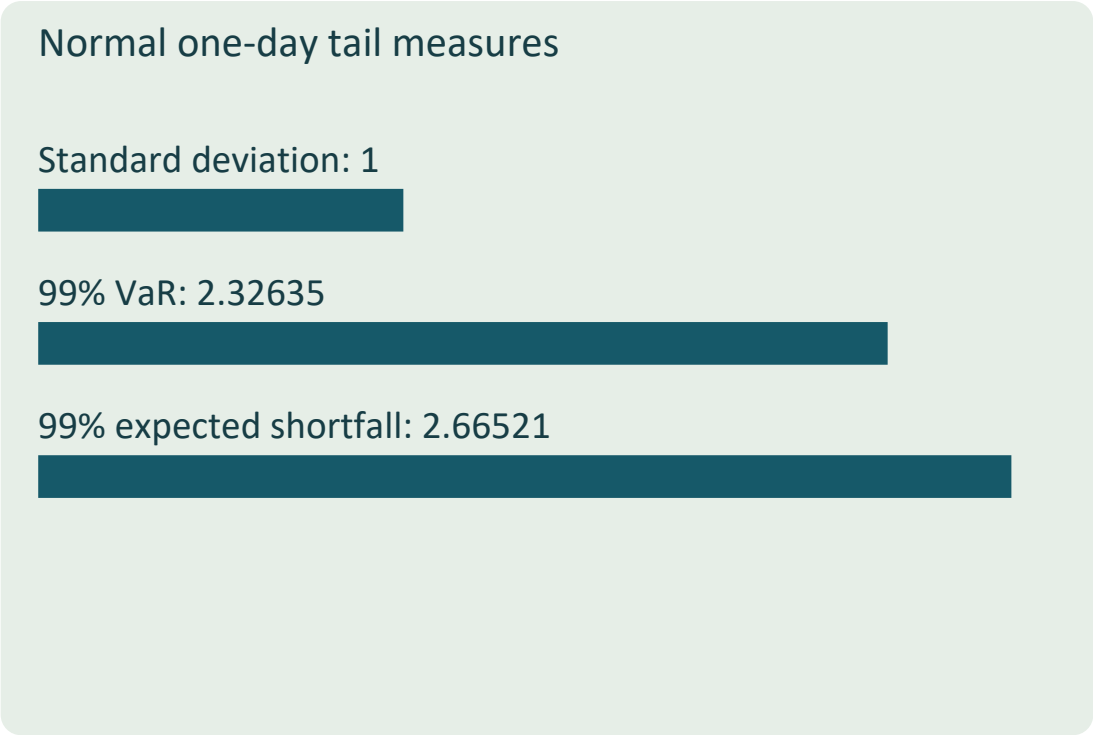
Under independent, identically distributed returns with constant volatility, a multi-day volatility estimate scales by the square root of the number of days. Ten-day VaR in the same model is therefore one-day VaR multiplied by the square root of ten, approximately INR7.3566 crore. Multiplying by ten would be a different assumption. Serial dependence, changing volatility, illiquidity and nonlinear positions can invalidate the square-root shortcut, so the convenience of the formula should not be mistaken for universal accuracy.

Compare VaR methods and expected shortfall

Parametric methods use a specified distribution and estimated parameters. Historical simulation applies observed historical movements to a current portfolio. Monte Carlo simulation generates movements from a model and revalues the positions. Each method depends on choices about data, scenarios, valuation and horizon. Historical simulation is not assumption-free: the chosen history may omit the next crisis. Monte Carlo is not automatically superior: simulating many paths from a poor model can produce a very precise description of the wrong distribution.

Expected shortfall describes the average loss in the selected tail, under an appropriate definition and model. It provides information about losses beyond a quantile that VaR alone does not reveal. In a continuous zero-mean normal model, expected shortfall at confidence c equals value times volatility times the standard-normal density at the quantile divided by one minus c. At 99%, the multiplier is approximately 2.6652, larger than the 2.32635 VaR multiplier for the same one-day inputs.

This distinction matters when two portfolios share the same VaR but have different extreme losses. A portfolio with rare catastrophic outcomes may have a much larger expected shortfall. Neither measure removes model risk or the need for stress testing. This chapter uses expected shortfall as an explanatory internal-risk concept and does not assert that its simple normal calculator is the applicable Indian trading-book capital method. Regulatory approaches require their own scope, definitions, calibration and implementation conditions.



INR crore; value 100, volatility 1%, zero mean. Neither tail measure is maximum loss. [('Standard deviation', 1), ('99% VaR', 2.32635), ('99% expected shortfall', 2.66521)]

Diversification depends on relationships

For two exposures with loss standard deviations s1 and s2, a simplified portfolio standard deviation is the square root of s1 squared plus s2 squared plus twice correlation times s1 times s2. With standard deviations of INR3 crore and INR4 crore, zero correlation produces INR5 crore; perfect positive correlation produces INR7 crore. At perfect negative correlation the result is INR1 crore. This is a variance calculation, not a claim that real-world positions can always be perfectly hedged.

Correlation estimates depend on the observation period and variables selected. Correlations can rise in stress, particularly when investors sell different assets together to obtain cash. A diversification benefit estimated during calm markets may therefore overstate protection in an adverse scenario. Risk reports should show important concentrations and factor sensitivities alongside aggregate VaR. Otherwise a low aggregate number can conceal substantial exposure to one common driver or an unstable offset between positions that may break down when most needed.

Diversification also has operational and legal limits. Positions in different entities may not be freely transferable, and offsetting market sensitivities can still create separate collateral calls or settlement demands. A bank should not net exposures merely because their estimated prices move in opposite directions. Establish the purpose of aggregation and the enforceability of any contractual netting. Economic offset, accounting offset and regulatory recognition are related but distinct concepts, each with its own requirements and practical implications.

Backtesting and stress testing challenge the model

Backtesting compares forecasts with realised outcomes under a defined profit-and-loss measure. A 99% one-day VaR model would, over a sufficiently representative sample, be expected to have exceptions on roughly 1% of observations. That does not mean exactly one exception in every hundred days. Investigate both the number and pattern of exceptions, data quality and differences between actual trading outcomes and the portfolio assumed by the forecast. A model can be misused even when its mathematical implementation is correct.

Stress testing examines specified adverse movements, including events beyond the routine model window. A useful scenario might combine a yield rise, currency depreciation, widening bid-ask spreads and higher collateral demands. Explain why the movements occur together and revalue the positions consistently. Adding unrelated worst observations can produce an incoherent scenario; relying only on recent mild observations can be too optimistic. The aim is a relevant challenge to the portfolio, not merely the largest number obtainable from arbitrary inputs.

Reverse stress testing identifies conditions that would breach a critical loss or capital threshold. It can reveal that a seemingly diversified portfolio depends on one fragile market relationship. Management should then consider exposure reduction, different hedges, additional liquidity or revised limits. Actions must be feasible in the scenario. Assuming that a large position can be sold instantly at yesterday's mid-market price ignores the very liquidity deterioration that may make the stress severe.

Trading liquidity changes achievable value

A quoted price may apply only to a small trade. The bid-ask spread, market depth, concentration and time needed to liquidate determine the cost of reducing a position. Market liquidity can disappear quickly after an issuer problem or broad market disruption. Valuation and liquidity management should therefore distinguish an observed quote from an executable price for the bank's entire holding. A model based on small daily price changes can understate the loss incurred during a forced large sale.

Suppose a portfolio is marked at INR30 crore, but a stressed sale is assumed to require a 4% discount plus INR0.10 crore execution costs. Estimated proceeds are INR28.70 crore, and the reduction from marked value is INR1.30 crore. This is an explicit scenario, not a forecast of an actual market quote. If the same securities are already pledged, they may not be available for immediate sale. Asset availability matters as much as the estimated haircut.

Funding and trading liquidity interact through margin calls and collateral. A hedge that reduces eventual price risk may require cash today when its market value moves adversely. The bank needs resources to maintain the hedge until the underlying benefit is realised. An otherwise sensible hedge can be disrupted if funding assumptions fail. For this reason, treasury and risk teams should review collateral terms, settlement dates and stressed cash demands together with market-value sensitivities.

Design mitigation and reporting around decisions

Market-risk responses include reducing positions, changing maturities, diversifying drivers and using suitable derivatives. Each response has costs and residual risks. A futures hedge can leave basis risk; an option requires a premium and changes sensitivity as prices move; a swap introduces counterparty and collateral considerations. The objective should be explicit: stabilise earnings, protect economic value, cap a loss or support customer business. Without an objective, it is impossible to judge whether the hedge remains appropriate after conditions change.

Reports should show positions, sensitivities, VaR or other approved measures, stress results, realised and unrealised losses, liquidity assumptions and breaches. Explain material daily movements rather than presenting tables alone. A falling VaR could reflect reduced positions, lower measured volatility or a data error; those explanations have different implications. Independent review should challenge unusually favourable results as well as obvious losses. Good risk reporting makes uncertainty visible and supports a timely decision by someone with clear authority.

For revision, solve the market case in order: identify the variable and position direction, establish units, select the appropriate sensitivity or model, calculate the result and explain what is excluded. A VaR number is a quantile, duration is an approximation and a hedge is a conditional relationship. The strongest answer gives both the numerical result and its interpretation. That combination prevents common errors such as calling VaR a maximum loss or treating a long foreign-currency position as harmed by that currency's appreciation.

A dealer's integrated morning review

Imagine that Meridian's morning report shows bond DV01 of INR2 lakh, a long USD1 million position and a one-day VaR of INR2.33 crore. The dealer proposes doubling the bond holding because yesterday's market was quiet. Independent risk should examine the new sensitivity, remaining limit headroom, financing capacity and the effect of a stressed yield movement. Yesterday's quiet return does not establish that doubling today's exposure is prudent. Position size and the reliability of the volatility estimate both matter.

If the holding doubles with duration unchanged, DV01 doubles to INR4 lakh. A 50-basis-point parallel yield rise then implies an approximate INR2 crore price loss. That calculation is a useful first check, but the team should also consider concentration, non-parallel shifts and execution costs. If the dealer plans to hedge with a different maturity, the residual curve exposure should be shown. A nominally equal hedge amount does not necessarily provide an equal and opposite sensitivity.

The decision should record approval, conditions and monitoring. If market depth deteriorates or the hedge basis changes, the plan may need revision before a hard loss limit is reached. This is the practical connection between identification, measurement, control and reporting. The tools below allow you to vary the assumptions and observe the direction and size of the results; the written explanation remains essential because a calculator cannot decide whether the model fits the actual instrument.

Practice with explanations

01. A fixed-rate bond's required yield rises. Its price generally does what?

A. Cannot change without default	B. Equals its coupon rate
C. Falls	D. Always rises

Answer C. Price discounts future cash flows at the required yield, so a higher yield generally lowers value. Default is not necessary. Coupon rate is a contractual percentage, not the bond's market price.

02. A long USD position benefits in rupees when what happens?

A. INR per USD rises	B. The position is ignored
C. INR per USD falls	D. Every settlement fails

Answer A. A higher rupee price per dollar increases the rupee value of a long dollar position. A fall has the opposite effect. Ignoring records and settlement failure are control or counterparty issues, not favourable exchange-rate movements.

03. Why should product approval precede trading?

A. Approval guarantees profit	B. The bank must be able to value, settle and control the instrument
C. Only marketing needs review	D. A quote proves all controls exist

Answer B. Market access does not establish valuation, legal or operational capability. Prior approval tests those dependencies. It cannot guarantee profit, and restricting review to marketing would omit the mechanisms that create and manage exposure.

04. Independent price verification primarily addresses what?

A. Reliability and possible bias in valuations	B. Replacement of every limit
C. Removal of settlement obligations	D. A guarantee of rising prices

Answer A. Independent evidence challenges valuations and conflicts of interest. It does not control market direction or cancel contractual settlement. Limits and other controls remain necessary alongside a reliable marked value.

05. Value is 50 crore, modified duration 4 and yield rises 0.5 percentage point. Approximate change is?

A. Plus INR1 crore	B. Zero
C. Minus INR10 crore	D. Minus INR1 crore

Answer D. Use minus value times duration times decimal yield change: -50×4×0.005 = -1 crore. A positive sign reverses the relationship, ten uses an incorrect scale, and zero ignores the bond's sensitivity.

06. One basis point equals which decimal yield change?

A. 0.0001	B. 1
C. 0.01	D. 0.1

Answer A. A basis point is 0.01 percentage point, which is 0.0001 in decimal form. Confusing percentages and decimals makes duration and DV01 results one hundred or more times too large.

07. Value 50 crore and duration 4 give DV01 magnitude of what?

A. INR0.2 crore	B. INR2 crore
C. INR0.02 crore	D. INR20 crore

Answer C. DV01 is 50×4×0.0001 = 0.02 crore, or two lakh. The alternatives reflect unit errors. DV01 magnitude is positive by convention here; the direction of price change is stated separately.

08. When is simple duration least reliable?

A. Only when values use crore	B. For large shocks or nonlinear optional instruments
C. Whenever the result is negative	D. For every small parallel shock by definition

Answer B. Duration is a local first-order approximation. Large movements, curve shifts and options can require fuller revaluation. Units can be handled consistently, and a negative price change after a yield rise is expected rather than evidence of failure.

09. Long USD1 million appreciates from INR84 to INR85 per USD. Gain is?

A. INR10 lakh	B. INR1 crore
C. Minus INR10 lakh	D. INR1 lakh

Answer A. The change is one rupee per dollar times one million dollars = one million rupees, or ten lakh. Other magnitudes misconvert units, while the negative sign would fit a short rather than long position.

10. Equal hedge and exposure notionals guarantee what?

A. No counterparty risk	B. No automatic perfect offset
C. Identical maturity	D. Complete elimination of every risk

Answer B. Notional equality alone does not establish matching sensitivity, dates, benchmarks or contractual performance. A hedge can leave basis, timing and counterparty exposure, so effectiveness must be assessed against the actual underlying risk.

11. A one-day 99% VaR is best interpreted as what?

A. The maximum possible loss	B. A modelled loss threshold exceeded with about 1% probability
C. The average loss on every day	D. A guaranteed stop-loss execution price

Answer B. VaR is a quantile under stated assumptions. It does not describe the largest possible loss, daily mean or executable market price. Confidence, horizon, portfolio and method are necessary to interpret the number.

12. Value 100 crore, daily volatility 1% and z=2.32635 give normal one-day VaR of what?

A. INR0.0232635 crore	B. INR232.635 crore
C. INR2.32635 crore	D. INR1 crore

Answer C. Convert 1% to 0.01 and multiply 100×0.01×2.32635. The larger and smaller alternatives mis-scale volatility; one crore is one standard deviation and omits the selected confidence multiplier.

13. Under the stated independent-return assumption, ten-day VaR scales by what?

A. Ten in every model	B. Zero
C. One tenth	D. Square root of ten

Answer D. Variance adds under the specified assumptions, so standard deviation and VaR scale with the square root of time. Linear scaling, division and zero do not follow. Dependence or changing volatility can invalidate the shortcut.

14. Historical simulation still assumes what?

A. History contains every future crisis	B. No valuation model is needed
C. Past returns guarantee future outcomes	D. The selected history is informative for the current risk

Answer D. Choosing a historical window and applying its shocks to current positions involves assumptions. History may omit relevant events, revaluation remains necessary, and observed returns do not guarantee future outcomes or tail behaviour.

15. Monte Carlo output can be misleading when?

A. The output is documented	B. The random generator is tested
C. The number of paths is large	D. The simulated model is unsuitable

Answer D. More paths reduce simulation noise around the chosen model but do not repair conceptual error. Documentation and generator testing support quality. A highly precise estimate can still describe an inappropriate distribution or exposure mapping.

16. Expected shortfall adds information about what?

A. Only the median profit	B. Average loss in the selected tail
C. The maximum contractual coupon	D. The number of dealers

Answer B. Expected shortfall describes tail severity under its definition. It is not median profit, coupon or staffing. Two portfolios with the same VaR can have different losses beyond that threshold and therefore different expected shortfalls.

17. In the same continuous normal model, 99% expected shortfall is usually how related to 99% VaR?

A. Larger	B. Always zero
C. Identical by definition	D. Unrelated to volatility

Answer A. The tail average exceeds the threshold separating that tail in the continuous normal model. Both depend on volatility, but use different multipliers. Zero and equality do not follow from the definitions for a positive-volatility exposure.

18. Standard deviations 3 and 4 crore with correlation zero produce what?

A. Zero	B. INR5 crore portfolio standard deviation
C. INR25 crore standard deviation	D. INR7 crore

Answer B. The square root of 9+16 is 5. Seven assumes perfect positive correlation, twenty-five is variance, and zero would require a different offsetting configuration. The stated calculation is a simplified variance model.

19. Why stress correlation assumptions?

A. Relationships may change when markets become stressed	B. Correlation is always constant
C. Diversification removes all liquidity needs	D. Zero historical correlation guarantees no joint loss

Answer A. Historical relationships can become less favourable during common selling pressure. Zero estimated correlation does not prevent joint losses, and offsetting market values can still create separate cash demands. Stress analysis challenges those dependencies.

20. Backtesting compares what?

A. Expected profit with staff attendance	B. Only two report designs
C. Forecast risk measures with defined realised outcomes	D. A model with its own unchanged formula only

Answer C. Backtesting examines outcomes against forecasts using a defined profit-and-loss measure. Repeating the formula checks implementation at most, not predictive performance. Formatting and attendance do not test whether the risk forecast matches realised behaviour.

21. Does 99% VaR require exactly one exception every hundred days?

A. Exactly ninety-nine losses must occur	B. No, realised counts vary
C. No exceptions are ever allowed	D. Yes, with mathematical certainty

Answer B. The 1% exceedance probability implies a long-run expectation under the model, not a fixed count in every sample. Exceptions can cluster or vary, and VaR confidence does not specify the total number of ordinary losing days.

22. Marked value is 30 crore, stressed discount 4% and costs 0.10 crore. Proceeds are?

A. INR1.30 crore	B. INR28.80 crore
C. INR28.70 crore	D. INR31.30 crore

Answer C. Discounted value is 30×0.96 = 28.8 crore; deduct 0.1 to get 28.7. The 1.3 figure is the reduction from mark, not proceeds. Adding costs or omitting them gives the other errors.

23. Why can a price hedge create liquidity demands?

A. All benefits settle first	B. Adverse derivative value can trigger collateral before underlying benefits arrive
C. Hedges never involve cash	D. Counterparties waive every margin requirement

Answer B. Cash-flow timing differs from eventual economic offset. Margin or settlement demands may arrive before the underlying gain is realised. A hedge therefore needs funding analysis as well as sensitivity analysis; its existence does not guarantee cash availability.

24. A falling VaR should prompt which interpretation?

A. Always assume safer controls	B. Always assume fraud
C. Check whether positions, volatility or data changed	D. Stop all stress testing

Answer C. VaR can fall for several reasons, including lower measured volatility or missing data. Investigating drivers is better than automatic reassurance or accusation. Stress tests remain useful because a lower modelled quantile does not eliminate adverse scenarios.

25. Bond value doubles with duration unchanged. DV01 does what?

A. Becomes zero	B. Halves
C. Doubles	D. Remains unchanged

Answer C. DV01 is proportional to value when duration is fixed. Doubling the position doubles first-order sensitivity. Halving, no change or zero would require different assumptions about duration, offsetting positions or the exposure itself.

B04 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 Market risk arises when changes in market variables adversely affect the value or earnings of a position.	**15** Expected shortfall describes the average loss in the selected tail, under an appropriate definition and model.
02 Consider fictional Meridian Bank holding INR50 crore of fixed-rate bonds and a net long USD1 million position.	**16** This distinction matters when two portfolios share the same VaR but have different extreme losses.
03 Market risk can exist even when a counterparty performs every contractual obligation.	**17** Correlation estimates depend on the observation period and variables selected.
04 The board-approved framework should connect permitted activities, risk appetite, limits, valuation and escalation.	**18** Diversification also has operational and legal limits.
05 Limits should match the risk.	**19** Backtesting compares forecasts with realised outcomes under a defined profit-and-loss measure.
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07 One basis point is 0.01 percentage point, or 0.0001 as a decimal yield change.	**21** Reverse stress testing identifies conditions that would breach a critical loss or capital threshold.
08 Duration is a local approximation.	**22** A quoted price may apply only to a small trade.
09 Netting assets and liabilities in the same currency can reduce exposure, but dates and contractual conditions still matter.	**23** Suppose a portfolio is marked at INR30 crore, but a stressed sale is assumed to require a 4% discount plus INR0.10 crore execution costs.
10 Basis risk arises when the hedge and exposure do not move identically.	**24** Funding and trading liquidity interact through margin calls and collateral.
11 Value at risk, or VaR, is a loss quantile for a specified horizon and confidence level under a stated model.	**25** Market-risk responses include reducing positions, changing maturities, diversifying drivers and using suitable derivatives.
12 For a simplified zero-mean normal-return model, VaR equals portfolio value multiplied by return volatility multiplied by the normal quantile.	**26** Reports should show positions, sensitivities, VaR or other approved measures, stress results, realised and unrealised losses, liquidity assumptions and breaches.
13 Under independent, identically distributed returns with constant volatility, a multi-day volatility estimate scales by the square root of the number of days.	**27** Imagine that Meridian's morning report shows bond DV01 of INR2 lakh, a long USD1 million position and a one-day VaR of INR2.33 crore.
14 Parametric methods use a specified distribution and estimated parameters.	**28** If the holding doubles with duration unchanged, DV01 doubles to INR4 lakh.

B05 Credit Risk

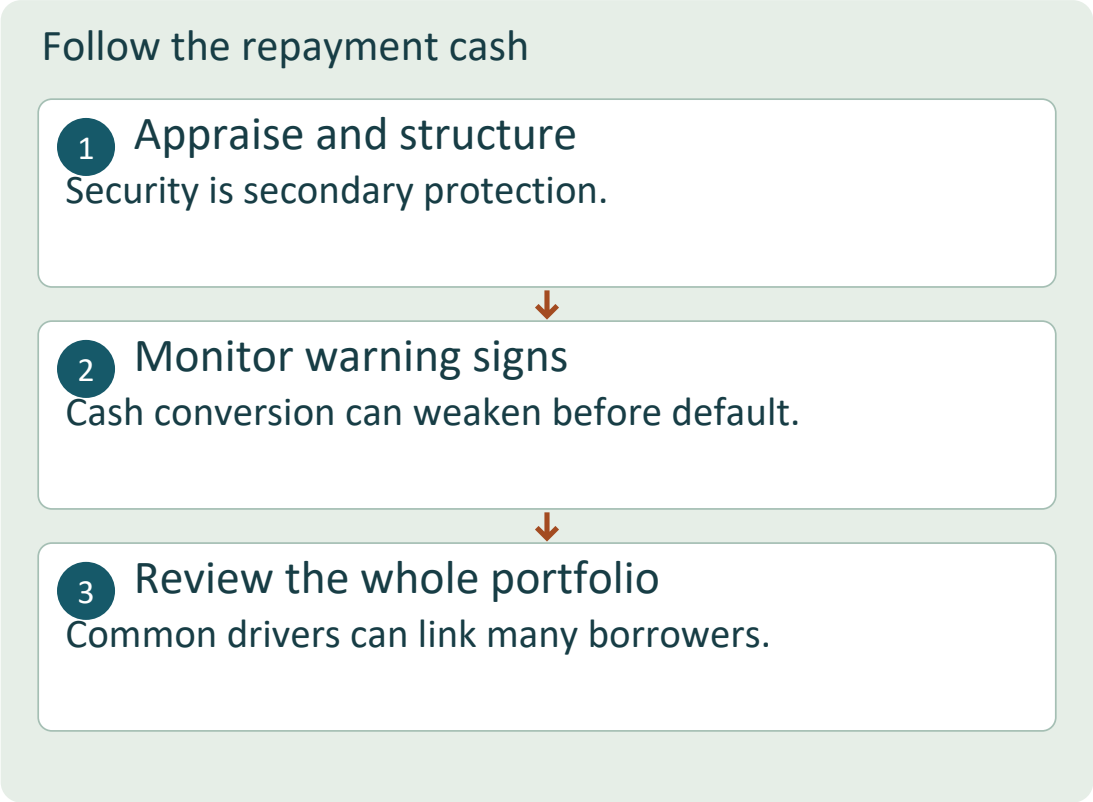
Practice / Quick Revision

Follow the source of repayment

Credit risk concerns the possibility that a borrower or counterparty will not meet its obligations, or that deterioration in credit quality will adversely affect the bank. The starting point is the source of repayment. A lender should understand how the borrower generates cash, when that cash becomes available and what can interrupt it. A strong collateral description does not replace this analysis. Security is a secondary protection whose realisation may be delayed, costly or uncertain precisely when repayment fails.

Take fictional Aster Components, which seeks INR10 crore to expand production. It supplies three manufacturers, imports a critical input and expects customer collections after ninety days. Its profit forecast appears attractive, but cash could be strained by delayed receivables or exchange-rate movements. The credit officer should connect sales, margins, working capital, capital expenditure and debt service. A forecast that shows accounting profit while ignoring cash tied up in inventory can substantially overstate the borrower's ability to repay on schedule.

Credit exposure extends beyond loans. Guarantees, undrawn commitments, interbank placements, securities and derivatives can create counterparty obligations. A complete view aggregates relevant exposures to the borrower and connected group rather than examining each product independently. It should also identify currency, maturity, collateral and legal-entity differences. Several apparently modest facilities can together exceed a prudent group exposure or create a concentrated cash demand when the same adverse event triggers them simultaneously.



Security is secondary protection. Cash conversion can weaken before default. Common drivers can link many borrowers.

Establish governance and a credit policy

A credit policy translates appetite into eligible customers, products, underwriting standards, limits and approval authorities. It should explain prohibited activities, exceptions, documentation, monitoring and escalation. Senior management implements the policy; business teams originate and manage exposures; independent risk provides challenge; and assurance functions assess whether the framework works. The precise committee structure varies, but responsibility must remain clear. A large committee does not improve control if members cannot identify who owns a condition or has authority to stop disbursement.

Approval independence is particularly important where volume targets are strong. The originator's commercial knowledge is valuable, but it should be challenged using reliable financial and non-financial evidence. Related-party issues, conflicts and connected exposures require appropriate treatment. Exceptions should be recorded with reasons, authority, conditions and expiry. Repeated exceptions in the same area may indicate that the policy is unrealistic or that management is permitting an uncontrolled departure from appetite. Either explanation deserves review rather than routine renewal.

The framework should cover the full credit life cycle: origination, appraisal, sanction, documentation, disbursement, monitoring, review, remedial management and recovery. A good initial decision can deteriorate if subsequent drawings ignore conditions or warning signs. Equally, a review performed after a default cannot undo a missing security perfection step. Each stage should have evidence, ownership and a way to prevent the next step when a material requirement remains incomplete.

Appraise the transaction and the borrower

Appraisal examines business viability, management capability, financial position, repayment capacity and transaction structure. Ratios provide clues, but their meaning depends on accounting quality and business context. A rising receivable balance may reflect growth, weak collection or disputed sales. Verify the cause before treating it as a healthy current asset. Compare financial statements with cash flows, account conduct, customer concentration and available external evidence. A beautifully formatted projection is not stronger evidence merely because it contains more decimal places.

Debt-service coverage compares a defined cash amount available for debt service with a defined debt-service obligation. Suppose the case supplies INR3 crore available and INR2 crore principal plus interest due. The illustrative coverage is 1.5 times. This calculation does not establish a universal acceptable threshold; definitions and policy requirements vary. Stress the cash generation and timing as well as the ratio. Annual coverage can conceal a payment due before the year's cash is received.

Structure can reduce risk by matching tenor to purpose, aligning repayments with cash generation and setting suitable covenants or drawing conditions. A long-lived asset should not depend entirely on repeatedly renewed short-term funding without a credible plan. Working-capital finance should be linked to the operating cycle and eligible assets. Conditions need enforceable language and practical monitoring. A covenant that is neither measured nor acted upon adds little protection, even if it appears impressive in the sanction letter.

Understand PD, LGD and EAD

Probability of default, or PD, estimates the likelihood of default over a specified horizon. Loss given default, or LGD, estimates the proportion of exposure lost conditional on default. Exposure at default, or EAD, estimates the amount outstanding when default occurs. A simple expected-loss model multiplies PD, LGD and EAD. These inputs must refer to compatible definitions and horizons. A lifetime PD should not be inserted into a one-year calculation without explaining the resulting change in meaning.

For EAD of INR10 crore, one-year PD of 2% and LGD of 40%, expected loss is 0.02 times 0.40 times 10, or INR0.08 crore: INR8 lakh. If PD rises to 4% with the other inputs unchanged, expected loss doubles to INR16 lakh. This is an average across comparable possibilities, not a forecast that the individual borrower will lose

exactly INR8 lakh. The realised outcome may be no default or a much larger conditional loss.

LGD differs from the probability of default. Better collateral may reduce loss severity without making the borrower more likely to pay. EAD can exceed today's drawn balance if commitments are drawn before default. Recovery timing, costs and collateral value can affect economic loss. The chapter's simple calculator omits discounting and accounting-specific adjustments, and therefore should not be described as a complete expected-credit-loss provisioning engine. Its purpose is to show the relationship between the three inputs transparently.

Ratings and models need validation

An internal rating translates credit information into an ordered assessment of risk. A borrower rating may focus on default likelihood, while a facility assessment may also reflect collateral and structure. Do not confuse the two. A strong facility recovery prospect does not necessarily imply a strong borrower. Rating systems require consistent criteria, reliable data, independent review and controlled overrides. An override should explain why the model output is unsuitable, rather than merely replace an inconvenient grade with a more profitable one.

Migration describes movement between rating grades over time. Deterioration can signal increased risk before a payment becomes overdue. Transition information helps portfolio analysis, but historical frequencies may not remain stable through a downturn. Validation should examine discrimination, calibration and stability: does the model rank borrowers meaningfully, do predicted probabilities match observed experience, and does performance change across segments or periods? A model can rank borrowers well while systematically understating the level of default probability.

Data limitations matter, especially for low-default portfolios or new products. External information can support analysis but must be relevant to the bank's definitions and customers. Judgement should be documented rather than disguised as a statistically precise estimate. Model governance covers development, approval, changes, implementation and ongoing monitoring. If a system change alters data fields or treatment of missing values, the bank should check whether apparently improved ratings reflect genuine borrower improvement or simply a technical change.

Monitor accounts before losses become obvious

Account monitoring combines repayment conduct, financial updates, covenant compliance and business developments. Warning signs can include stretched receivables, unusual account turnover, repeated excess drawings, delayed information, management departures or concentration in one troubled customer. No single indicator proves default, but combinations deserve investigation. Monitoring should establish cause and action rather than generate unexplained alerts. A system that produces thousands of alerts without ownership can create the appearance of control while important cases remain unresolved.

For Aster Components, suppose sales rise by 15% but receivables rise by 60% and operating cash flow turns negative. The bank should ask whether collection periods lengthened, invoices are disputed or revenue recognition changed. Simply increasing the limit to finance the larger receivable balance could deepen exposure to a deteriorating borrower. A proportionate response might include updated ageing, customer verification, revised projections, tighter drawing conditions and escalation under policy. The facts determine the response, not the growth headline alone.

Periodic review should reassess the whole relationship, including undrawn commitments, guarantees and connected parties. It should confirm documentation and security status as well as commercial prospects. Early remedial action may preserve value through realistic restructuring, additional protection or an orderly reduction, subject to applicable requirements. Delaying recognition to avoid an uncomfortable classification can make recovery harder. Monitoring quality should be judged partly by whether it leads to timely decisions, not merely by whether review dates were entered in a system.

Manage the portfolio as well as individual loans

A portfolio can be vulnerable even when each loan appears acceptable on its own. Common sector, geography, customer, commodity or collateral dependencies can cause simultaneous deterioration. Concentration limits should therefore reflect connected economic drivers. A bank with many small loans to suppliers of one large factory may be highly dependent on that factory. Counting borrower names would overstate diversification. The portfolio view should reveal both direct counterparties and indirect dependence on common sources of cash generation.

A simple concentration measure is the Herfindahl index: sum the squared portfolio shares. For four equal exposures, each share is 0.25 and the index is 0.25. For shares of 70%, 10%, 10% and 10%, the index is 0.52. A larger value indicates more concentration under this particular measure. It does not measure credit quality or all common-factor dependence. A perfectly equal portfolio can still be concentrated in one sector, so the index complements rather than replaces economic analysis.

Portfolio reporting should include exposure, quality migration, arrears, losses, limits, concentrations and stress outcomes. Expected losses add across exposures, but unexpected losses depend on joint behaviour. Stress should examine correlated defaults and falling recoveries, especially when collateral values depend on the same sector as the borrowers. Assuming independent defaults and unchanged collateral values during a sector crisis can materially understate risk. Explain the common scenario before adding individual losses or claiming a diversification benefit.

Loan review provides independent challenge

The loan review mechanism examines whether underwriting, grading, documentation and monitoring are reliable and consistent with policy. It can identify weaknesses before they appear in realised losses. Review selection should consider materiality and risk, including large accounts, deteriorating grades, exceptions and unusual growth. Independence from origination supports credible challenge. Reviewing only files chosen by the originating team can miss precisely the cases where independent attention is most needed.

Findings should distinguish individual errors from systemic weaknesses. A missing financial statement may be a single lapse; repeated missing statements across branches may indicate an ineffective workflow or unrealistic staffing. Correct the immediate file and the underlying process. Assign an owner, due date and verification method. A revised circular is not sufficient evidence that staff now obtain, analyse and act on the required information. Follow-up should test actual execution using an appropriate sample.

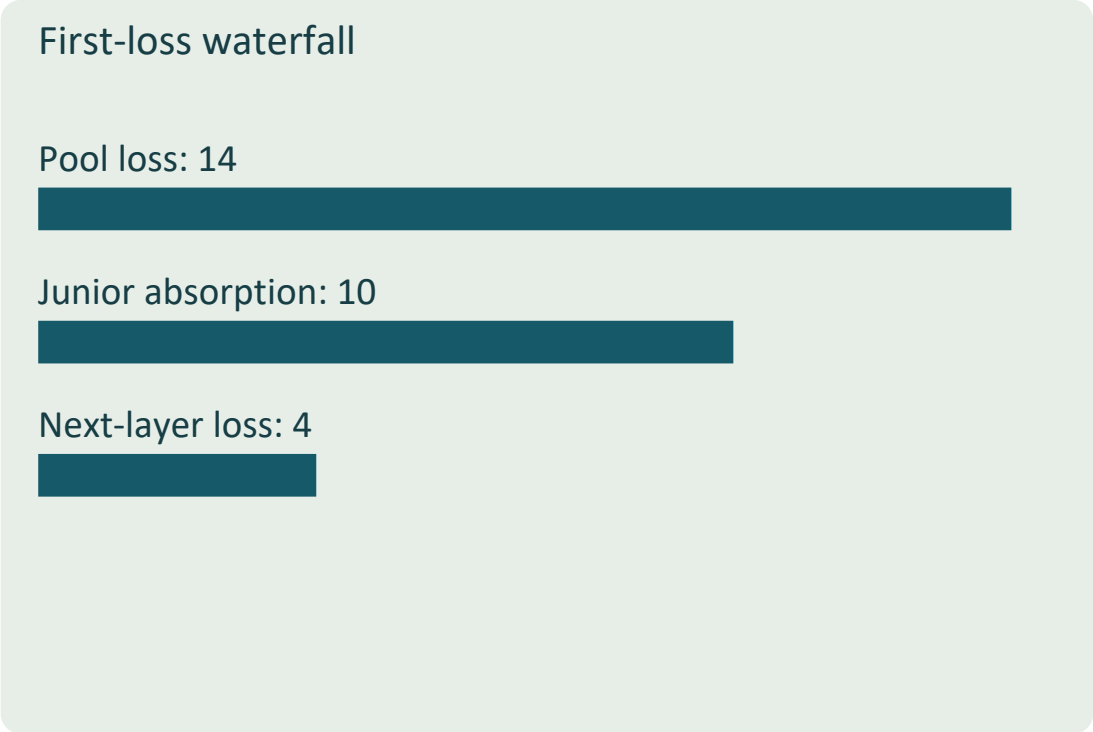
Loan review also challenges ratings and assumptions. If an account remains in a strong grade despite persistent cash-flow deterioration, the reviewer should examine the rationale and any override. The objective is a reliable view of credit quality, not criticism for its own sake. Findings should inform training, model changes, policy revisions and portfolio limits. This feedback loop links transaction-level experience to the bank's broader risk framework and improves future lending decisions.

Mitigation changes the loss mechanism

Collateral, guarantees, covenants, netting and insurance can reduce particular dimensions of credit risk. Their effectiveness depends on enforceability, value, coverage and timing. A guarantee substitutes exposure to a protection provider only to the extent that the protection is valid and effective. If the guarantor is financially dependent on the same borrower, protection can weaken at the same time as the original exposure. This is an example of adverse dependence that a simple collateral coverage ratio may fail to reveal.

Haircuts recognise that collateral value can fall or be costly to realise. Suppose eligible collateral is valued at INR8 crore and an illustrative 25% haircut is applied. The adjusted value is INR6 crore. Against INR10 crore exposure, the simple uncovered amount is INR4 crore before other considerations. This arithmetic does not determine regulatory recognition, legal priority or actual recovery. Currency mismatch, senior claims, enforcement delays and sale costs may require additional analysis beyond the stated haircut.

Mitigation should never encourage weaker underwriting. A lender still needs a credible primary repayment source and ongoing monitoring. Excessive reliance on collateral can create correlated losses when many lenders sell similar assets during a downturn. Protection can also create operational obligations, such as keeping insurance valid or meeting guarantee claim conditions. The bank should track these conditions throughout the exposure's life. A protection contract that lapses unnoticed may leave much more residual risk than the sanction originally assumed.



INR crore; sequential loss allocation with 10 crore first-loss capacity. [('Pool loss', 14), ('Junior absorption', 10), ('Next-layer loss', 4)]

Securitisation and credit derivatives

Securitisation pools exposures and structures claims on their cash flows, often through a separate vehicle and different tranches. A junior tranche absorbs losses before a senior tranche under the transaction's waterfall. This changes how risk is distributed; it does not make the underlying borrowers safer. The bank must understand retained exposures, servicing obligations, representations, liquidity support and other contractual links. A legal sale and regulatory capital recognition involve conditions that cannot be inferred solely from the transaction's commercial label.

For an illustrative INR100 crore pool with an INR10 crore first-loss tranche, a pool loss of INR6 crore is absorbed by that tranche, leaving INR4 crore of its capacity. A pool loss of INR14 crore exhausts the first-loss tranche and passes INR4 crore to the next layer under the assumed waterfall. Real structures can contain more complex priorities and triggers. The teaching example isolates subordination so that students can see why seniority reduces but does not eliminate exposure to sufficiently large losses.

A credit derivative can transfer specified credit-event risk through a contract. In a simplified credit default swap, the protection buyer pays a premium and the seller provides the agreed response to a defined credit event. The buyer retains risks involving counterparty performance, basis, documentation and settlement. A CDS is not automatically identical to owning a risk-free asset. The effectiveness of the protection depends on matching the reference obligation, event definitions, maturity and actual exposure, together with applicable legal and regulatory requirements.

Make active portfolio decisions responsibly

Active credit portfolio management can use origination choices, limits, loan sales, syndication, securitisation or eligible protection to shape exposure and return. The objective is a portfolio consistent with appetite, capital and funding capacity. A sale may reduce one concentration but involve a realised loss or continuing obligation. A new hedge can introduce a concentrated protection-provider exposure. Decisions should compare the full economic effect rather than treating a reduction in one reported risk measure as sufficient evidence of improvement.

Return to Aster Components. Assume expected loss is INR8 lakh, allocated capital is INR1.5 crore and the relationship contributes INR24 lakh after funding and operating costs but before expected loss. Risk-adjusted contribution is INR16 lakh and illustrative RAROC is about 10.67%. A decision should consider whether pricing, structure or exposure size can improve the economics within policy. Raising the rate alone may worsen repayment capacity, so the bank should not assume that every risky borrower becomes attractive at a sufficiently high coupon.

For revision, connect the whole chain: identify repayment and exposure, assess borrower and facility, estimate risk with consistent definitions, structure and approve, monitor warning signs, review independently and manage portfolio concentrations. Then evaluate mitigation and transfer tools for their actual effect and residual risks. The calculators explain expected loss, coverage, concentration and tranche absorption, but none can replace the missing commercial facts in an appraisal. Good credit judgement combines disciplined arithmetic with evidence about how the borrower will generate and deliver cash.

Worked case | Collateral with a shorter maturity

Assume eligible A+ debt collateral of ₹30 lakh against a ₹100 lakh exposure, a 6% collateral haircut, no currency mismatch and no exposure haircut. The collateral has two years left and the exposure has three.

Step	Calculation in lakh rupees
Apply the haircut	30 × (1 − 0.06) = 28.20.
Adjust for maturity mismatch	T = min(5, 3) = 3. t = min(T, 2) = 2. Adjusted protection = 28.20 × (2 − 0.25) ÷ (3 − 0.25) = 17.94545, about 17.95.
Find the residual exposure	max(0, 100 − 17.94545) = 82.05455, or 82.05. Apply the relevant risk weight separately when calculating risk-weighted assets.

RBI commercial-bank capital adequacy directions

Practice with explanations

01. What is the primary starting point in credit appraisal?

A. The borrower's source and timing of repayment cash	B. Only the loan application length
C. Only the offered coupon	D. Only collateral photographs

Answer A. Repayment depends on cash generation and timing. Collateral is secondary protection, a coupon does not establish ability to pay, and document length is not evidence of business viability or reliable financial information.

02. Profit rises but cash is trapped in receivables. What deserves investigation?

A. Collection quality and working-capital needs	B. Automatic limit expansion
C. Only the profit headline	D. Immediate assumption of fraud

Answer A. Receivables can reflect growth, delay or disputed sales. Investigate the cause and cash implications. Profit alone is insufficient, automatic expansion can deepen exposure, and the facts warrant analysis rather than an unsupported fraud conclusion.

03. Why aggregate loans, guarantees and derivatives for connected borrowers?

A. Different products can draw on common repayment resources	B. Only funded loans create risk
C. Each product eliminates the others	D. Group links never matter

Answer A. Connected exposures can depend on the same cash source and deteriorate together. Product labels do not create independence, contingent positions can become payable, and group relationships are relevant to meaningful limits and concentration analysis.

04. A controlled credit exception needs what?

A. Automatic approval by the originator alone	B. Authorised rationale, conditions and expiry
C. Permanent removal of monitoring	D. An undocumented promise

Answer B. Exceptions require accountability and boundaries. Undocumented promises weaken evidence, permanent monitoring removal undermines control, and approval authority should follow policy rather than default to the commercially interested originator.

05. Cash available is 3 crore and debt service 2 crore. Coverage is?

A. 1.5 times	B. 5 times
C. 0.67 times	D. 3 times

Answer A. Divide available cash by the supplied debt service: 3/2=1.5. The reciprocal answers a different question, three ignores the denominator, and five adds amounts instead of measuring coverage. Definitions must remain consistent.

06. Why can annual debt-service coverage conceal difficulty?

A. A payment may fall due before cash arrives	B. Annual totals guarantee daily liquidity
C. Principal never matters	D. All cash receipts are certain

Answer A. Timing can create a shortfall despite adequate annual totals. Principal is part of the supplied debt-service definition, and receipts may be uncertain. Coverage should therefore be complemented by a dated cash-flow assessment.

07. PD represents what?

A. Default probability over a specified horizon	B. Loss proportion conditional on default
C. The collateral haircut alone	D. Exposure at default

Answer A. PD concerns likelihood over a horizon. LGD concerns conditional severity, EAD concerns the amount exposed, and a haircut adjusts collateral value. Confusing these inputs changes both the meaning and scale of expected-loss calculations.

08. EAD 10 crore, PD 2% and LGD 40% imply expected loss of what?

A. INR2 crore	B. INR8 lakh
C. INR80 lakh	D. INR4 crore

Answer B. Multiply 10×0.02×0.40 = 0.08 crore, or eight lakh. Four crore is conditional loss at the stated EAD and LGD; the other choices misapply percentages or omit an input.

09. If PD doubles and EAD and LGD stay fixed, expected loss does what?

A. Becomes the full EAD	B. Stays unchanged
C. Halves	D. Doubles

Answer D. Expected loss is linear in PD in the stated product model. Holding other inputs fixed makes doubling direct. Neither inverse movement nor full exposure follows, and unchanged loss would ignore the changed default likelihood.

10. Collateral most directly affects which simple-model input?

A. PD must become zero	B. LGD
C. The number of calendar days automatically	D. EAD must become zero

Answer B. Recoverable collateral can reduce conditional loss severity. It does not automatically prevent default or remove the outstanding exposure. Timing and enforceability still matter, and collateral should not be treated as a universal zero-risk switch.

11. Why can EAD exceed today's drawn balance?

A. PD is measured in rupees	B. Principal always shrinks before default
C. Undrawn lines are legally impossible	D. The borrower may draw a commitment before default

Answer D. Potential drawings can increase the amount outstanding at default. Current balance alone can understate exposure. PD is a probability, and commitments are real contingent facilities whose terms and likely utilisation require assessment.

12. A borrower rating and facility assessment can differ because?

A. Facilities never have different terms	B. Collateral proves perfect borrower quality
C. They must always be identical	D. Collateral and structure affect facility loss characteristics

Answer D. Borrower default likelihood and facility recovery characteristics are distinct. Security can improve recovery without fixing the business's cash generation. Different terms and priorities can therefore justify different facility assessments for the same borrower.

13. Rating migration is what?

A. Movement between credit grades over time	B. Automatic loan repayment
C. Only changing a branch address	D. Elimination of model risk

Answer A. Migration tracks changing assessed credit quality and can precede arrears. Address changes and repayment are different events, while a rating system still requires validation, data controls and judgement even when migrations are recorded.

14. A model ranks borrowers well but understates all default probabilities. What needs attention?

A. Only alphabetical sorting	B. Calibration
C. Only report colours	D. Nothing because ranking is enough

Answer B. Discrimination and calibration are different. Good ranking does not establish accurate probability levels. Underestimated PD can distort pricing and capital decisions, so validation must assess outcomes as well as relative ordering.

15. Receivables rise 60% while sales rise 15%. Best next step?

A. Automatically increase the limit	B. Investigate ageing, disputes and cash conversion
C. Ignore the divergence	D. Assume all receivables are cash

Answer B. The divergence can indicate collection weakness or other issues and needs evidence. Automatic funding can compound deterioration, receivables are not immediate cash, and ignoring the trend loses an opportunity for early intervention.

16. A portfolio has many borrowers dependent on one commodity. What remains?

A. Common-factor concentration	B. Only operational risk
C. Guaranteed independent defaults	D. No need for stress testing

Answer A. Names can differ while repayment depends on the same price driver. Defaults and recoveries may move together, so stress testing remains important. The exposure is not limited to operational events merely because the borrowers are numerous.

17. Four equal portfolio shares give a Herfindahl index of what?

A. 0.0625	B. 1
C. 0.25	D. 4

Answer C. Each share is 0.25; summing four squared shares gives 4×0.0625=0.25. The last option is one component, while one and four do not represent this equal-share sum under the stated convention.

18. Shares 70%, 10%, 10%, 10% produce what index?

A. 0.70	B. 0.25
C. 1.00	D. 0.52

Answer D. Square and sum decimal shares: 0.49+0.01+0.01+0.01=0.52. The largest share alone is not the index, equal-share concentration is different, and one would indicate a single full-share exposure.

19. What does a low name-concentration index fail to prove?

A. That the portfolio has more than one name	B. That sector and economic-driver concentration are low
C. That shares were used	D. That an arithmetic result exists

Answer B. A name-based index cannot detect every shared economic dependency. Equal exposures can all rely on one sector or region. It is a useful measure with a defined scope, not a complete diversification certificate.

20. The loan review mechanism should provide what?

A. Automatic approval of every renewal	B. A substitute for all daily controls
C. Independent challenge to underwriting, ratings and monitoring	D. Only sales promotion

Answer C. Independent review tests reliability and identifies weaknesses. It should inform corrections and policy, not simply promote business or rubber-stamp renewals. Daily ownership and controls remain necessary between periodic reviews.

21. Collateral 8 crore with assumed 25% haircut has adjusted value of what?

A. INR10 crore	B. INR2 crore
C. INR8.25 crore	D. INR6 crore

Answer D. Recognised illustrative value is 8×0.75=6 crore. Two is the haircut amount, ten adds exposure-like figures without basis, and 8.25 treats a percentage as an amount. Legal and regulatory eligibility remain separate.

22. A guarantor depends on the same borrower for income. Main concern is what?

A. Protection can weaken when the borrower weakens	B. No relationship needs analysis
C. The guarantee is certainly cash today	D. Default probability is automatically zero

Answer A. Shared dependence can cause protection and borrower quality to deteriorate together. The guarantee is conditional rather than immediate cash, and it does not erase default likelihood. Assess the guarantor's independent capacity and enforceability.

23. A 10 crore first-loss tranche faces pool loss of 6 crore. Remaining capacity is?

A. INR6 crore	B. INR4 crore
C. INR16 crore	D. INR10 crore

Answer B. The first-loss layer absorbs six of its ten crore, leaving four. Six is the absorbed loss, ten ignores utilisation, and sixteen adds rather than subtracts. The result assumes the simple waterfall stated in the lesson.

24. Pool loss is 14 crore with a 10 crore first-loss tranche. Loss reaching the next layer is?

A. INR24 crore	B. Zero
C. INR14 crore	D. INR4 crore

Answer D. The junior layer absorbs ten and the remaining four passes onward under the assumed structure. Fourteen ignores subordination, zero assumes unlimited protection, and twenty-four adds tranche capacity to loss rather than allocating it.

25. A CDS hedge still requires assessment of what?

A. Only the premium's font	B. Guaranteed risk-free status
C. Protection-provider, basis and contract risks	D. Automatic full cash recovery in every event

Answer C. Protection depends on provider performance, matching terms and defined events. Premium presentation is irrelevant, while risk-free status and universal recovery do not follow. The hedge changes the exposure pattern and can leave important residual risks.

B05 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 Take fictional Aster Components, which seeks INR10 crore to expand production.	**15** For Aster Components, suppose sales rise by 15% but receivables rise by 60% and operating cash flow turns negative.
02 Credit exposure extends beyond loans.	**16** Periodic review should reassess the whole relationship, including undrawn commitments, guarantees and connected parties.
03 A credit policy translates appetite into eligible customers, products, underwriting standards, limits and approval authorities.	**17** A portfolio can be vulnerable even when each loan appears acceptable on its own.
04 Approval independence is particularly important where volume targets are strong.	**18** A simple concentration measure is the Herfindahl index: sum the squared portfolio shares.
05 Appraisal examines business viability, management capability, financial position, repayment capacity and transaction structure.	**19** Portfolio reporting should include exposure, quality migration, arrears, losses, limits, concentrations and stress outcomes.
06 Debt-service coverage compares a defined cash amount available for debt service with a defined debt-service obligation.	**20** The loan review mechanism examines whether underwriting, grading, documentation and monitoring are reliable and consistent with policy.
07 Structure can reduce risk by matching tenor to purpose, aligning repayments with cash generation and setting suitable covenants or drawing conditions.	**21** Findings should distinguish individual errors from systemic weaknesses.
08 Probability of default, or PD, estimates the likelihood of default over a specified horizon.	**22** Loan review also challenges ratings and assumptions.
09 For EAD of INR10 crore, one-year PD of 2% and LGD of 40%, expected loss is 0.02 times 0.40 times 10, or INR0.08 crore: INR8 lakh.	**23** Collateral, guarantees, covenants, netting and insurance can reduce particular dimensions of credit risk.
10 LGD differs from the probability of default.	**24** Haircuts recognise that collateral value can fall or be costly to realise.
11 An internal rating translates credit information into an ordered assessment of risk.	**25** Mitigation should never encourage weaker underwriting.
12 Migration describes movement between rating grades over time.	**26** Securitisation pools exposures and structures claims on their cash flows, often through a separate vehicle and different tranches.
13 Data limitations matter, especially for low-default portfolios or new products.	**27** For an illustrative INR100 crore pool with an INR10 crore first-loss tranche, a pool loss of INR6 crore is absorbed by that tranche, leaving INR4 crore of its capacity.
14 Account monitoring combines repayment conduct, financial updates, covenant compliance and business developments.	**28** A credit derivative can transfer specified credit-event risk through a contract.

B06 Operational Risk and Integrated Risk Management

Practice / Quick Revision

Begin with the service that can fail

A bank can suffer a loss even when borrowers repay and market prices remain stable. A payment may be sent twice, a customer record may be altered without authority, a reconciliation may remain unresolved or a critical service may stop during an outage. Operational risk concerns failures involving people, processes, systems or external events. The conventional Basel definition includes legal risk and excludes strategic and reputational risk, although an operational incident can clearly damage reputation and force strategic changes.

Start with the service and trace how it is delivered. For a customer payment, the chain includes instruction capture, authentication, approval, screening, posting, settlement and confirmation. Each stage depends on staff, data, technology and sometimes external providers. A failure map should identify what can go wrong, who can detect it and how the bank can recover. Merely writing “system risk” against the whole service does not identify a useful control or an accountable owner.

Throughout this chapter, fictional Meridian Bank processes supplier payments for business customers. Its main application is hosted by a technology provider, while branch staff approve exceptional instructions. One incorrect file can therefore involve customer authentication, staff judgement, vendor availability and settlement timing. This case shows why operational risk management is a continuing discipline across departments. Outsourcing a technical component changes the dependency; it does not remove the bank's responsibility for delivering its service and managing the resulting exposure.

Classify events without losing their causes

The familiar event classification includes internal fraud, external fraud, employment practices and workplace safety, clients and business practices, damage to physical assets, business disruption and system failures, and execution or process management. These categories organise loss information. They should not replace investigation of the underlying cause. An unauthorised transfer could involve stolen credentials, employee collusion or an incorrect approval process, and the most effective response depends on which mechanism actually occurred.

Internal fraud involves intentional misconduct with an internal party's involvement; external fraud involves an outside party's dishonest activity. Employment-related events concern matters such as workplace obligations and safety. Client and business-practice events can involve unsuitable conduct or failure to meet professional obligations. Physical damage covers relevant destructive events. Disruption and system failure concern interrupted services, while execution and process failures include errors in processing, delivery and record management. Exact reporting classifications should follow the bank's approved taxonomy and applicable requirements.

Do not count the same financial loss several times because it has several causes. Assign a consistent event record, then attach contributing factors and related risk categories. For example, a fraudulent instruction accepted during a system outage may involve both external deception and a weakened manual process. The record should preserve both facts without doubling the loss. Consistent classification supports comparison across branches and periods, but a useful database also retains the narrative needed to improve controls.

Separate frequency from severity

Frequency describes how often events occur; severity describes the loss when they occur. A bank may experience many small processing errors and very few catastrophic disruptions. Average annual loss alone can hide this difference. If one process produces ten events averaging INR20,000, its simple annual expected loss is INR2 lakh. Another process may have a small probability of a much larger loss. The response should consider both the routine cost and the potential for disruption beyond the average.

For a simple teaching model, expected annual loss equals expected annual frequency multiplied by mean severity. With twelve events per year and INR50,000 average severity, the result is INR6 lakh. Reducing frequency to eight lowers it to INR4 lakh if severity is unchanged. Reducing severity through faster detection can also help. This multiplication assumes compatible definitions and a suitable relationship between event counts and losses; it is not a complete model of the tail or a regulatory capital calculation.

Severe events can be absent from a short internal history without being impossible. A bank that has never experienced a major data-centre failure still needs resilience arrangements. External event information, scenarios and expert judgement can complement internal data, provided differences in scale and controls are considered. Avoid assigning an event zero probability merely because the observation window contains zero occurrences. Equally, do not copy another institution's loss amount without analysing whether the same mechanism and exposure exist here.

Govern risk where the work happens

The board and senior management establish expectations, appetite and oversight. Business and operations teams own the risks in their activities. Independent risk and compliance functions challenge assessments and monitor adherence, while internal audit provides assurance. Operational risk is too widely distributed to be owned solely by a central specialist team. The person responsible for a process must understand its controls, exceptions and recovery arrangements, including dependencies on another department or an external service provider.

A risk and control self-assessment, often called RCSA, helps process owners identify inherent exposure, assess controls and judge residual risk. It should use evidence such as incidents, near misses, audit findings and control tests. A workshop that declares every control effective because a policy exists adds little value. Ask whether the control is suitably designed, consistently performed and capable of detecting the relevant failure in time. Record missing evidence rather than silently treating it as proof of effectiveness.

Responsibilities need to remain clear during change. A new payment channel may alter authentication, volumes, data flows and customer expectations. Product and change approval should assess those effects before launch, establish limits and define heightened monitoring where appropriate. A project team should not disappear at launch without transferring ownership and unresolved issues. The first months of operation can reveal assumptions that testing missed, so post-implementation review is part of sound management rather than an admission that the project failed.

Design controls around actual failure modes

Preventive controls aim to stop an event, detective controls identify it, and corrective controls support recovery or remediation. Dual approval can prevent an unauthorised payment; reconciliation can detect a mismatch; a controlled reversal process can correct an eligible error. These layers should fit together. A detective control performed weeks after an irreversible transfer may reveal the problem but do little to limit the loss. Timing is therefore part of control effectiveness, not simply an administrative detail.

Segregation of duties reduces opportunities for error and concealment. The same individual should not be able to originate, approve and reconcile a sensitive transaction without effective independent checks. Access should match responsibilities and be reviewed when roles change. Shared credentials weaken accountability because an audit trail can no longer identify who acted. Emergency access may be necessary, but it needs

authorisation, recording, expiry and subsequent review. A permanent emergency exception eventually becomes an uncontrolled ordinary process.

Automation can improve consistency and scale, yet a wrongly configured rule can repeat an error across thousands of transactions. Control design should include input validation, change approval, testing, monitoring and exception handling. Manual fallback arrangements also require controls: an outage should not automatically justify removing every approval step. The practical question is how essential service can continue within acceptable risk when normal systems are unavailable, and which transactions must wait until reliable processing is restored.

Use incidents, near misses and indicators

An incident database should capture dates, amounts, recoveries, event types, causes, affected processes and actions. Record gross loss separately from insurance or other recovery so that the underlying exposure remains visible. Discovery date can differ from occurrence date, and accounting recognition can differ from both. Consistent definitions help analysis across periods. Near misses also matter: a duplicated file caught before settlement can reveal the same process weakness as a duplicate payment that actually leaves the bank.

Key risk indicators provide signals about changing exposure or control performance. Examples include overdue reconciliations, failed processing jobs, privileged-access exceptions, staff turnover in critical roles and unresolved high-severity incidents. A threshold needs an owner and response. An indicator that repeatedly turns red without action becomes a decorative dashboard. Explain whether a movement reflects a genuine deterioration, a change in transaction volume or improved reporting, rather than interpreting every increase as equivalent evidence of worsening risk.

Consider unresolved payment breaks increasing from twenty to eighty while transaction volume rises only 10%. The bank should investigate ageing, value, root causes and concentration, not merely celebrate higher throughput. Some breaks may be low-value administrative differences; others may conceal unsettled obligations. A count alone is insufficient. Combining count, monetary value and ageing gives a more decision-relevant picture, and the response should prioritise the cases with the greatest potential customer or financial impact.

Build scenarios that expose weak assumptions

Scenario analysis explores plausible severe events that limited historical data may not capture. Start with a coherent narrative, such as a vendor outage during a peak payment day, then identify affected services, duration, financial consequences and customer impact. Challenge the assumed availability of staff, backup systems and communications. A scenario is not useful if every recovery resource is assumed to work perfectly while the primary system fails. The adverse conditions should test the dependencies that matter to the service.

Suppose a four-hour outage affects 8,000 payments. An illustrative direct handling cost of INR150 per delayed payment gives INR12 lakh. Add a separately estimated INR8 lakh of remediation and INR5 lakh of other direct costs to obtain INR25 lakh in the stated scenario. Avoid adding an unsupported reputation multiplier merely to make the result larger. Record unquantified consequences separately, with their potential mechanism. Transparency about uncertainty is more informative than an invented precise estimate of every possible effect.

Scenarios should lead to action and testing. If the case assumes a backup provider, verify capacity, access, data compatibility and the time needed to switch. If manual processing is proposed, estimate how many transactions staff can safely handle. Recovery actions should be feasible within the outage, not just documented in a plan. Reverse scenarios can ask what combination would exceed the bank's service tolerance or available resources, helping management identify the most important improvements before an incident

occurs.

Resilience means sustaining critical operations

Business continuity and disaster recovery are related but distinct. Continuity concerns maintaining or restoring important activities; technology recovery is one component. Staff availability, premises, communications, third parties and data integrity can all constrain the service. Recovery time objectives describe intended restoration time, while recovery point objectives concern tolerable data loss in time terms. These objectives must be interpreted within the bank's approved framework and tested against the needs of the service, rather than selected merely because a vendor advertises them.

A backup is not sufficient evidence of recoverability. The bank should test restoration, access, integrity and reconciliation after recovery. An application may restart while transaction records remain incomplete or duplicated. Returning to service without checking the data can transform an outage into a financial incident. Exercises should include decision making and communication, not only a technical switch. The people authorised to invoke the plan need reliable information and substitutes if they themselves are unavailable during the disruption.

Operational resilience focuses attention on critical operations and their dependencies under disruption. A service can depend on several systems that share one power source, network path or provider, creating hidden concentration. Mapping dependencies reveals these common points of failure. Tests should progressively challenge the mapping and recovery assumptions. A successful exercise is valuable when it produces evidence of capability and closes weaknesses; a scripted demonstration that avoids difficult conditions provides much less assurance about actual resilience.

Insurance and capital do not replace controls

Insurance may transfer eligible financial consequences, but coverage has limits, exclusions, deductibles and claim conditions. A policy can leave interruption costs or customer consequences uninsured, and payment may arrive long after the event. The bank must preserve evidence and meet notification obligations. Insurance should be analysed as a conditional recovery source, not an immediate reduction in every loss estimate. A claim dispute can itself create legal and operational work that needs time and resources.

For a simple illustration, a covered gross loss of INR50 lakh with an INR5 lakh deductible and INR30 lakh policy cap produces a maximum model recovery of INR30 lakh and retained loss of INR20 lakh. This assumes the policy pays the eligible amount above the deductible up to the cap; actual wording may differ. A recovery estimate should not exceed the eligible loss. The calculator makes the order explicit so that students can see why changing a deductible or limit changes retained exposure.

Operational-risk capital provides loss-absorbing capacity under the applicable framework; it does not prevent an incorrect transfer or restore an unavailable system. Historical approaches, current domestic rules and newer global approaches must be distinguished. Chapter B03 discusses the retrieved domestic capital method and its version limitation. Here the focus is management: strengthen controls, monitor exposure, prepare recovery and retain adequate resources. A bank should not justify an avoidable process weakness simply by pointing to capital held against operational risk.



INR lakh; deductible 5, cap 30. Actual policy conditions govern. [('Gross loss', 50), ('Eligible after deductible', 45), ('Capped recovery', 30), ('Retained loss', 20)]

Integrate risks through a common scenario

Integrated risk management connects risks across business lines and categories so that management can assess the institution as a whole. An outage can delay collections, trigger customer withdrawals, require emergency funding and force asset sales. Those effects cross operational, liquidity and market risk. If departments assess only their own category, they may miss the combined demand on cash and capital. Integration requires consistent data, definitions, governance and a narrative that explains how the effects arise together.

Aggregation is not always simple addition. Some losses overlap, some offsets are unavailable and some effects amplify one another. A compensation payment recorded as operational loss should not be counted again as a separate reputation loss without identifying an additional consequence. Conversely, a funding cost caused by withdrawals can be a distinct effect. Document the links and prevent double counting. Correlation-based models can support aggregation, but their assumptions need challenge where stress creates nonlinear feedback or shared dependencies.

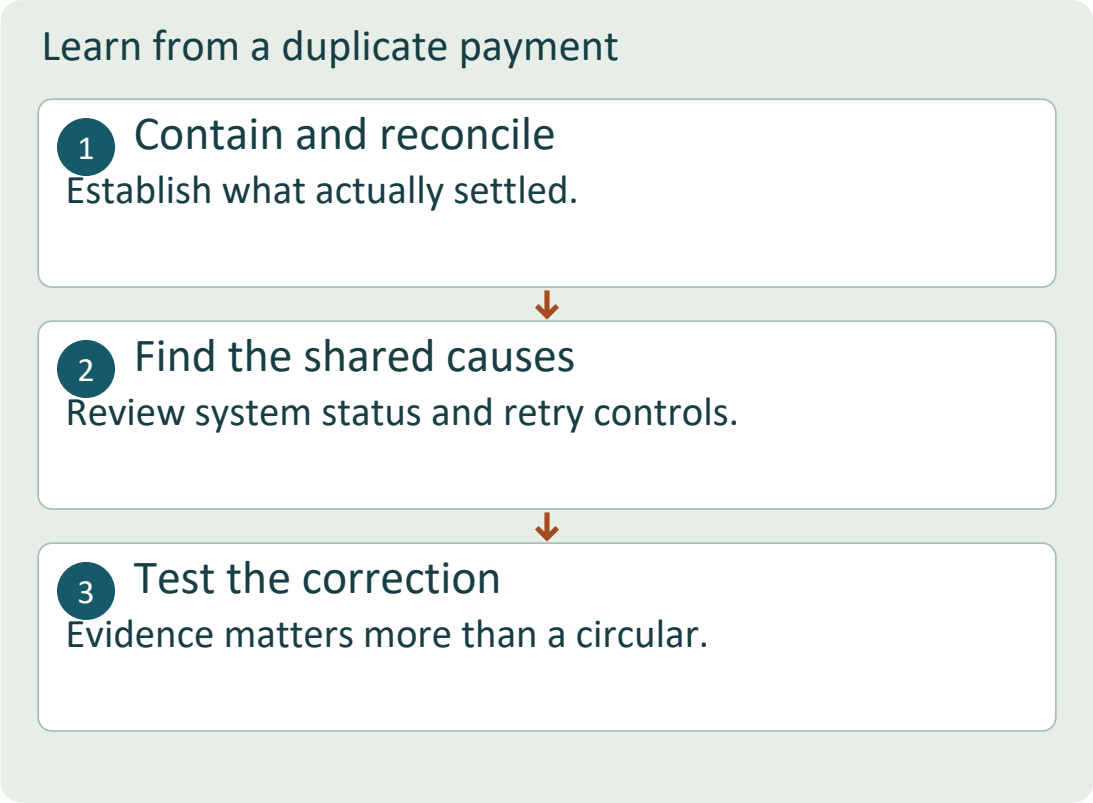
Integration also faces organisational challenges. Systems may use different counterparty identifiers, dates and currencies, while departments may resist sharing inconvenient information. A common data dictionary and accountable reconciliation process are therefore practical risk controls. Senior management should receive a consolidated view that preserves important local weaknesses. A comfortable group total can conceal a shortfall in a subsidiary or currency where resources cannot be transferred quickly. The objective is a decision-ready picture, not a single reassuring number.

Review a payment incident from end to end

Meridian receives a duplicate supplier file after a network interruption. An employee assumes the first submission failed and approves the second without checking settlement status. The event combines an ambiguous system response, a weak retry procedure and inadequate independent verification. The immediate priority is to establish what actually settled, prevent further duplication and use authorised recovery channels. Blaming the employee alone would overlook the process and system conditions that made the mistake likely to recur.

The review should ask why the system did not provide a unique transaction reference, why the retry rule was unclear and why the checker could not see the first payment's status. Corrective actions may include idempotent processing, clearer status messages, independent reconciliation and targeted training. Each action needs an owner and a test. Training alone is unlikely to fix a system that continues to display ambiguous information at the critical decision point.

For revision, connect event classification, frequency and severity, controls, indicators, scenarios, resilience and integration. Explain both the immediate response and the preventive improvement. A strong answer distinguishes gross loss from recovery, a policy from an operating control and a backup from tested recovery. The practical aim is reliable service under ordinary and adverse conditions, supported by evidence and clear responsibility. That is why operational risk management belongs in daily banking decisions rather than only in an annual compliance exercise.



Establish what actually settled. Review system status and retry controls. Evidence matters more than a circular.

Practice with explanations

01. Which incident most directly illustrates operational risk?

A. Only a market yield rise	B. A duplicate payment caused by an unclear retry process
C. Only a competitor's advertising campaign	D. Only an ordinary exchange-rate movement

Answer B. Duplicate processing is a process or system failure. Yield and exchange-rate movements are market drivers, while competitor advertising is a strategic business issue unless a separate operational mechanism is identified.

02. Which category describes deliberate employee involvement in theft?

A. Ordinary interest-rate risk	B. A routine maturity mismatch
C. Only external fraud	D. Internal fraud

Answer D. Internal involvement in intentional misconduct points to internal fraud. External fraud lacks that defining involvement; rate movements and maturity mismatches concern different financial mechanisms. Investigation should still identify all contributing control failures.

03. Why retain causes alongside event classification?

A. Every cause must create a duplicate loss record	B. Categories guarantee prevention
C. One category alone may not identify the effective remedy	D. Narratives are always irrelevant

Answer C. Classification organises data, while causes explain what to fix. Multiple contributing factors should be recorded without duplicating the same financial loss. Neither a category label nor omission of narrative demonstrates effective prevention.

04. Twelve annual events averaging INR50,000 imply simple expected annual loss of what?

A. INR12 lakh	B. INR6 lakh
C. INR60 lakh	D. INR50,000

Answer B. Frequency times average severity gives 12×50,000=600,000 rupees. The other choices omit frequency or mis-scale the multiplication. This average does not describe the tail or a complete operational-risk capital requirement.

05. Frequency falls from twelve to eight with severity INR50,000 unchanged. Expected loss becomes?

A. INR40 lakh	B. INR8 lakh
C. INR4 lakh	D. INR6 lakh

Answer C. Eight times fifty thousand is four lakh. Six lakh is the previous estimate, eight confuses count with money, and forty reflects a scale error. The conclusion assumes severity and definitions remain unchanged.

06. No major outage appears in three years of data. Best inference is?

A. Severe outage risk may still require scenarios and controls	B. Recovery testing is unnecessary
C. All external evidence is irrelevant	D. Its probability is certainly zero

Answer A. Rare events may be absent from a short sample. Scenarios and relevant external experience can complement internal data. Zero observations do not establish impossibility or remove the need to test recovery capability.

07. A useful RCSA should rely on what?

A. Only the existence of a policy	B. Evidence of control design and operation
C. Only last month's profit	D. Only favourable self-ratings

Answer B. RCSA should examine incidents, tests and actual execution as well as design. A policy or optimistic rating alone does not show effectiveness, and profit can coexist with weaknesses that have not yet produced a loss.

08. Which is primarily a detective control?

A. Reconciliation identifying a mismatch	B. Dual approval before release
C. A recovery payment after loss	D. A marketing campaign

Answer A. Reconciliation detects differences. Dual approval primarily prevents unauthorised release; recovery addresses consequences; marketing is unrelated. Controls can interact, but their timing and purpose should be identified accurately.

09. Why does the timing of a detective control matter?

A. Late detection may leave little opportunity to limit loss	B. All errors remain reversible forever
C. Detection always reverses settlement	D. Timing affects only formatting

Answer A. A control can identify a problem after recovery becomes difficult or impossible. Detection is not guaranteed reversal, and settlement may be final. Effective design therefore considers how quickly evidence reaches someone able to act.

10. Shared privileged credentials weaken what?

A. The existence of every policy	B. The mathematical value of all deposits
C. Only screen brightness	D. Accountability and traceability

Answer D. Shared credentials obscure who performed a sensitive action and undermine audit trails. This is an access-control issue, not display design or automatic destruction of unrelated records. Individual access and review support accountability.

11. Emergency access should have what?

A. Permanent unrestricted use	B. Automatic exemption from all controls
C. Authorisation, logging, expiry and review	D. No record to save time

Answer C. Emergency access can be necessary but needs boundaries and later verification. Permanent or unlogged privileges create ordinary uncontrolled access, while a blanket exemption can magnify the very operational risk the emergency process should manage.

12. Automation creates which new concern?

A. Errors become impossible	B. Independent testing is unnecessary
C. Every manual control must disappear	D. A configuration error can repeat at scale

Answer D. Automation improves consistency but can consistently execute the wrong rule. Change controls, testing and monitoring remain essential. It does not make all errors impossible or imply that every manual oversight activity has no value.

13. Why record gross loss separately from recovery?

A. Insurance always pays immediately	B. To preserve visibility of the underlying event and protection
C. Recovery means the event never happened	D. Only net loss can ever be recorded

Answer B. Separate records show exposure, recovery dependence and timing. Netting alone can hide a severe event, while payment does not erase its causes. Insurance may be delayed or disputed, so immediate recovery cannot be assumed.

14. A duplicate file caught before settlement is best treated as what?

A. A realised duplicate payment loss in every case	B. Proof that no analysis is needed
C. A market-risk gain	D. A useful near miss revealing a weakness

Answer D. The avoided loss can still expose a repeatable failure mechanism. It should inform control improvement. It is not automatically a realised payment loss, and neither market gains nor dismissal of analysis follows from successful detection.

15. A KRI repeatedly exceeds its threshold without action. Main weakness is what?

A. Escalation and response are ineffective	B. The indicator guarantees control
C. All thresholds should be deleted	D. The red colour is too bright

Answer A. Indicators need ownership and decisions. Repeated breaches without response undermine their purpose. Changing colour or deleting thresholds conceals the issue, while the existence of an indicator alone does not establish effective management.

16. Eight thousand delayed payments cost INR150 each to handle. Direct handling cost is?

A. INR12 lakh	B. INR120 lakh
C. INR1.2 lakh	D. INR8 lakh

Answer A. Multiply 8,000 by 150 to obtain 1,200,000 rupees, or twelve lakh. The alternatives mis-scale the amount or substitute the transaction count for cost. Additional scenario costs must be separately identified.

17. A scenario assumes backup processing. What must be tested?

A. A promise that all scenarios end well	B. Only the provider's logo
C. Nothing if a contract exists	D. Capacity, access, data compatibility and switching time

Answer D. A contract does not prove operational readiness. The backup must handle the service within the assumed time and data requirements. Branding and optimistic promises do not demonstrate that the recovery action will work during disruption.

18. Recovery time objective mainly concerns what?

A. The maximum market loss	B. Only the age of the oldest backup
C. The loan interest rate	D. Intended time to restore a service

Answer D. Recovery time concerns restoration timing. Recovery point concerns tolerable data loss in time terms. Loan pricing and market-loss measures address other risks and do not define a service recovery objective.

19. Why is an application restart insufficient proof of recovery?

A. Restart always guarantees integrity	B. Reconciliation becomes unnecessary
C. Customers never notice errors	D. Data may remain incomplete or duplicated

Answer D. Technical availability and accurate records are different. Recovery must verify data and reconcile transactions before normal processing is trusted. Restarting does not guarantee integrity or eliminate customer consequences from missing or duplicated activity.

20. Several backup systems share one power source. What is exposed?

A. No operational concern	B. A common dependency
C. Guaranteed independent resilience	D. Only borrower default

Answer B. Shared infrastructure can fail all apparently separate systems together. Dependency mapping reveals that concentration. Separate system names do not establish independent resilience, and the mechanism is operational rather than a borrower repayment event.

21. Gross covered loss 50 lakh, deductible 5 lakh and recovery cap 30 lakh give retained loss of what?

A. INR5 lakh	B. INR15 lakh
C. Zero	D. INR20 lakh

Answer D. Eligible loss above deductible is 45 lakh, capped recovery is 30, and retained loss is 50-30=20 lakh. The deductible alone is not total retention, and the cap prevents full reimbursement under the stated model.

22. Operational capital primarily does what?

A. Replaces access control	B. Restarts systems automatically
C. Absorbs losses under the applicable framework	D. Prevents every incorrect transfer

Answer C. Capital supports resilience to losses but is not a preventive or recovery process. Transfers, systems and access require operational controls. Holding capital does not justify avoidable weaknesses or demonstrate that services can continue under disruption.

23. An outage triggers withdrawals and forced asset sales. Best analysis is?

A. Only one isolated department's view	B. Ignore cash because the cause was technical
C. Count every consequence twice	D. Integrated operational, liquidity and market effects

Answer D. The causal chain crosses risk categories and needs coordinated assessment. Departmental isolation can miss combined demands, double counting exaggerates loss, and a technical origin does not make subsequent funding consequences irrelevant.

24. Why use common identifiers across risk systems?

A. Only to shorten customer names	B. To replace all judgement
C. To reconcile exposures and avoid omissions or duplication	D. To guarantee zero defaults

Answer C. Consistent identifiers connect records across products and departments, supporting aggregation and reconciliation. They do not eliminate economic risk or replace interpretation. Their value is reliable information about the actual connected exposures.

25. After a duplicate-payment incident, the strongest remedy addresses what?

A. System status, retry controls, checking and training together	B. Only blame the employee
C. Only issue a generic circular	D. Only increase the sales target

Answer A. The event can reflect interacting system and process weaknesses. A combined remedy addresses causes and tests effectiveness. Blame, generic communication or sales pressure alone does not repair ambiguous status information or unsafe retry behaviour.

B06 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 A bank can suffer a loss even when borrowers repay and market prices remain stable.	**15** An incident database should capture dates, amounts, recoveries, event types, causes, affected processes and actions.
02 Start with the service and trace how it is delivered.	**16** Key risk indicators provide signals about changing exposure or control performance.
03 Throughout this chapter, fictional Meridian Bank processes supplier payments for business customers.	**17** Consider unresolved payment breaks increasing from twenty to eighty while transaction volume rises only 10%.
04 Internal fraud involves intentional misconduct with an internal party's involvement; external fraud involves an outside party's dishonest activity.	**18** Scenario analysis explores plausible severe events that limited historical data may not capture.
05 Do not count the same financial loss several times because it has several causes.	**19** Suppose a four-hour outage affects 8,000 payments.
06 Frequency describes how often events occur; severity describes the loss when they occur.	**20** Scenarios should lead to action and testing.
07 For a simple teaching model, expected annual loss equals expected annual frequency multiplied by mean severity.	**21** Business continuity and disaster recovery are related but distinct.
08 Severe events can be absent from a short internal history without being impossible.	**22** A backup is not sufficient evidence of recoverability.
09 The board and senior management establish expectations, appetite and oversight.	**23** Operational resilience focuses attention on critical operations and their dependencies under disruption.
10 A risk and control self-assessment, often called RCSA, helps process owners identify inherent exposure, assess controls and judge residual risk.	**24** Insurance may transfer eligible financial consequences, but coverage has limits, exclusions, deductibles and claim conditions.
11 Responsibilities need to remain clear during change.	**25** Operational-risk capital provides loss-absorbing capacity under the applicable framework; it does not prevent an incorrect transfer or restore an unavailable system.
12 Preventive controls aim to stop an event, detective controls identify it, and corrective controls support recovery or remediation.	**26** Integrated risk management connects risks across business lines and categories so that management can assess the institution as a whole.
13 Segregation of duties reduces opportunities for error and concealment.	**27** Aggregation is not always simple addition.
14 Automation can improve consistency and scale, yet a wrongly configured rule can repeat an error across thousands of transactions.	**28** Integration also faces organisational challenges.

B07 Liquidity Risk Management

Practice / Quick Revision

Cash must arrive where and when it is needed

Liquidity is the ability to meet obligations when due without unacceptable losses. A profitable bank can still face a cash shortage because receipts and payments occur at different times. A solvent institution can hold valuable long-term assets while lacking immediately usable resources. Liquidity management therefore asks when cash is required, in which currency and legal entity, and which resources are genuinely available. A balance-sheet total alone cannot answer these questions, even when assets exceed liabilities by a comfortable margin.

Banks transform short-term funding into longer-term assets and provide commitments that customers may draw unexpectedly. This creates useful economic services but also a continuing need to manage timing and confidence. A deposit expected to renew can leave, a borrower can delay repayment, and a marketable security can become difficult to sell. Liquidity management should distinguish contractual obligations from behavioural assumptions and test both. It should not depend entirely on yesterday's customer behaviour continuing under stress.

Use fictional Meridian Bank, which holds INR100 crore of liquid resources and expects large corporate deposits to mature next week. Its loan book is performing, but several borrowers request additional drawings and one funding provider reduces its limit. The immediate issue is not simply whether Meridian will eventually earn a profit. It must identify usable cash, payment dates, collateral and realistic funding alternatives before the obligations fall due. This case runs through the chapter's measurement and contingency decisions.

Distinguish funding and market liquidity

Funding liquidity concerns obtaining cash or financing to meet obligations. Market liquidity concerns selling or hedging positions without excessive cost or price impact. The two interact. A bank unable to renew funding may sell securities; if many institutions sell simultaneously, prices can fall and the cash raised may be less than expected. Losses can then weaken confidence and make funding even harder. The interaction explains why liquidity stress can intensify quickly even when the initial shortfall appears manageable.

Potential drivers include deposit concentration, short-term wholesale dependence, asset growth, undrawn commitments, collateral calls, ratings changes and operational disruption. The bank should identify which are relevant to its business rather than copy a generic list. A retail-focused institution and a market-making institution can have very different timing and behavioural exposures. Currency mismatches and overseas operations add further constraints because a surplus in one place may not be transferable or convertible quickly enough to meet another obligation.

Contingent obligations deserve special attention. A guarantee invocation, commitment drawdown or margin call can create cash needs that are not obvious from current funded balances. Reputation concerns can also lead management to support an activity beyond a narrow contractual obligation, subject to law and policy. Stress testing should identify such possibilities explicitly. Ignoring them because they are currently off balance sheet understates the resources the bank may need when customers and counterparties are themselves under pressure.

Establish governance and a usable policy

The board sets liquidity risk tolerance and oversees the framework. Senior management implements it, while an asset-liability committee commonly coordinates funding, balance-sheet structure and relevant risks. Treasury manages day-to-day positions within authority, and independent risk provides challenge and monitoring. Actual responsibilities should be documented. A committee meeting cannot replace a clear decision about who can raise funds, pledge collateral, change pricing or invoke the contingency plan when a shortfall develops between scheduled meetings.

A liquidity policy should define measurement, limits, buffers, funding diversification, stress tests, reporting and escalation. It should address different time horizons, currencies and legal entities. Limits need meaningful definitions and timely data. A limit measured only at month-end may miss a severe intraday or mid-month shortage. The policy should distinguish warning thresholds from hard boundaries and explain what happens when either is crossed. Exceptions need authority, rationale and expiry rather than becoming a permanent informal funding strategy.

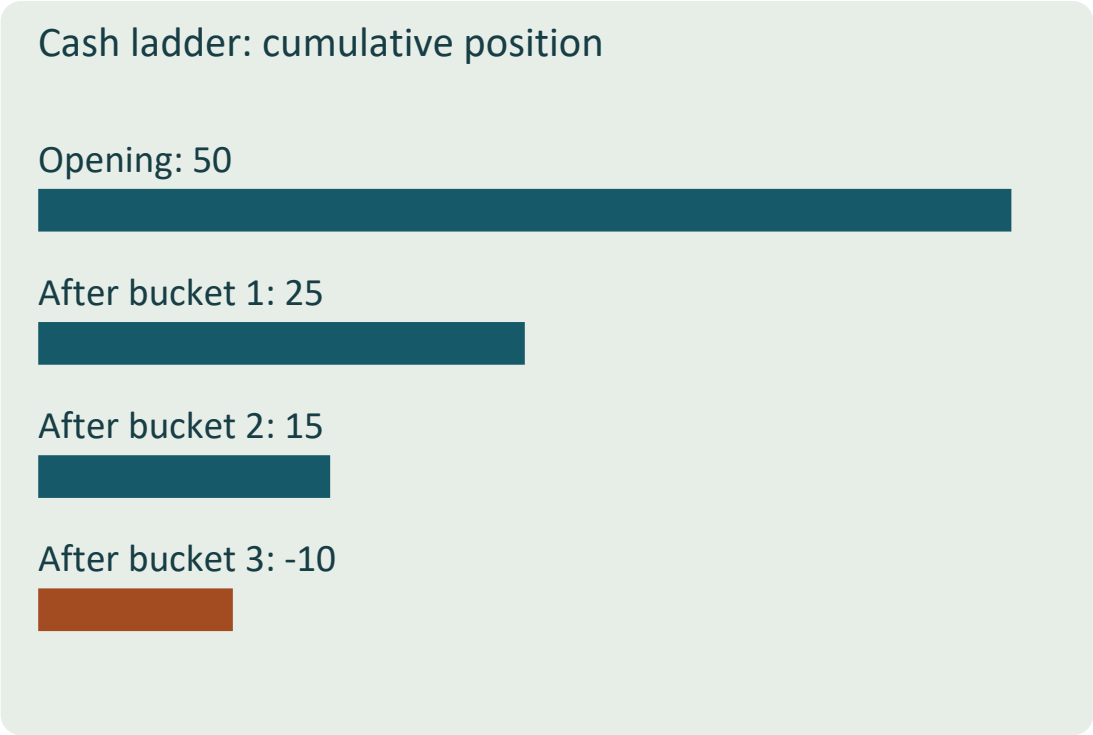
Internal pricing should recognise liquidity costs and benefits. A business that originates long-term assets using volatile short-term funding should not appear artificially profitable because treasury absorbs the mismatch without charge. Funds transfer pricing can help communicate the cost of tenor, optionality and contingent liquidity. Its design should fit the bank's systems and governance. The aim is to align business decisions with the institution's actual funding burden, not to create an opaque allocation that nobody can explain or challenge.

Construct a maturity ladder

A maturity ladder groups expected cash inflows and outflows into time buckets. The gap for a bucket is inflows minus outflows; the cumulative gap adds successive gaps. Include an opening usable cash balance when assessing the projected position, but do not confuse that stock with a new inflow in every bucket. All amounts should use consistent units and currency. Contractual and behavioural ladders answer different questions and should be labelled clearly so that assumptions are not mistaken for certain receipts.

Suppose opening usable resources are INR50 crore. In the first bucket, inflows of INR20 crore and outflows of INR45 crore create a gap of minus INR25 crore and leave INR25 crore. The second bucket has INR30 crore inflows and INR40 crore outflows, leaving INR15 crore. The third has INR10 crore inflows and INR35 crore outflows, leaving minus INR10 crore. The bank needs action before that third-bucket shortfall, not only after the final balance turns negative.

The ladder is a map, not a guarantee. A loan repayment may be delayed, an asset sale may require a haircut and a deposit renewal may fail. Bucket totals can also conceal timing within the bucket. If a large payment is due in the morning and the matching receipt arrives in the evening, a daily net position may look balanced while intraday resources are inadequate. Refine the time resolution where the business requires it, rather than assuming that positive aggregate totals eliminate timing risk.



INR crore; opening stock counted once. The last bucket creates a shortfall. [('Opening', 50), ('After bucket 1', 25), ('After bucket 2', 15), ('After bucket 3', -10)]

Challenge behavioural assumptions

Non-maturity deposits have contractual features and observed behaviour that may differ. Some balances are persistent, while others can leave quickly. Segment customers using relevant characteristics and evidence rather than treating every deposit as equally stable. Concentration, digital access, pricing sensitivity and relationship purpose can affect behaviour. Historical persistence during calm periods does not establish stability during a confidence shock. Stress assumptions should be severe enough to challenge the funding model while remaining explainable and relevant.

Loan prepayments, commitment drawdowns and deposit renewals can change when rates or economic conditions move. A rising-rate environment may reduce some prepayments while increasing deposit competition. A stressed corporate customer may draw a committed line just as its deposits fall. These connected behaviours can worsen liquidity more than separate average assumptions suggest. The bank should identify common drivers and avoid treating each behaviour as independent merely because different systems record the underlying products.

Assumptions need ownership, validation and periodic review. Compare forecasts with actual flows, investigate material differences and update the model when evidence supports change. Preserve a record of previous assumptions so that improved forecasts can be distinguished from hindsight adjustments. A model should also show sensitivity to uncertain inputs. If a small change in deposit renewal produces a large shortfall, management should recognise that dependence and consider a larger buffer or more durable funding rather than relying on a single optimistic estimate.

Use ratios as complementary indicators

Liquidity ratios summarise particular features of funding and assets. A loan-to-deposit ratio can indicate how lending compares with a deposit base, but its interpretation depends on definitions and the bank's wider funding structure. A wholesale funding concentration measure highlights dependence on particular providers. Liquid assets relative to short-term obligations can indicate coverage under specified assumptions. No one ratio proves that every payment can be met because ratios compress timing, currency, availability and behavioural detail into a limited view.

For example, INR700 crore of loans divided by INR1,000 crore of deposits gives a 70% illustrative loan-to-deposit ratio. It does not show whether deposits mature tomorrow, whether loans can be sold or whether the bank has large derivative collateral calls. A bank with a lower ratio could still be vulnerable if a few depositors dominate its funding. Pair the ratio with maturity analysis, concentration information and stress results before drawing a conclusion about liquidity strength.

The regulatory Liquidity Coverage Ratio and Net Stable Funding Ratio have specific definitions and are taught in B08. They should not be substituted for simple internal ratios or vice versa. A bank may comply with a regulatory aggregate while facing a particular intraday, currency or entity constraint. Management should understand what each measure includes and excludes. The most useful dashboard combines complementary views and explains changes, instead of treating a green status on one ratio as a complete liquidity assessment.

Manage collateral and intraday demands

Collateral is useful only when it is eligible, unencumbered where required and operationally available. Identify where securities are held, which obligations already use them, the applicable valuation and haircuts, and how quickly they can be mobilised. A security cannot simultaneously support several independent funding assumptions unless the arrangements actually permit it. Double counting collateral can make a contingency plan appear much stronger than it is. The collateral inventory should reconcile with custody and transaction records.

Intraday management tracks the timing of payments and receipts, available settlement balances and access to intraday resources. Peak usage can be much larger than end-of-day net need. Payment prioritisation, queue management and reliable forecasts help, but actions must respect obligations and system rules. A delayed receipt from another bank can affect Meridian's ability to pay its own counterparties. Stress testing should consider this network dependence rather than assume every expected receipt arrives before the related outgoing payment.

Operational readiness is essential. Staff need access, authority and tested procedures to pledge assets or use available facilities. A theoretical funding source is weak protection if documentation is incomplete or the asset cannot be transferred in time. Regular tests can reveal missing permissions, incorrect account details or system limitations. The point is not to use emergency resources routinely, but to establish credible evidence that a stated source can be accessed within the time assumed by the liquidity plan.

Stress the institution and the market together

An institution-specific scenario might involve adverse publicity, a ratings downgrade or a major operational incident. A market-wide scenario might involve widespread funding disruption, falling asset liquidity or stressed counterparties. A combined scenario can be more severe because the bank's own weakness occurs when alternative funding is least available. State the narrative and horizon, then translate it into deposit outflows, drawdowns, collateral demands, receipt delays and asset-sale assumptions. The links should be economically coherent rather than a random collection of shocks.

Assume Meridian has INR100 crore usable liquidity and daily net stressed outflow of INR12 crore. A simple constant-burn calculation gives 8.33 days of resources, with eight complete days covered before the balance becomes insufficient for another full day's outflow. This is only a teaching approximation. Actual outflows vary by day, buffers may have operational restrictions and management actions take time. A detailed survival analysis should use dated flows and distinguish available resources from assets that still need to be sold or pledged.

Stress results should inform buffer size, funding strategy and contingency triggers. Include management actions only where authority, capacity and execution time are credible. Raising expensive deposits may help, but assume realistic customer response and market conditions. Selling illiquid assets at an unchanged price during a market-wide shock is usually an inconsistent assumption. Reports should show both the position

before actions and the residual position after feasible actions so that management can see how much resilience depends on execution.

Make the contingency funding plan executable

A contingency funding plan specifies how the bank responds to liquidity stress. It should identify triggers, escalation, decision authority, communications, funding options and operational steps. Warning indicators can include unusual withdrawals, worsening market terms, rising collateral demands or repeated forecast misses. The plan should distinguish stages of severity and the actions appropriate to each. A generic statement that treasury will obtain funds is not a plan unless the sources, amounts, conditions and timing are supported by evidence.

Funding options should be ranked by availability, speed, cost and consequences. Existing committed resources, asset monetisation, customer pricing changes and other permitted actions can have different constraints. Some sources may disappear under the same scenario that creates the shortfall. Avoid counting an uncommitted line as certain cash or assuming that a group entity will transfer funds regardless of local requirements. Test legal and operational feasibility before relying on a resource in the survival calculation.

Communication needs accuracy and coordination. Management, relevant authorities, staff, counterparties and customers may require different information at different times. Conflicting statements can intensify uncertainty. The plan should specify who communicates and how facts are verified while the situation evolves. Exercises should test decisions and information flow, not merely confirm that contact numbers exist. After an exercise or incident, revise assumptions and close weaknesses with accountable actions, retaining evidence that the improvements actually work.

Respect currencies, entities and overseas constraints

A consolidated surplus does not necessarily solve a local shortage. Funds may be in another currency, subject to transfer restrictions or needed to satisfy local obligations. Foreign-exchange markets may become expensive or unavailable during stress. Manage significant currencies and legal entities with appropriate detail and consider the interaction between home and host requirements. An Indian bank's overseas branch or subsidiary and a foreign bank's Indian branch can face different structural and regulatory considerations that require their own documented assessment.

Suppose Meridian has a rupee surplus but owes dollars tomorrow. Converting the surplus may require market access, an available counterparty, settlement capacity and acceptable pricing. A currency swap can provide cash under suitable arrangements but may introduce collateral and rollover needs. The bank should therefore identify currency-specific resources and stress conversion assumptions. It is misleading to add rupee and dollar balances at a convenient exchange rate and conclude that every currency obligation is covered without examining execution.

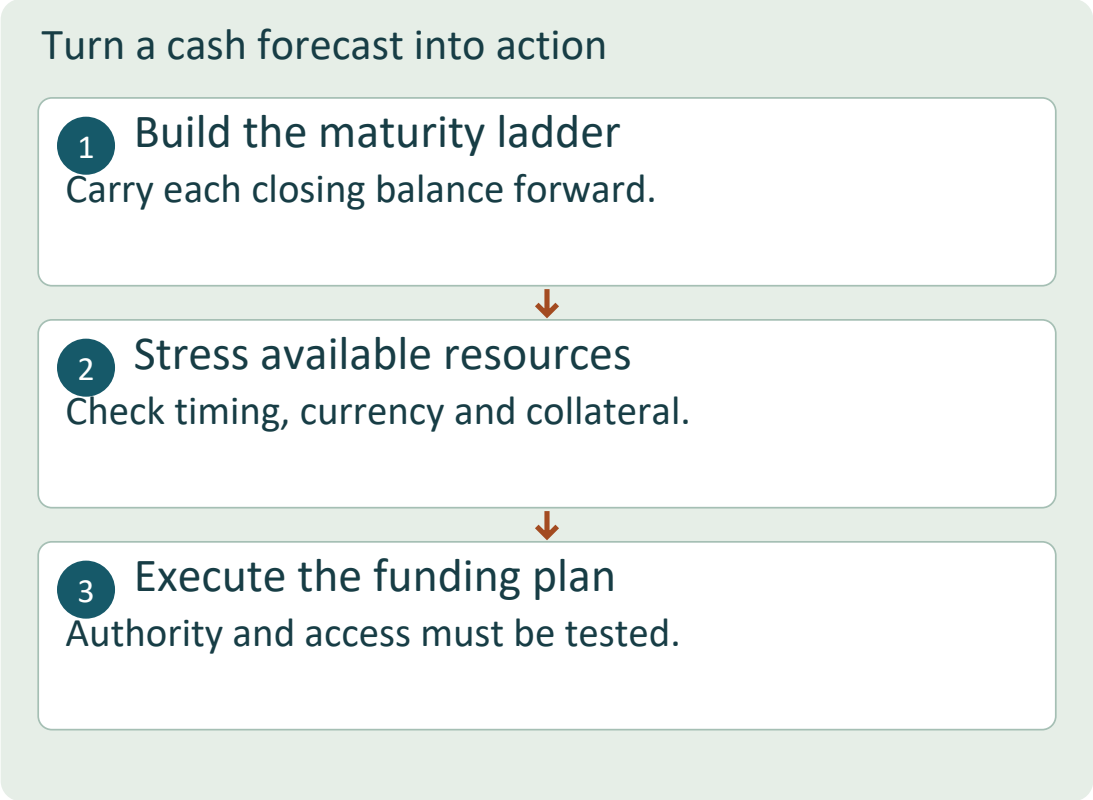
Group support needs similar scrutiny. A parent may intend to help a subsidiary, but legal restrictions, local buffers or simultaneous stress can limit the transfer. The receiving entity should not assume unlimited support merely because it belongs to a strong group. Reports should show the location and transferability of liquidity, not just the consolidated total. This preserves the distinction between resources that exist somewhere in the group and resources usable for a particular payment at a particular time.

Turn information and controls into action

Liquidity management information should be timely, complete and reconciled. It needs balances, maturities, behavioural assumptions, collateral, commitments and significant concentrations. The frequency should match the risk and increase when conditions deteriorate. Reports should identify missing data and explain material changes. Applicable RBI reporting requirements must be followed using the current prescribed formats and frequency; internal management should not wait for the next regulatory reporting date when a developing shortage requires immediate attention.

Internal controls cover data quality, authority, model changes, reconciliation and independent review. Forecast-versus-actual analysis helps identify systematic optimism or missing flows. Audit should assess whether the policy and contingency arrangements operate as intended. A favourable closing balance can occur despite weak controls, just as a temporary shortage can expose an otherwise hidden dependency. Review the process and the evidence, not only the final number, and ensure that material findings reach people who can act.

For revision, build the liquidity answer around timing: identify obligations, available resources, assumptions and constraints; construct the ladder; examine concentrations and ratios; stress the flows; and explain feasible actions. Keep solvency separate from cash availability and distinguish an asset's accounting value from usable proceeds. The calculators below illustrate a three-bucket ladder, constant cash burn and funding concentration. Their value lies in making assumptions visible, while the surrounding analysis explains why real liquidity management must go beyond arithmetic.



Carry each closing balance forward. Check timing, currency and collateral. Authority and access must be tested.

Practice with explanations

01. A profitable bank can still lack liquidity because?

A. Profit is always immediately spendable cash	B. Depositors cannot withdraw
C. Assets never have maturity differences	D. Cash receipts and obligations occur at different times

Answer D. Profit and cash timing differ. Long-term assets may generate value later than obligations fall due, and withdrawals can occur now. Liquidity analysis therefore needs dated available resources rather than only an income statement.

02. Which question is essential for an apparent group liquidity surplus?

A. Where, when and in which currency is it usable?	B. Only whether the total is positive
C. Only the group's logo	D. Whether the report has enough pages

Answer A. Location, timing, currency and transferability determine whether resources meet a specific obligation. A positive consolidated total can conceal local constraints, while branding and report length provide no evidence of usable funding.

03. Funding liquidity and market liquidity interact when what happens?

A. Cash timing ceases to matter	B. All deposits become capital
C. Every asset can always be sold at its mark	D. Failed refinancing forces sales into a thin market

Answer D. A funding shortfall can force costly sales, reducing proceeds and worsening confidence. Marked value is not guaranteed execution value, deposits remain liabilities, and timing becomes more important rather than irrelevant during stress.

04. Which item can create a contingent cash demand?

A. Only a settled cash receipt	B. An undrawn committed facility
C. Only a completed capital injection	D. Only an expired obligation

Answer B. A customer can draw an eligible commitment, creating a funding need. Completed receipts and injections provide resources, while an expired obligation ordinarily lacks the same future trigger. Contract terms determine the actual contingent demand.

05. A liquidity policy should specify what?

A. Only the committee name	B. Only a target profit
C. Limits, measurement, escalation and contingency arrangements	D. Only annual marketing expenditure

Answer C. A usable policy connects measures to decisions and responsibilities. Profit targets, committee labels and marketing spend do not explain how to identify or address a shortage. Governance requires defined authority and operational responses.

06. Why include liquidity in internal pricing?

A. Business decisions should reflect funding tenor and contingency costs	B. Pricing eliminates all liquidity risk
C. Treasury should hide all costs	D. Every loan has identical funding needs

Answer A. Recognising liquidity costs aligns incentives with the balance-sheet burden. Different maturities and options create different needs. Pricing cannot remove all risk, but concealing costs or treating every exposure identically can encourage unsuitable growth.

07. Opening cash is 50, inflows 20 and outflows 45 crore. Closing position is?

A. Minus INR25 crore	B. INR25 crore
C. INR115 crore	D. INR70 crore

Answer B. Opening resources plus inflows minus outflows gives 50+20-45=25. Minus twenty-five is the bucket gap alone; seventy ignores payments and one hundred fifteen adds outflows instead of deducting them.

08. The next bucket starts at 25 with inflows 30 and outflows 40 crore. Position becomes?

A. INR35 crore	B. Minus INR10 crore
C. INR15 crore	D. INR95 crore

Answer C. Carry forward the actual closing position: 25+30-40=15. Minus ten is only this bucket's gap, while the other answers reverse or omit outflows. Cumulative analysis must not restart from the original opening balance.

09. A third bucket starts at 15 with inflows 10 and outflows 35 crore. Result is?

A. Minus INR10 crore	B. Minus INR25 crore
C. INR60 crore	D. INR10 crore

Answer A. The cumulative position is 15+10-35=-10. Minus twenty-five is the isolated bucket gap. The negative closing position signals action is needed before the obligations fall due; it should not be hidden by later receipts.

10. Why must opening cash not be added in every bucket?

A. It would count the same resource repeatedly	B. Cumulative gaps never use cash
C. Opening cash is always zero	D. Every bucket creates new capital

Answer A. Opening resources enter once and subsequent balances roll forward. Repeating them invents funding. Opening cash need not be zero, buckets do not create capital, and a cumulative cash assessment can appropriately include the initial usable stock.

11. A daily net surplus can conceal what?

A. No settlement obligations	B. A mathematical impossibility
C. A morning payment before an evening receipt	D. Guaranteed intraday adequacy

Answer C. Net daily totals omit within-day timing. A receipt arriving later cannot fund an earlier payment without another resource. Intraday analysis therefore complements end-of-day ladders rather than contradicting their arithmetic.

12. Historical deposit persistence proves what under stress?

A. It is evidence to assess, not a guarantee of renewal	B. All deposits are permanently stable
C. No scenario is needed	D. Customers cannot change behaviour

Answer A. Past behaviour informs estimates but can change during a confidence shock. Segmenting and stressing deposits is necessary. Permanent stability and automatic renewal do not follow, and customer access or concentration can alter withdrawal dynamics.

13. Why can deposit withdrawal and commitment drawdown occur together?

A. The same customer stress can drive both	B. Withdrawals always improve bank liquidity
C. They are always independent	D. Commitments never affect cash

Answer A. A stressed customer may use deposits and draw available credit simultaneously. Treating these behaviours as independent can understate the bank's need. Both can consume resources, so a coherent scenario should capture the common driver.

14. Loans 700 crore and deposits 1,000 crore give a simple ratio of what?

A. 7%	B. 142.86%
C. 70%	D. 30%

Answer C. The supplied loan-to-deposit ratio is 700/1,000×100=70%. The reciprocal measures something else, seven is a scale error, and thirty is the unused proportion rather than the requested ratio.

15. A low loan-to-deposit ratio alone does not reveal what?

A. That deposits were supplied as an input	B. Deposit concentration and payment timing
C. The arithmetic of the ratio	D. That loans were supplied as an input

Answer B. The ratio compresses the balance sheet and omits maturity, concentration and contingent demands. Its calculation can be correct while liquidity remains vulnerable. Additional measures are needed to assess those omitted dimensions.

16. An asset already pledged elsewhere should be treated how in a funding plan?

A. Check availability before counting it again	B. Count it fully for every source
C. Assume the pledge disappears in stress	D. Ignore custody records

Answer A. Existing encumbrance can prevent reuse. Counting the same asset for independent funding actions overstates resources. Stress does not automatically release pledges, and custody and transaction records are needed to establish actual availability.

17. A theoretically eligible funding source is weak protection when?

A. It has been operationally tested	B. Its authority is clear
C. Access or mobilisation cannot be completed in time	D. Its documentation is complete

Answer C. Eligibility alone does not ensure timely use. Missing access, permissions or execution capacity can invalidate a plan. Tested procedures, complete documents and clear authority strengthen rather than weaken confidence in the source.

18. Which scenario is institution-specific?

A. Every unrelated historical shock combined	B. Only a global market closure
C. Withdrawals after a bank-specific operational incident	D. Only a system-wide rate movement

Answer C. A bank-specific incident can damage its own confidence and funding. Market-wide closures or rate movements have broader origins. Combining arbitrary shocks without a narrative does not establish a coherent institution-specific scenario.

19. Usable resources 100 crore and constant daily net outflow 12 crore imply how many complete days covered?

A. 8 days	B. 12 days
C. 9 days	D. 100 days

Answer A. The continuous quotient is 8.33 days, so eight full daily outflows are covered before another complete day cannot be funded. Nine overstates resources; twelve and one hundred confuse input amounts with survival time.

20. A stress report should show management actions how?

A. With credible timing, capacity and before-and-after results	B. Only after deleting the original shortfall
C. As unlimited immediate cash	D. Without checking authority

Answer A. Actions are conditional and need evidence of feasibility. Showing the pre-action position reveals dependence on execution. Unlimited assumptions, missing authority or hiding the original gap makes the assessment misleading rather than resilient.

21. A contingency funding plan should identify what?

A. Only a list of bank logos	B. Only a promise to borrow
C. Triggers, authority, sources, timing and communication	D. Only last year's profit

Answer C. An executable plan connects warning signals to authorised actions and realistic resources. A vague borrowing promise, counterparties' logos or historic profit does not establish amounts, conditions, access or the time required during stress.

22. An uncommitted line should be assumed to provide what during stress?

A. Only funding supported by a realistic availability assessment	B. Certain unlimited cash
C. A guarantee against all withdrawals	D. Automatic permanent capital

Answer A. An uncommitted provider may refuse funds, especially during common stress. Availability needs assessment rather than certainty. A line is neither permanent capital nor protection against every withdrawal and should not be counted without qualification.

23. A rupee surplus against a dollar payment tomorrow requires what?

A. No further action	B. Only addition at any exchange rate
C. Automatic use of every group balance	D. Currency-specific access and settlement analysis

Answer D. Conversion needs a market, counterparty, pricing and settlement capacity. Translating balances for reporting does not deliver dollars. Group resources may have constraints, so location and transferability must be tested before claiming coverage.

24. Why assess a subsidiary's local liquidity separately?

A. Only group totals are legally meaningful	B. Group membership guarantees unlimited support
C. Transfers from the parent may face restrictions or simultaneous stress	D. Local obligations disappear on consolidation

Answer C. Consolidation does not erase local obligations or transfer constraints. Parent support can be limited when both entities are stressed. Separate analysis preserves the distinction between resources somewhere in the group and usable local cash.

25. Forecast-versus-actual liquidity review helps detect what?

A. Guaranteed future withdrawals	B. Missing flows and systematic optimistic assumptions
C. Only spelling mistakes	D. A reason to stop reconciliation

Answer B. Comparing forecasts with realised flows reveals modelling or data weaknesses and supports improvement. It does not guarantee future behaviour or replace reconciliation. Spelling may matter for clarity but is not the purpose of this control.

B07 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 Liquidity is the ability to meet obligations when due without unacceptable losses.	**15** Liquidity ratios summarise particular features of funding and assets.
02 Banks transform short-term funding into longer-term assets and provide commitments that customers may draw unexpectedly.	**16** For example, INR700 crore of loans divided by INR1,000 crore of deposits gives a 70% illustrative loan-to-deposit ratio.
03 Use fictional Meridian Bank, which holds INR100 crore of liquid resources and expects large corporate deposits to mature next week.	**17** The regulatory Liquidity Coverage Ratio and Net Stable Funding Ratio have specific definitions and are taught in B08.
04 Funding liquidity concerns obtaining cash or financing to meet obligations.	**18** Collateral is useful only when it is eligible, unencumbered where required and operationally available.
05 Contingent obligations deserve special attention.	**19** Intraday management tracks the timing of payments and receipts, available settlement balances and access to intraday resources.
06 The board sets liquidity risk tolerance and oversees the framework.	**20** Operational readiness is essential.
07 A liquidity policy should define measurement, limits, buffers, funding diversification, stress tests, reporting and escalation.	**21** An institution-specific scenario might involve adverse publicity, a ratings downgrade or a major operational incident.
08 Internal pricing should recognise liquidity costs and benefits.	**22** Assume Meridian has INR100 crore usable liquidity and daily net stressed outflow of INR12 crore.
09 A maturity ladder groups expected cash inflows and outflows into time buckets.	**23** Stress results should inform buffer size, funding strategy and contingency triggers.
10 Suppose opening usable resources are INR50 crore.	**24** A contingency funding plan specifies how the bank responds to liquidity stress.
11 The ladder is a map, not a guarantee.	**25** Funding options should be ranked by availability, speed, cost and consequences.
12 Non-maturity deposits have contractual features and observed behaviour that may differ.	**26** Communication needs accuracy and coordination.
13 Loan prepayments, commitment drawdowns and deposit renewals can change when rates or economic conditions move.	**27** A consolidated surplus does not necessarily solve a local shortage.
14 Assumptions need ownership, validation and periodic review.	**28** Suppose Meridian has a rupee surplus but owes dollars tomorrow.

B08 Basel III Framework on Liquidity Standards

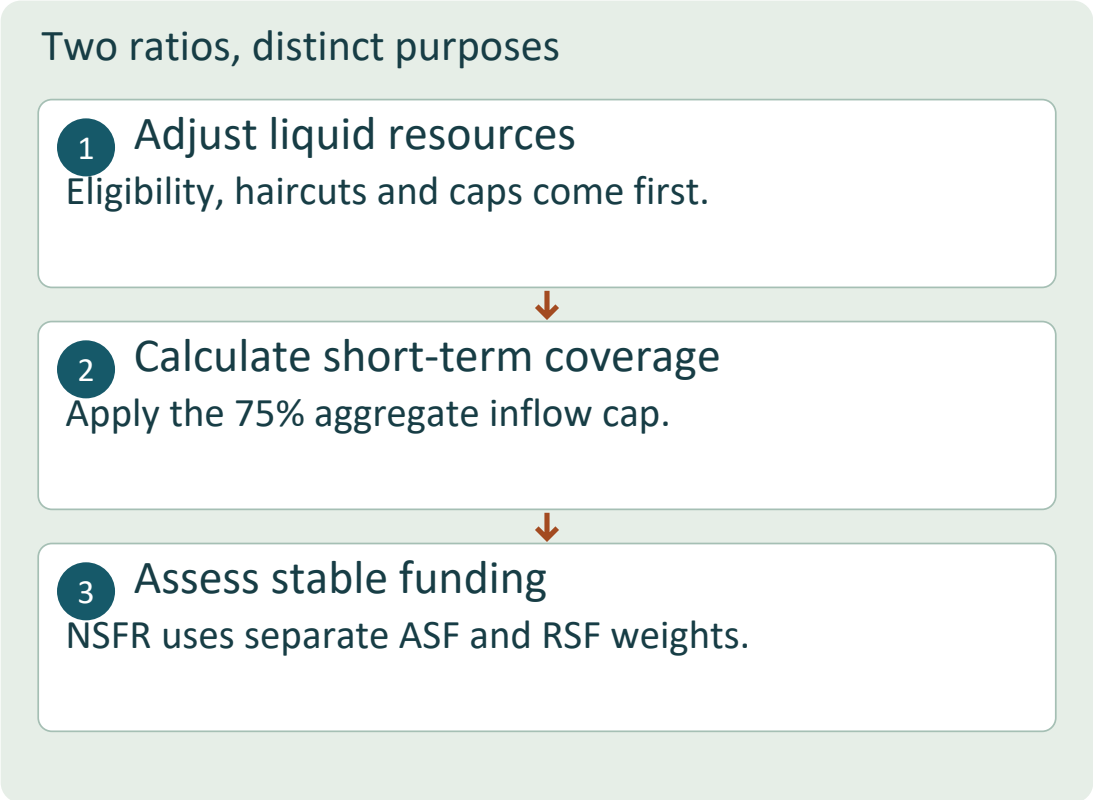
Practice / Quick Revision

Two ratios address different horizons

The Liquidity Coverage Ratio, or LCR, focuses on a stock of high-quality liquid assets relative to net cash outflows over a thirty-calendar-day stress period. The Net Stable Funding Ratio, or NSFR, focuses on the stability of funding relative to the funding needs of assets and off-balance-sheet activities over a longer structural horizon. They complement one another. A bank can hold enough liquid assets for near-term stress while relying too heavily on unstable funding for longer-term assets.

Think of fictional Meridian Bank as managing both an emergency reserve and the structure of its financing. The LCR asks whether qualifying resources cover a defined short stress window. The NSFR asks whether the balance sheet is supported by sufficient stable funding under prescribed factors. Neither is a complete forecast of actual cash flows, and neither replaces intraday management, currency analysis or a contingency plan. A ratio is useful only when its numerator and denominator follow the relevant definitions.

This chapter uses the retrieved RBI Commercial Banks Asset Liability Management Directions, 2025, including provisions expressly effective from April 2026, together with the Basel framework as conceptual background. The applicable entity and current amendments must still be checked for publication or operational use. Calculators expose simplified inputs and exclusions. They do not silently determine whether a real asset qualifies as HQLA or assign a regulatory category to a customer merely from a product label.



Eligibility, haircuts and caps come first. Apply the 75% aggregate inflow cap. NSFR uses separate ASF and RSF weights.

Understand the LCR numerator

High-quality liquid assets, or HQLA, should retain liquidity under stress and be available for use subject to the framework's conditions. Credit quality is relevant, but an asset is not automatically HQLA simply because its issuer appears strong. Market characteristics, operational availability and prescribed eligibility matter. Assets already encumbered for another obligation may not provide the assumed buffer. The bank should be able to identify, value and monetise the qualifying stock within the conditions used in the calculation.

Level 1 and Level 2 classifications have different treatment. Level 2 is further divided where the framework permits, with applicable haircuts and composition limits. A haircut reduces recognised value; a composition cap restricts how much of the final stock can come from a category. These are different operations. Applying a haircut does not establish that the remaining amount is fully includible if the portfolio then exceeds a cap. The operational calculation can also require adjustments for relevant short-term transactions.

For teaching, consider an eligible asset valued at INR100 crore with an explicitly assumed 15% haircut. Its adjusted amount is INR85 crore before any composition restriction. The example demonstrates arithmetic only; it does not assign that haircut to every security. The chapter's main LCR calculator therefore accepts HQLA already adjusted for eligibility, haircuts, caps and required transaction adjustments. This avoids presenting an incomplete category engine as if it were a full regulatory return.

Calculate stressed outflows by category

Expected outflows are derived by applying the applicable runoff or drawdown factors to relevant balances and obligations. The factors reflect regulatory stress assumptions, not a forecast that exactly that proportion of every customer's money will leave. Classification matters: retail deposits, wholesale funding, operational deposits and commitments can have different treatment. A product's marketing name is insufficient evidence for a favourable category. The bank needs the facts and documentation that establish eligibility under the governing definition.

The retrieved RBI direction states that, from 1 April 2026, retail deposits enabled with internet and mobile banking attract an additional 2.5 percentage points of runoff: 7.5% for stable and 12.5% for less stable deposits within those categories. The change is percentage points, not a 2.5% multiplication of the old rate. Stable classification still requires the relevant conditions; digital access alone does not determine whether a deposit is stable or less stable.

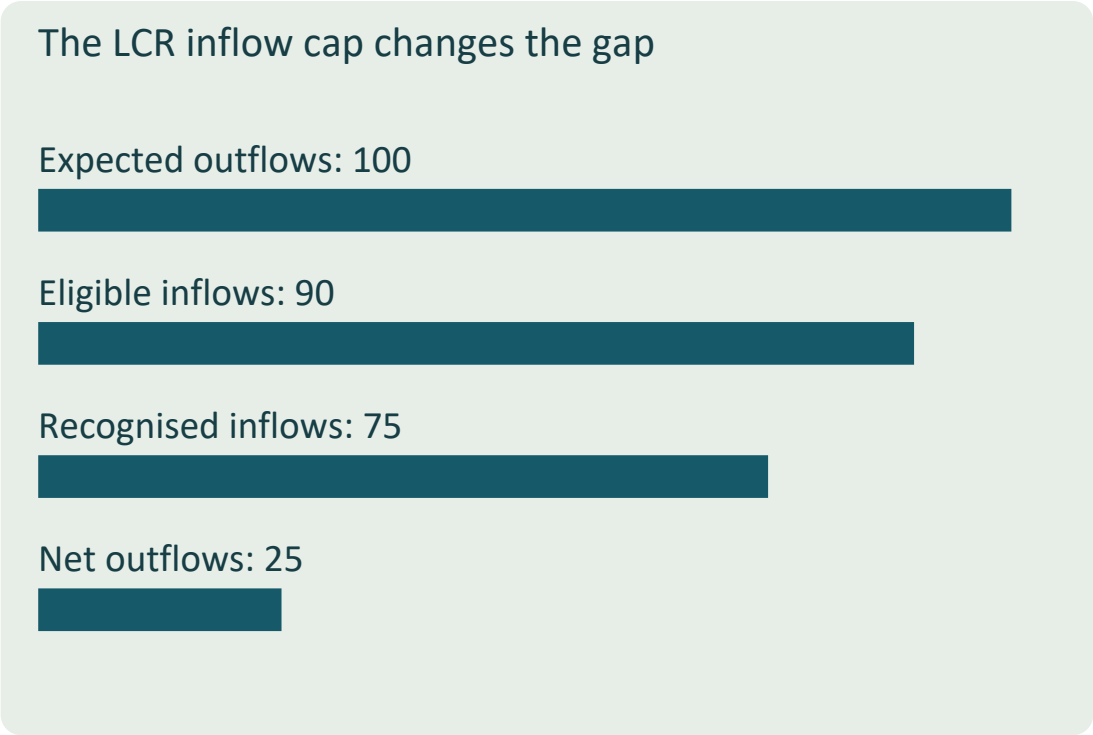
For a transparent illustration, INR200 crore of qualifying stable digitally enabled retail deposits at 7.5% gives INR15 crore outflow. INR100 crore of qualifying less stable digitally enabled retail deposits at 12.5% gives INR12.5 crore. Combined outflow is INR27.5 crore before other categories. The calculation assumes the categories have already been correctly established. It excludes wholesale funding, derivatives, commitments and other potential demands, so it is an example of one component rather than a complete LCR denominator.

Apply the inflow cap correctly

The LCR denominator uses expected outflows less eligible expected inflows, with aggregate inflows capped at 75% of expected outflows under the standard calculation discussed here. This means a bank cannot ordinarily offset every outflow using expected receipts and hold no buffer. Inflows themselves require appropriate classification and treatment before the cap is applied. A receivable's face value is not automatically a fully recognised inflow, particularly where repayment assumptions, counterparties or other conditions affect eligibility.

Suppose expected outflows are INR100 crore and eligible inflows before the cap are INR90 crore. The cap is INR75 crore, so recognised inflows are INR75 crore and net outflows are INR25 crore. Subtracting all INR90 crore would incorrectly produce INR10 crore. With adjusted HQLA of INR30 crore, the LCR is 30 divided by 25 times one hundred, or 120%. The cap changes the result substantially, which is why it must be applied before calculating the ratio.

If eligible inflows are only INR40 crore, recognised inflows remain INR40 crore and net outflows are INR60 crore. The same INR30 crore HQLA then gives an LCR of 50%. The calculator shows the cap, recognised inflows and denominator separately so students can trace the result. Where supplied outflows are zero, the simplified ratio is undefined rather than a meaningful finite percentage; the tool reports that condition instead of displaying a misleading compliance result.



INR crore; recognised inflows = min(90, 75% × 100). HQLA 30 gives LCR 120%. [('Expected outflows', 100), ('Eligible inflows', 90), ('Recognised inflows', 75), ('Net outflows', 25)]

Interpret the ratio and buffer use

An LCR of 100% means adjusted HQLA equals the calculated net stressed outflows under the specified framework. A higher ratio indicates more coverage on that measure, but it does not guarantee survival under every scenario. Actual withdrawals can differ, resources may be concentrated in one currency and intraday timing can matter. Interpretation should include the composition and availability of the buffer, the reliability of classifications and the institution's other liquidity indicators. A single percentage should not replace judgement.

The liquidity buffer is intended to be usable during stress, within the supervisory framework. A decline below a normal minimum during a stress episode requires appropriate engagement and action, rather than a simplistic assumption that the bank must never use its liquid assets. The applicable supervisory response depends on circumstances and rules. For learning purposes, distinguish ordinary compliance monitoring from the management of an actual stress event. Selling assets solely to protect a reported ratio can be counterproductive if it worsens the underlying situation.

Window dressing can also distort interpretation. A ratio temporarily improved at a reporting date may not represent the bank's usual position. Management should monitor the relevant measures with appropriate frequency and investigate large movements. Compare the reported stock with actual collateral availability and funding transactions. If improvement comes from short-term balance-sheet changes that reverse immediately, the structural vulnerability may remain. Reliable reporting explains the cause and sustainability of the change, not merely the resulting colour of a dashboard indicator.

Use monitoring tools beyond LCR

Contractual maturity mismatch reveals the timing of obligations without relying entirely on behavioural assumptions. Funding concentration shows dependence on particular counterparties, instruments or markets. Available unencumbered assets identify resources that may be mobilised, subject to eligibility and operational constraints. These views answer questions that an aggregate LCR can hide. A bank should reconcile them and explain differences rather than assume that all liquidity reports must produce the same number because they concern the same institution.

Currency-specific analysis is important when obligations and resources are not in the same currency. An aggregate ratio can look strong while one significant currency faces a shortage. Conversion may require market access and create settlement or collateral needs. Market-related indicators, such as funding spreads and market access, can provide early warning of confidence or liquidity deterioration. These indicators require interpretation: a broad market movement and a bank-specific widening can have different implications for the institution's funding options.

Monitoring tools should connect to escalation and contingency planning. If one provider accounts for a large share of short-term funding, management should assess replacement capacity before that provider withdraws. If unencumbered assets are held in another entity, test transferability. If contractual gaps depend on repeated renewal, challenge the renewal assumption. The tools become valuable when they reveal an action or decision, rather than when they merely add more tables to a report already too long to use.

Understand available stable funding

Available Stable Funding, or ASF, weights capital and liabilities according to the stability assigned by the framework. Longer-term and more dependable sources generally receive greater recognition than short-term volatile sources. The amount of funding and its assigned factor are separate inputs. A liability of INR100 crore with a 95% ASF factor contributes INR95 crore, not INR100 crore. Classification requires the applicable maturity, counterparty and product conditions; it cannot be selected simply to improve the resulting ratio.

For a teaching basket, assume INR100 crore of qualifying capital or long-term funding at 100%, INR200 crore of qualifying stable retail deposits at 95%, and INR100 crore of qualifying less stable retail deposits at 90%. ASF is 100 plus 190 plus 90, or INR380 crore. The supplied factors illustrate categories in the retrieved framework but do not establish that every balance with a similar label qualifies. The calculator allows factors to be entered explicitly and records that classification remains a separate task.

Residual maturity and effective stability matter. A nominally long-term instrument with a relevant early repayment feature may require careful treatment. Some short-term liabilities receive little or no recognition under the applicable category. Funding that appears cheap can therefore create a larger structural mismatch. The NSFR encourages management to consider the stability cost of funding choices, but pricing decisions should also consider liquidity stress, customer behaviour and the wider business model rather than optimise one ratio in isolation.

Understand required stable funding

Required Stable Funding, or RSF, applies factors to assets and relevant off-balance-sheet activities according to the framework's assessment of their funding needs. Liquid short-term assets generally require less stable funding than illiquid or long-term assets, subject to the detailed rules. Encumbrance, maturity, counterparty and asset quality can affect treatment. An asset's accounting classification alone does not establish its RSF factor. The calculation should preserve the facts supporting the assigned category so that review can identify errors.

Assume a teaching basket containing INR50 crore cash at 0%, INR300 crore of qualifying assets assigned 85%, and INR100 crore fixed assets assigned 100%. RSF is zero plus INR255 crore plus INR100 crore, or INR355 crore. These are supplied classifications for illustration, not a statement that all loans receive 85%. With the previous INR380 crore ASF, NSFR is 380 divided by 355 times one hundred, approximately 107.04%. All amounts must use the same currency and unit.

Off-balance-sheet commitments can add a funding requirement even though no loan is currently drawn. Derivatives and secured financing can involve specific treatments that a basic weighted-basket exercise does not capture. The calculator therefore presents three generic asset rows and three funding rows with user-supplied factors. It teaches the weighted-sum mechanism and sensitivity; it is not a substitute for the complete regulatory return. A zero RSF denominator is reported as undefined in this simplified tool rather

than converted into a finite score.

Compare structural and short-term remedies

A bank with weak NSFR may consider more stable funding, a different asset mix or reduced growth in assets that require substantial stable support. Raising a very short-term borrowing may improve immediate cash but contribute little to ASF under its classification. Conversely, issuing suitable long-term funding can improve structural funding while still requiring careful management of near-term settlement and deployment. The remedy should match the measure and the underlying vulnerability, rather than merely increase the balance-sheet total.

Suppose ASF is INR380 crore and RSF INR400 crore, giving 95%. An additional INR30 crore of qualifying 100% ASF funding, with no change in RSF, produces INR410 crore ASF and a ratio of 102.5%. The assumption that RSF is unchanged is important. If the new funds are used to acquire assets with their own RSF requirement, the denominator also changes. A complete plan evaluates both sides, including costs, maturity, collateral and the consequences for LCR and other constraints.

Likewise, acquiring HQLA may improve LCR but has funding and return implications. Selling a loan can change credit exposure, earnings and NSFR, while the cash proceeds and subsequent use affect liquidity. Integrated planning should consider these interactions. A proposal that improves one ratio while creating a larger vulnerability elsewhere is not automatically a good decision. Present before-and-after measures, assumptions and residual risks so management can assess the whole balance-sheet effect rather than celebrate an isolated improvement.

Work a combined case without mixing formulas

Meridian has adjusted HQLA of INR60 crore, thirty-day outflows of INR180 crore and eligible inflows of INR150 crore. The inflow cap is INR135 crore, giving net outflows of INR45 crore and LCR of approximately 133.33%. Its ASF is INR500 crore and RSF INR520 crore, giving NSFR of approximately 96.15%. The bank therefore has strong coverage in this simplified short-term measure but insufficient coverage against an assumed 100% structural benchmark. The two results are not contradictory.

Now assume an additional INR40 crore of qualifying long-term funding is raised and retained as an asset assigned zero RSF for the exercise. ASF rises to INR540 crore and NSFR to approximately 103.85%. If that asset also qualifies fully in the adjusted HQLA input, LCR could rise, but this must be established separately. Do not automatically add every new cash receipt to HQLA without checking the applicable treatment and operational availability. The case deliberately separates arithmetic from eligibility decisions.

An alternative is to change the asset mix, but transaction costs, losses and customer effects matter. A rapid sale of long-term assets may reduce RSF while realising a loss that affects capital. Replacing unstable funding may increase interest expense. Good management compares feasible alternatives and their full effects. The examination skill is to keep the formulas distinct, calculate accurately and explain what each result means before recommending an action. A single word such as “borrow” is not an adequate remedy without describing the funding's maturity and treatment.

Keep classifications and source dates auditable

The bank needs reliable records of balances, categories, factors, adjustments and supporting evidence. Classification changes should be controlled and explained. A deposit should not move into a more favourable category merely because the ratio is close to a limit. Reconcile source systems, check duplicate assets and investigate large changes. Independent review should test both arithmetic and eligibility. A perfectly calculated ratio built from incorrectly classified balances remains wrong, even when a spreadsheet produces no formula errors.

Source management is part of the learning discipline too. Record the rule's issuer, title, version, scope and commencement date. A rule published today may become effective later, while an examination may use a prescribed cutoff. The package distinguishes retrieved rules from illustrative assumptions and provides source links for review. Internet access is needed to revisit those links, but all teaching text, diagrams, questions and calculators are bundled for offline use. Current source review should precede public academic approval.

For revision, remember the sequence rather than only the initials: establish adjusted HQLA; calculate eligible stressed outflows and inflows; apply the inflow cap; compute LCR; then separately weight stable funding and required funding to compute NSFR. Use monitoring tools to expose timing, concentration and currency weaknesses that either ratio may hide. The core lesson is that a short-term buffer and a sustainable funding structure solve related but different problems, and a resilient bank needs both alongside effective daily liquidity management.

Practice with explanations

01. The LCR primarily addresses which horizon?

A. Every future obligation without limit	B. Thirty calendar days of defined stress
C. Only ten trading years	D. Only a single intraday payment

Answer B. LCR compares adjusted HQLA with defined net outflows over thirty calendar days. It is not a lifetime funding guarantee or an intraday measure. Other tools and NSFR address complementary timing and structural concerns.

02. The NSFR primarily addresses what?

A. Only one bond's duration	B. Only today's payment queue
C. Only foreign-exchange profit	D. Structural stability of funding relative to funding needs

Answer D. NSFR weights available and required stable funding. Intraday queues, market sensitivity and trading profit answer different questions. A bank can therefore have a strong short-term LCR and a weak structural NSFR without contradiction.

03. High credit quality alone proves HQLA eligibility?

A. Yes, even if unavailable	B. Yes, irrespective of the governing rules
C. No, market and operational conditions also matter	D. Yes, for every asset

Answer C. Eligibility includes more than issuer quality. Availability, market characteristics and prescribed conditions matter. An asset cannot be assumed fully usable merely because it is highly rated or has a favourable accounting description.

04. A haircut differs from a composition cap because?

A. A haircut adds value	B. They are always the same operation
C. A cap guarantees liquidity	D. It reduces value while the cap limits category inclusion

Answer D. Haircuts adjust recognised amounts; composition caps constrain the final mix. Applying one does not automatically satisfy the other. Neither increases value or guarantees actual liquidity, and relevant transaction adjustments may also be required.

05. An eligible 100 crore asset with assumed 15% haircut contributes before caps what?

A. INR100 crore	B. INR85 crore
C. INR115 crore	D. INR15 crore

Answer B. Multiply by one minus the haircut: 100×0.85=85. Fifteen is the deduction, 115 adds it, and 100 ignores it. This supplied arithmetic does not itself establish the asset's category or final includible amount.

06. The main LCR calculator's HQLA input must be what?

A. Only the original face value	B. Every pledged asset counted again
C. Any total investment balance	D. Already adjusted for eligibility, haircuts, caps and required adjustments

Answer D. The simplified tool does not classify assets or implement the complete HQLA engine. Supplying a raw investment total, unavailable collateral or face value can overstate the numerator. The user must establish the adjusted input separately.

07. An additional 2.5 percentage points on 5% gives what?

A. 7.5%	B. 2.5%
C. 12.5%	D. 5.125%

Answer A. Percentage points add directly: 5+2.5=7.5. Multiplying 5% by 1.025 gives 5.125%, a different operation. The other answers omit the base or use another category's rate.

08. Under the retrieved April 2026 provision, stable digitally enabled retail deposits use what runoff in the stated category?

A. 100% always	B. 5% unchanged
C. 2.5% total	D. 7.5%

Answer D. The retrieved rule adds 2.5 percentage points to the stable category's 5%, giving 7.5%. Classification conditions still apply. Five omits the addition, 2.5 is only the increment, and 100 is not the stated treatment.

09. INR200 crore at a supplied 7.5% runoff produces what outflow?

A. INR150 crore	B. INR7.5 crore
C. INR15 crore	D. INR192.5 crore

Answer C. Outflow is 200×0.075=15 crore. The alternatives mis-scale the percentage, substitute the rate as money or subtract unlike quantities. Correct category assignment remains a prerequisite outside this arithmetic exercise.

10. INR100 crore at 12.5% plus INR200 crore at 7.5% gives what total?

A. INR300 crore	B. INR27.5 crore
C. INR37.5 crore	D. INR20 crore

Answer B. The components are 12.5 and 15 crore, totalling 27.5. Adding percentage rates alone gives no monetary total; the full balance is not the stressed outflow when the supplied factors are below 100%.

11. With outflows 100 crore, the standard 75% inflow cap is what?

A. INR100 crore	B. INR133.33 crore
C. INR25 crore	D. INR75 crore

Answer D. The cap is 0.75×100=75 crore. Twenty-five is the minimum net outflow when that cap binds, while one hundred ignores the cap and 133.33 results from dividing rather than applying it.

12. Outflows 100 and eligible inflows 90 crore give recognised inflows of what?

A. INR90 crore	B. INR75 crore
C. INR10 crore	D. INR190 crore

Answer B. Recognised inflows are the lesser of 90 and the 75 cap, so 75. Ninety ignores the restriction, ten is uncapped net outflow, and adding gross flows does not calculate recognised receipts.

13. HQLA 30, outflows 100 and eligible inflows 90 crore give LCR of what?

A. 300%	B. 120%
C. 30%	D. 75%

Answer B. The cap limits inflows to 75, leaving net outflows 25; 30/25=120%. Three hundred incorrectly uses uncapped net outflows, thirty uses gross outflows, and seventy-five is the cap percentage rather than LCR.

14. HQLA 30, outflows 100 and eligible inflows 40 crore give LCR of what?

A. 75%	B. 50%
C. 120%	D. 30%

Answer B. Inflow 40 is below the 75 cap, so net outflows are 60 and LCR is 30/60=50%. The other answers use a different case or confuse the cap and gross-outflow ratios with the required denominator.

15. With zero supplied outflows, the simplified LCR tool should report what?

A. Exactly minus 100%	B. Exactly 100% by definition
C. A guaranteed finite compliance score	D. An undefined ratio needing interpretation

Answer D. The simplified denominator is zero, so division does not yield a meaningful finite ratio. The tool should explain this condition rather than manufacture a compliance conclusion. Actual reporting treatment requires the applicable framework.

16. An LCR above 100% guarantees what?

A. Coverage only under the measure's definitions, not every scenario	B. No intraday need
C. No currency shortage	D. Survival under all imaginable shocks

Answer A. A ratio reflects specified eligibility and stress assumptions. It cannot guarantee all scenarios or eliminate currency and intraday constraints. Complementary monitoring and contingency planning remain essential even when aggregate coverage is high.

17. Which tool highlights reliance on one depositor or market?

A. Only a staff attendance report	B. Funding concentration analysis
C. Only a profit margin	D. Only a bond coupon schedule

Answer B. Concentration analysis identifies dependence on funding sources. Coupons and margins may affect cash economics but do not directly measure provider dependence; staff attendance is an operational input rather than this funding metric.

18. Why examine significant currencies separately?

A. Currencies can always be exchanged instantly	B. Aggregate liquidity can conceal a currency-specific shortage
C. All legal entities share unrestricted funds	D. Reporting conversion delivers settlement cash

Answer B. Conversion and transfer require access, timing and authority. A reporting equivalent is not actual cash in the required currency. Separate analysis reveals constraints that a favourable aggregate ratio can otherwise hide.

19. A 200 crore liability at 95% ASF contributes what?

A. INR190 crore	B. INR200 crore
C. INR95 crore	D. INR10 crore

Answer A. ASF contribution is 200×0.95=190 crore. Two hundred ignores weighting, ninety-five treats a percentage as money, and ten is the unrecognised portion. Category eligibility must be established before applying the factor.

20. Funding rows 100 at 100%, 200 at 95% and 100 at 90% total what ASF?

A. INR20 crore	B. INR400 crore
C. INR380 crore	D. INR285 crore

Answer C. Weighted amounts are 100, 190 and 90, totalling 380 crore. Four hundred is the unweighted balance and twenty is the excluded portion. Adding factor percentages alone cannot replace the weighted-sum calculation.

21. Assets 50 at 0%, 300 at 85% and 100 at 100% total what RSF?

A. INR85 crore	B. INR255 crore
C. INR450 crore	D. INR355 crore

Answer D. The weighted requirements are zero, 255 and 100, totalling 355 crore. Four hundred fifty is unweighted assets, 255 omits the last row, and 85 confuses a factor with a monetary requirement.

22. ASF 380 and RSF 355 crore imply NSFR of approximately what?

A. 25%	B. 107.04%
C. 100% exactly	D. 93.42%

Answer B. Divide 380 by 355 and multiply by 100 to obtain about 107.04%. The reciprocal is 93.42%; the 25 crore surplus is not a percentage. Equality would require equal numerator and denominator.

23. ASF 380, RSF 400 and new qualifying 100% ASF funding of 30 crore, with RSF unchanged, produce what?

A. 102.5%	B. 7.5%
C. 95%	D. 110%

Answer A. ASF becomes 410 and 410/400=102.5%. Ninety-five is the old ratio, 7.5 is the percentage-point increase, and 110 does not follow. The unchanged-RSF assumption is essential to the result.

24. Why can new funding change both sides of NSFR?

A. Its use may create assets with additional RSF	B. The ratio ignores assets
C. Every new asset has zero RSF	D. Funding always removes existing assets

Answer A. A funding action and its deployment affect different components. If proceeds buy assets requiring stable support, RSF can rise too. Assuming all new assets have zero requirement or ignoring asset use overstates the improvement.

25. LCR is 133% while NSFR is 96%. Best interpretation is what?

A. The arithmetic must be impossible	B. Both ratios measure exactly the same horizon
C. The lower ratio can be deleted	D. Short-term coverage can coexist with a structural funding weakness

Answer D. The ratios address complementary horizons and definitions. Different results can be consistent and informative. A structural weakness should be investigated and addressed, not hidden because another liquidity indicator appears favourable.

B08 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 The Liquidity Coverage Ratio, or LCR, focuses on a stock of high-quality liquid assets relative to net cash outflows over a thirty-calendar-day stress period.	**15** Monitoring tools should connect to escalation and contingency planning.
02 Think of fictional Meridian Bank as managing both an emergency reserve and the structure of its financing.	**16** Available Stable Funding, or ASF, weights capital and liabilities according to the stability assigned by the framework.
03 High-quality liquid assets, or HQLA, should retain liquidity under stress and be available for use subject to the framework's conditions.	**17** Residual maturity and effective stability matter.
04 Level 1 and Level 2 classifications have different treatment.	**18** Required Stable Funding, or RSF, applies factors to assets and relevant off-balance-sheet activities according to the framework's assessment of their funding needs.
05 For teaching, consider an eligible asset valued at INR100 crore with an explicitly assumed 15% haircut.	**19** Assume a teaching basket containing INR50 crore cash at 0%, INR300 crore of qualifying assets assigned 85%, and INR100 crore fixed assets assigned 100%.
06 Expected outflows are derived by applying the applicable runoff or drawdown factors to relevant balances and obligations.	**20** Off-balance-sheet commitments can add a funding requirement even though no loan is currently drawn.
07 For a transparent illustration, INR200 crore of qualifying stable digitally enabled retail deposits at 7.5% gives INR15 crore outflow.	**21** A bank with weak NSFR may consider more stable funding, a different asset mix or reduced growth in assets that require substantial stable support.
08 Suppose expected outflows are INR100 crore and eligible inflows before the cap are INR90 crore.	**22** Suppose ASF is INR380 crore and RSF INR400 crore, giving 95%.
09 If eligible inflows are only INR40 crore, recognised inflows remain INR40 crore and net outflows are INR60 crore.	**23** Likewise, acquiring HQLA may improve LCR but has funding and return implications.
10 An LCR of 100% means adjusted HQLA equals the calculated net stressed outflows under the specified framework.	**24** Meridian has adjusted HQLA of INR60 crore, thirty-day outflows of INR180 crore and eligible inflows of INR150 crore.
11 The liquidity buffer is intended to be usable during stress, within the supervisory framework.	**25** Now assume an additional INR40 crore of qualifying long-term funding is raised and retained as an asset assigned zero RSF for the exercise.
12 Window dressing can also distort interpretation.	**26** An alternative is to change the asset mix, but transaction costs, losses and customer effects matter.
13 Contractual maturity mismatch reveals the timing of obligations without relying entirely on behavioural assumptions.	**27** The bank needs reliable records of balances, categories, factors, adjustments and supporting evidence.
14 Currency-specific analysis is important when obligations and resources are not in the same currency.	**28** Source management is part of the learning discipline too.

C01 Introduction to Treasury Management

Practice / Quick Revision

Understand the treasury's purpose

A bank's treasury coordinates money, market exposures and settlement resources so that the institution can conduct its business within approved financial and risk boundaries. It manages cash and funding, investments, foreign-exchange positions and relevant hedges, while supporting customer transactions. Its purpose is wider than buying securities cheaply and selling them at a profit. A treasury that earns an attractive trading return but leaves the bank unable to settle a payment has failed an essential part of its role.

Consider fictional Meridian Bank. During one morning, branches report deposit withdrawals, an importer requests dollars, a corporate customer places a large deposit and a government-security trade is due for settlement. Each item creates a cash flow or exposure. Treasury needs a consolidated view of amounts, currencies, dates and reliable resources. It should distinguish confirmed receipts from estimates and recognise that money available tomorrow cannot automatically meet an obligation today. This timing discipline connects ordinary branch business with the dealing room.

The chapter explains the concept, functions, integration, globalisation, profit-centre role and organisation of treasury. Later chapters examine products, regulation, risk measurement, derivatives and asset-liability management in greater detail. Here the main learning objective is to understand how decisions move from a commercial requirement through an authorised transaction to controlled settlement. Keep that whole chain in view: an accepted quote is the start of a process whose financial and operational consequences continue until obligations are discharged and records reconciled.

Distinguish liquidity, funding and investment

Liquidity management ensures that usable resources are available when obligations fall due. Funding management concerns the sources, tenor, currency and cost of the money supporting the balance sheet. Investment management concerns the deployment of funds into permitted assets within objectives and limits. These functions interact but are different. Buying a long-term bond may earn income while reducing immediate cash. Borrowing overnight may solve today's payment need while creating tomorrow's refinancing exposure. A sensible decision evaluates both effects rather than celebrating only the immediate benefit.

Assume Meridian starts with INR80 crore usable cash, expects INR25 crore confirmed receipts and must make INR70 crore payments. Before new transactions, projected cash is INR35 crore. If management requires an illustrative INR20 crore operational cushion, apparent headroom is INR15 crore. Investing INR25 crore would leave INR10 crore and breach that internal cushion unless other credible resources are available. The cushion is a teaching assumption, not a statutory percentage, and uncertain receipts should not silently be treated as confirmed funding.

The treasury should also consider the location and availability of resources. A security may be valuable but pledged, and cash in another currency may require conversion and settlement. A subsidiary surplus may face transfer restrictions. Consolidation improves visibility but does not erase these constraints. Reports should therefore show the resources usable for the actual obligation, not merely a favourable total translated into one reporting currency. The difference becomes especially important when market access deteriorates or several demands arrive together.

Identify the functions of integrated treasury

An integrated treasury brings related money-market, investment and foreign-exchange activities into a coordinated framework. Integration allows the bank to see funding and exposures across desks instead of making isolated decisions that conflict. It can support better use of information, common limits, coordinated customer pricing and consistent resource allocation. Integration does not mean that every currency, entity or portfolio can be freely netted. The economic view should preserve legal, regulatory and operational distinctions that determine what can actually be done.

Suppose a customer will pay Meridian dollars in three months while another customer needs dollars on the same date. Treasury may identify an offsetting requirement, subject to the contracts and approved treatment. If dates differ, there can still be a funding gap; if amounts differ, a residual currency position remains. The useful integrated question is what net exposure remains after valid offsets, and how to manage it. Simply adding unlike amounts or assuming every expected transaction will occur overstates the benefit.

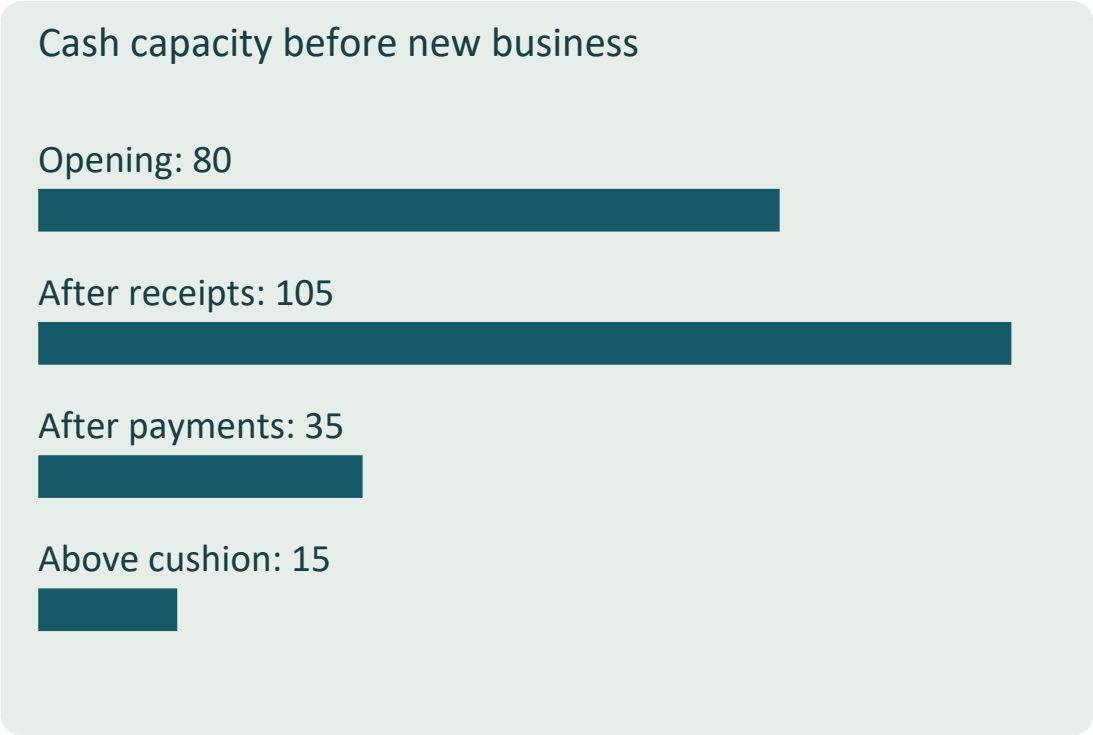
Integration also supports consistent internal transfer pricing. A lending desk should see a funding cost appropriate to the tenor and liquidity demands of its assets, while deposit businesses should receive an appropriate internal credit for resources they supply. This helps distinguish customer-business contribution from treasury's management of the resulting mismatch. The precise method is a policy choice requiring clear definitions. An opaque internal rate that changes without explanation can distort incentives just as badly as ignoring funding costs altogether.

Read the treasury balance sheet and cash map

Treasury needs to understand both stocks and flows. A balance-sheet stock records an amount at a date; a cash-flow schedule records receipts and payments over time. A security holding is a stock, while its purchase settlement, coupon and redemption are flows. Treating the entire holding as cash available today confuses value with availability. Treating every future coupon as received now does the same. A good worksheet records amount, currency, date, certainty, encumbrance and the person responsible for validating each material item.

A transaction can affect several views at once. Buying INR50 crore of bonds reduces settlement cash, creates an asset, changes interest-rate sensitivity and generates future income. Financing the purchase overnight creates a liability and rollover need. The net interest spread may look favourable, but a yield movement can cause valuation loss and the funding source may disappear. The decision therefore needs a combined assessment of earnings, market exposure, liquidity, capital and operational capability under the bank's approved framework.

Forecast quality should be reviewed against actual results. If branches repeatedly underestimate withdrawals or a business line reports commitments late, treasury's apparent mistakes may partly reflect upstream information weaknesses. The response should correct data ownership and reporting, not merely add a larger unexplained cushion. Record forecast assumptions and investigate material differences. Reliable cash management depends as much on timely operational information as on the dealing team's ability to quote a competitive market rate.



INR crore. Opening 80 + inflows 25 − outflows 70 = 35; cushion 20 leaves 15. [('Opening', 80), ('After receipts', 105), ('After payments', 35), ('Above cushion', 15)]

Understand the effect of globalisation

Globalisation connects domestic banks with international customers, funding sources, currencies and market developments. Cross-border trade creates payment and hedging needs; international investment changes capital flows; overseas operations introduce additional legal entities and time zones. A development abroad can influence domestic exchange rates, bond yields or funding conditions. Treasury consequently needs to understand transmission channels rather than assume that a domestic portfolio is insulated because its assets are denominated in the local currency.

International access can broaden funding and investment opportunities, but it creates new dependencies. Foreign-currency borrowing may appear cheaper before exchange-rate or hedging costs. A cross-border asset can create country, transfer and settlement exposure alongside credit risk. Different holiday calendars and operating hours can affect the time available to obtain funds or resolve an error. These details belong in the transaction design. They should not be left for settlement staff to discover after a price has been agreed with the customer.

For example, an Indian borrower receiving local-currency income may find a foreign-currency coupon attractive. If the currency of repayment appreciates, the domestic-currency burden can rise. Treasury should compare consistent cash flows, including an appropriate hedge where relevant, fees and funding dates. A low foreign headline rate is not a complete cost comparison. Regulatory eligibility is another separate question: economic attractiveness cannot establish that a borrower, lender, instrument or use of proceeds is permitted under the applicable framework.

Explain the evolution toward a profit centre

Treasury traditionally performs necessary service and resource-management functions, but it can also earn income from customer dealing, investment and authorised market activity. A profit-centre approach makes performance visible and encourages disciplined use of resources. It should include costs and risks rather than reward gross dealing income alone. Profits can reflect market movements, funding allocations or valuation assumptions rather than superior decisions. Management needs a clear explanation of how the result arose and whether it is sustainable within appetite.

Consider customer dealing income of INR12 crore, funding cost of INR4 crore, operating cost of INR2 crore and an explicitly supplied expected-loss adjustment of INR1 crore for a one-year illustration. Contribution is INR5 crore. If allocated capital is INR25 crore, illustrative risk-adjusted return is 20%. This calculation depends on the stated convention and excludes tax. It is not a universal accounting definition or a regulatory return. Its value is to show why gross revenue and risk-adjusted contribution can lead to different performance conclusions.

Profit objectives should not undermine essential service and control responsibilities. A treasury may rationally retain liquidity that earns less than an illiquid investment because the buffer protects payment capacity. A dealer should not increase exposure beyond authority to recover a loss or meet a target. Incentives should recognise risk, conduct, control quality and sustainable customer outcomes. Independent valuation and oversight are particularly important when reported profit influences compensation or creates pressure to conceal an unfavourable position.

Separate front, middle and back-office responsibilities

The front office executes authorised transactions and manages customer or market relationships within approved limits. The middle-office function commonly provides independent risk measurement, limit monitoring and challenge. The back office confirms, settles, records and reconciles transactions. Actual organisational names vary, so focus on the duties and independence rather than a rigid label. The important principle is that a person should not be able to create a sensitive transaction, approve it and conceal its consequences through unchecked control of the records.

In a foreign-exchange trade, the front office agrees the authorised terms and records them promptly. Independent oversight evaluates the resulting position and relevant limits. Settlement staff verify instructions and ensure that the agreed currencies and amounts move on the correct dates. Reconciliation confirms that records and actual movements match. A discrepancy needs investigation and escalation. None of these stages proves that all the others occurred, so an accepted deal ticket should not be used as a substitute for settlement evidence.

Separation can be proportionate to the institution's size, but conflicting duties still need effective controls. Small teams may require compensating review, restricted access and clear approval arrangements. Shared credentials or unrestricted amendments undermine the audit trail. Emergency procedures should specify authority, logging, expiry and subsequent checking. A control that operates only when staffing is comfortable may fail precisely during the absence or disruption when the bank needs reliable oversight most.

Follow a deal from proposal to reconciliation

The trade life cycle begins with a legitimate requirement or an authorised position decision. Before execution, establish product permission, counterparty limits, market-risk capacity, documentation and settlement capability. The dealer agrees price and terms, captures the deal and preserves the evidence required by the approved process. Independent confirmation helps detect differences in amount, currency, rate or date. Late capture is dangerous because risk systems and cash forecasts may omit a position that is already binding on the bank.

Settlement requires verified instructions and sufficient resources. A change in beneficiary or settlement details should follow controlled authentication rather than an informal message from an unfamiliar source. After settlement, reconcile bank accounts, custody records and internal ledgers as appropriate. An unresolved difference can represent a timing item, an error or a more serious event. Ageing and monetary value help prioritise investigation, but material issues should not be repeatedly rolled forward merely because they are inconvenient to resolve.

Cancellation and amendment are also controlled events. Changing a trade after execution can alter cash flows, valuation and exposure. Systems should retain who changed what, why and under whose authority. A

cancellation should not erase the historical evidence of the original transaction. Review unusual amendment patterns, particularly near reporting dates or loss events. The objective is a complete, traceable record that supports both operational accuracy and independent assessment of the treasury's actual positions and performance.



Front office captures complete terms. Independent functions challenge exposure. Verify actual movements and resolve breaks.

Connect committees, limits and daily decisions

The board establishes direction and oversight, while senior management implements policy and ensures resources. An asset-liability committee commonly coordinates balance-sheet decisions involving funding, liquidity and interest-rate exposure. Treasury executes within delegated authority; independent risk challenges and monitors. These responsibilities should connect rather than overlap ambiguously. A committee decision needs an owner, implementation conditions and reporting. Minutes that record discussion without a decision or follow-up can leave important vulnerabilities unchanged despite frequent meetings.

Limits should match the exposure being managed. A counterparty limit addresses potential loss from that party; a position or sensitivity limit addresses market exposure; a liquidity threshold addresses resources and obligations. A notional limit alone cannot describe every risk. Warning thresholds should create time to act before a hard boundary is reached. If a limit is breached, establish the cause, contain exposure where appropriate and escalate under authority. Retrospectively increasing the limit should not become the ordinary way of avoiding accountability.

New-product approval connects strategy with operational readiness. The bank should understand valuation, legal terms, accounting, customer suitability, settlement, systems and stress behaviour before dealing. A product is not ready merely because another bank offers it or a dealer can obtain a quote. Approval conditions need owners and evidence of completion. Post-implementation review should compare actual behaviour with the assumptions used at approval and close weaknesses before the activity grows beyond the bank's ability to control it.

Interpret treasury reports as evidence

A useful daily report connects positions, cash needs, limits, valuation changes, profit attribution and exceptions. It should explain material movements rather than present numbers without causes. A lower risk estimate can reflect reduced exposure, quieter historical markets or a missing trade; these explanations have very different implications. Reports should distinguish actual balances from estimates and identify incomplete data. Independent review should challenge unusually favourable results as well as obvious losses, especially when incentives create pressure to report success.

Profit attribution separates sources such as carry, customer spread, price movement, funding costs and other defined components. The method should reconcile to the relevant financial records and remain consistent across periods. An unexplained residual deserves investigation. Similarly, a cash forecast should reconcile to actual receipts and payments. A report's visual polish cannot substitute for these controls. The user of the report needs to understand what changed, why it changed and what decision is required before the next obligation or limit event.

For revision, follow the sequence: identify the business requirement, map cash flows and exposures, establish authority, execute, confirm, settle, reconcile and review. Explain how integration improves visibility while retaining independent controls and real constraints. Distinguish funding from investment, cash from asset value and gross income from risk-adjusted performance. This structure prepares you for later treasury calculations because it establishes what each number represents and why a mathematically correct answer can still support a poor decision when the process or assumptions are incomplete.

Practise a coordinated morning decision

Return to Meridian's opening INR80 crore, confirmed inflows of INR25 crore and outflows of INR70 crore. A customer now requests a same-day transaction requiring another INR20 crore payment, while a dealer proposes an INR10 crore investment. Both requests together would reduce cash from INR35 crore to INR5 crore, below the assumed INR20 crore internal cushion. The treasury should assess feasible funding or rescheduling within contractual obligations and authority before agreeing to the investment. The customer requirement and discretionary deployment should be considered together.

Suppose treasury arranges INR15 crore of authorised same-day funding. Projected closing cash becomes INR20 crore after both transactions, but the new borrowing creates its own maturity and cost. Record the future repayment and test whether tomorrow's forecast can support it. A solution to today's cash problem should not disappear from tomorrow's report. The relevant counterparty, collateral and operational conditions also need checking before the funding can be treated as available rather than merely proposed.

The final recommendation should state the action, assumptions, residual exposure and monitoring. Front office records the trades, independent risk checks limits and back office verifies settlement and reconciliation. Management receives an explanation of the borrowing cost and the investment's contribution. This simple case illustrates integrated treasury in practice: several desks may act, but the bank needs one coherent view of resources, risk and accountability. That view supports service reliability and sustainable returns rather than treating dealing profit as the sole measure of success.

Practice with explanations

01. Which statement best describes treasury's core purpose?

A. Replace every business department	B. Coordinate resources and exposures within approved boundaries
C. Invest all available cash immediately	D. Maximise trading revenue regardless of payments

Answer B. Treasury coordinates cash, funding and exposures. Trading revenue alone ignores obligations; other departments retain responsibility, and investing every balance can leave insufficient resources for settlement or required buffers.

02. Opening cash 80, confirmed receipts 25 and payments 70 crore leave what?

A. INR175 crore	B. INR55 crore
C. INR35 crore	D. Minus INR45 crore

Answer C. The position is 80+25-70=35 crore. Adding payments, omitting opening cash or reversing the cash-flow signs produces the other values rather than a usable closing balance.

03. With projected cash 35 and an assumed cushion 20 crore, headroom is?

A. INR15 crore	B. INR35 crore
C. INR55 crore	D. INR20 crore

Answer A. Headroom is projected cash less the required cushion: 35-20=15. Cash itself and the cushion are separate inputs; adding them does not measure capacity for an additional deployment.

04. Investing 25 crore from that 35 crore position leaves what?

A. INR10 crore, below the assumed cushion	B. No cash effect
C. INR60 crore, above the cushion	D. INR25 crore, exactly the cushion

Answer A. Investment settlement consumes cash, leaving ten crore. It falls below the twenty-crore assumed cushion; the transaction does not create cash or leave the investment amount as the closing balance.

05. Funding management primarily considers what?

A. Only yesterday's share price	B. Only customer advertising
C. Only a security's coupon	D. Sources, tenor, currency and cost of money

Answer D. Funding concerns how resources are obtained and maintained. Coupon, advertising and share-price information may inform other decisions, but none alone describes the source and maturity of the bank's funding.

06. Why is a valuable pledged bond not automatically usable cash?

A. Market value is identical to settlement cash	B. Pledging always cancels ownership
C. Availability and mobilisation conditions can restrict its use	D. All bonds are worthless

Answer C. Value and availability differ. Encumbrance and execution timing matter; the bond is not necessarily worthless or ownership-cancelled, and a valuation does not itself complete a cash-generating transaction.

07. Integration of treasury should improve what?

A. Automatic legal netting of every position	B. Freedom to ignore entity constraints
C. Visibility and coordination across related desks	D. Removal of independent controls

Answer C. Integration improves information and coordinated decisions. It does not erase legal boundaries, establish every netting right or justify combining conflicting duties without independent oversight and reliable records.

08. Two opposite USD flows have different dates. What may remain?

A. No settlement obligation	B. Automatic profit equal to both principals
C. A guaranteed complete offset	D. A timing and funding gap

Answer D. Amounts alone do not establish matching cash flows. Different dates can require interim funding; both contracts still need performance, and adding principals does not calculate any economic profit.

09. A bond holding is a stock while its coupon payment is what?

A. Always a default	B. A cash flow
C. Another identical stock	D. An internal limit

Answer B. The holding is measured at a date; the coupon is a payment over time. It is neither automatically a default nor a limit, and treating it as an immediately available stock confuses timing.

10. Why compare forecasts with actual cash flows?

A. To detect missing flows and biased assumptions	B. To remove reporting ownership
C. To guarantee tomorrow repeats today	D. To avoid all future liquidity buffers

Answer A. Comparison reveals data and forecasting weaknesses. It cannot guarantee future behaviour or replace accountability and buffers; instead it supports better assumptions and timely correction of recurring information failures.

11. Globalisation can affect a domestic portfolio through what?

A. Cross-border funding, rates and confidence channels	B. Automatic protection from external shocks
C. No channel if assets are in rupees	D. Only foreign branch furniture

Answer A. Domestic-currency assets can still react to global rates, flows and confidence. Geography or denomination does not eliminate transmission; overseas physical assets alone do not explain the financial channels.

12. A low foreign-currency coupon should be compared with what?

A. No repayment schedule	B. Only the domestic coupon number
C. Fees, hedging and consistent domestic cash flows	D. Only the issuer's preferred forecast

Answer C. Net proceeds, currency and timing determine economic cost. A headline comparison omits material effects, while ignoring repayment or assuming a favourable forecast treats uncertainty as a guaranteed benefit.

13. Income 12, funding 4, operations 2 and expected loss 1 crore give contribution of?

A. INR8 crore	B. INR5 crore
C. INR12 crore	D. INR6 crore

Answer B. Deduct all stated costs: 12-4-2-1=5. Eight omits operations and loss, six omits expected loss, and twelve is gross income rather than the supplied contribution measure.

14. Contribution 5 and allocated capital 25 crore imply illustrative return of?

A. 5%	B. 20%
C. 25%	D. 500%

Answer B. Contribution divided by allocated capital is 5/25×100=20%. The input amounts are not themselves percentages, and multiplying rather than dividing gives an incorrect scale. Use the same annual horizon for contribution and the return comparison.

15. Why might treasury retain a low-yield liquidity buffer?

A. It automatically raises trading profit	B. Low yield guarantees no risk
C. Every low-yield asset is mandatory	D. It supports payment capacity and resilience

Answer D. A buffer can serve liquidity objectives despite opportunity cost. Its purpose does not prove every such asset is compulsory or riskless, and holding it does not automatically increase trading income.

16. Who normally executes authorised market transactions?

A. Nobody until accounting closes	B. Internal audit alone
C. Only the external regulator	D. Front office

Answer D. Front office executes within authority. Audit provides assurance, the regulator does not run ordinary dealing, and waiting for accounting closure would not describe the actual transaction life cycle.

17. Independent limit monitoring is commonly associated with what?

A. Middle-office risk oversight	B. Only the originating dealer
C. Only the customer	D. Only marketing

Answer A. Independent oversight challenges positions and limits. Sole reliance on the originator creates conflicts; marketing and customers do not replace the bank's own independent measurement and escalation responsibilities.

18. Confirmation, settlement and reconciliation are commonly associated with what?

A. Back-office functions	B. Only speculative strategy
C. Only market forecasts	D. Only annual budgeting

Answer A. Back-office processes verify terms and completion. Strategy, budgets and forecasts serve other purposes and do not establish that the agreed assets or currencies actually moved correctly.

19. Why is late trade capture dangerous?

A. Risk and cash systems may omit a binding obligation	B. It removes the need for confirmation
C. It always improves valuation	D. The trade becomes legally nonexistent

Answer A. A trade can bind the bank before systems reflect it. Late capture understates exposure; it does not improve value, cancel obligations or replace independent verification of the agreed terms.

20. A changed settlement instruction should trigger what?

A. Deletion of original details	B. Immediate acceptance from any message
C. Controlled authentication and approval	D. Automatic cancellation of every trade

Answer C. Sensitive changes need verification and an audit trail. Unchecked messages invite error or fraud; deleting history weakens control, while blanket cancellation is not a proportionate substitute for investigation.

21. A trade amendment should preserve what?

A. Only the latest amount with no history	B. Who changed what, why and under whose authority
C. Only a new marketing reference	D. No record if the dealer agrees

Answer B. Traceability supports exposure, settlement and conduct review. Erasing history or relying on informal agreement prevents independent reconstruction; a marketing reference does not document the actual authorised change.

22. Passing a notional limit proves what about other limits?

A. Liquidity is guaranteed	B. No further approval can be needed
C. Every counterparty limit is satisfied	D. Other relevant constraints still require checking

Answer D. Limits address different dimensions. Size headroom does not establish counterparty, sensitivity or liquidity capacity, and the approval framework still applies to the proposed activity and any exceptions.

23. A lower reported risk estimate should prompt what?

A. A guarantee of higher profit	B. Investigation of positions, assumptions and data changes
C. Automatic confidence that controls improved	D. Immediate deletion of stress tests

Answer B. The cause can be economic or technical. Reduced measured risk may reflect missing records or quieter history; it neither proves control improvement nor eliminates stress analysis or guarantees returns.

24. Opening projection 35, new payment 20 and investment 10 crore leave what?

A. INR15 crore	B. INR25 crore
C. INR65 crore	D. INR5 crore before new funding

Answer D. Both new uses consume cash: 35-20-10=5. The alternatives add uses or omit one. The result must be compared with the assumed cushion before commitments are approved.

25. Adding 15 crore borrowing to that 5 crore result does what?

A. Eliminates tomorrow's forecast	B. Removes all collateral conditions
C. Creates permanent equity	D. Restores 20 crore cash but creates a future repayment

Answer D. Borrowing provides cash and a liability. It is not automatically equity, its maturity belongs in future forecasts, and access, collateral and authority conditions still need to be satisfied.

C01 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 Consider fictional Meridian Bank.	**15** Profit objectives should not undermine essential service and control responsibilities.
02 The chapter explains the concept, functions, integration, globalisation, profit-centre role and organisation of treasury.	**16** The front office executes authorised transactions and manages customer or market relationships within approved limits.
03 Liquidity management ensures that usable resources are available when obligations fall due.	**17** In a foreign-exchange trade, the front office agrees the authorised terms and records them promptly.
04 Assume Meridian starts with INR80 crore usable cash, expects INR25 crore confirmed receipts and must make INR70 crore payments.	**18** Separation can be proportionate to the institution's size, but conflicting duties still need effective controls.
05 The treasury should also consider the location and availability of resources.	**19** The trade life cycle begins with a legitimate requirement or an authorised position decision.
06 An integrated treasury brings related money-market, investment and foreign-exchange activities into a coordinated framework.	**20** Settlement requires verified instructions and sufficient resources.
07 Suppose a customer will pay Meridian dollars in three months while another customer needs dollars on the same date.	**21** Cancellation and amendment are also controlled events.
08 Integration also supports consistent internal transfer pricing.	**22** The board establishes direction and oversight, while senior management implements policy and ensures resources.
09 Treasury needs to understand both stocks and flows.	**23** Limits should match the exposure being managed.
10 A transaction can affect several views at once.	**24** New-product approval connects strategy with operational readiness.
11 Forecast quality should be reviewed against actual results.	**25** A useful daily report connects positions, cash needs, limits, valuation changes, profit attribution and exceptions.
12 Globalisation connects domestic banks with international customers, funding sources, currencies and market developments.	**26** Profit attribution separates sources such as carry, customer spread, price movement, funding costs and other defined components.
13 International access can broaden funding and investment opportunities, but it creates new dependencies.	**27** For revision, follow the sequence: identify the business requirement, map cash flows and exposures, establish authority, execute, confirm, settle, reconcile and review.
14 For example, an Indian borrower receiving local-currency income may find a foreign-currency coupon attractive.	**28** Return to Meridian's opening INR80 crore, confirmed inflows of INR25 crore and outflows of INR70 crore.

C02 Treasury Products

Practice / Quick Revision

Classify the economic promise

A treasury product is useful only when the banker understands what is exchanged, when cash moves and which uncertainty remains. A deposit provides funding; a bill represents a short-term claim; a bond promises contractual payments; a foreign-exchange transaction exchanges currencies; and a derivative changes the pattern of exposure. Product names are a starting point rather than an appraisal. Two instruments with similar maturities can differ substantially in issuer quality, market liquidity, collateral, settlement and the ability to exit before maturity.

Use fictional Meridian Bank, which has a temporary rupee surplus and a customer expecting a dollar payment. Its treasury must distinguish the investment decision from the currency requirement. Buying a rupee bond does not create dollars, and entering a forward does not itself provide today's investment cash. Write a product worksheet containing participant, principal, price or rate, maturity, currency, payment dates and settlement mechanism. Then add credit, market and liquidity effects. This disciplined map makes both calculations and comparisons easier.

The chapter covers foreign-exchange, money-market and securities products in domestic and global settings. It explains the mechanics rather than prescribing a currently permissible trade for every participant. Regulatory access, documentation and limits must be checked against the actual institution and transaction. A convenient market quotation is not evidence of permission. In numerical exercises, use the stated conventions and assumptions, particularly day count, compounding, quotation direction and whether a price includes accrued interest.

Read foreign-exchange spot quotations

A spot foreign-exchange transaction agrees an exchange at a specified spot value date under the relevant market convention. Spot does not universally mean instantaneous cash. Holidays, currencies and settlement arrangements matter. A quotation of INR84.20/84.25 per USD gives the quoting bank's bid and ask. The bank buys dollars at 84.20 and sells dollars at 84.25. The customer's action must be translated into the bank's perspective before selecting a side; memorising the larger number without identifying direction leads to errors.

If an importer buys USD100,000 at that quotation, the bank sells dollars and the simple rupee consideration is INR8,425,000 before charges. If an exporter sells the same dollars, the bank buys and pays INR8,420,000. The difference is INR5,000 for the same amount under the stated quote. It is a quoted spread, not automatically net profit: hedging, funding, operational costs and market movement can affect the actual contribution. Both parties also retain settlement obligations until the exchange is completed.

Cross rates connect two currency quotations, but units should guide the arithmetic. If INR per USD is 84 and USD per EUR is 1.10, the simple mid-rate implication is INR92.40 per EUR. Bid-ask cross calculations require choosing compatible sides for the actual chain of purchases and sales. Reciprocal quotations reverse and invert the spread. Do not average bid and ask for an executable customer case unless the problem expressly asks for a mid-rate estimate rather than a dealing price.

Separate forwards and swaps from forecasts

A forward fixes an exchange price today for a specified future value date. The outright rate can be quoted directly or derived from spot plus signed forward points. If spot is INR84.25 per USD and supplied points are plus INR0.35, the outright is INR84.60. A negative increment would be subtracted. Points are price units in this example, not an annual percentage. Market notation can use scaled points, so establish the scale before adding a displayed number to spot.

A forward can reduce uncertainty for a customer with a matching future cash flow. An importer agreeing to buy USD100,000 at INR84.60 knows the contractual rupee amount of INR8,460,000, excluding other costs. If the actual underlying amount or date changes, residual exposure can arise. The hedge does not prove that the supplier will deliver goods or that the customer will have rupees on the value date. Credit, legal and settlement controls therefore remain relevant alongside the currency decision.

A foreign-exchange swap combines exchanges on two different dates, often a near leg and an opposite far leg. It can manage temporary currency funding or roll a position, but its cash flows and maturity need explicit treatment. It is different from merely predicting that an exchange rate will rise. A matched economic exposure may still create cash demands between dates. Treasury should record both legs, their settlement obligations and any collateral requirements rather than treat the swap as a single unexplained net number.

Understand unsecured money-market funding

Money markets support short-term borrowing and investment. Unsecured interbank funding depends on the borrower's credit and the applicable market framework. Overnight, notice and term transactions differ in tenor and sometimes access or documentation. Do not infer eligibility from the fact that an institution needs money. For the bank, an unsecured placement creates counterparty exposure; borrowing creates a repayment obligation and refinancing risk if assets outlast the funding. A favourable short-term rate does not establish a sustainable long-term funding strategy.

Simple interest is principal multiplied by annual rate multiplied by days divided by the stated day-count basis. INR10 crore invested for seven days at an assumed 6% on a 365-day basis earns approximately INR115,068.49. Using 360 instead gives approximately INR116,666.67. Neither convention should be silently substituted for the other. The difference is modest for one deal but matters for reconciliation, comparison and aggregated performance. Record the basis beside the rate rather than assume that every money-market instrument uses the same rule.

Rollover creates a separate risk from initial pricing. A bank borrowing for seven days to hold a five-year asset may need to refinance repeatedly. The initial spread can disappear if funding rates rise, or the funds may become unavailable. A maturity-matched comparison is more informative than comparing only today's asset yield and overnight cost. The treasury's product assessment should therefore connect rate, tenor, counterparty and liquidity rather than classify a short maturity as automatically safe.

Compare secured funding and outright sales

A repo is economically a secured financing transaction structured through an agreed sale and repurchase arrangement under its documentation and applicable rules. The cash provider receives securities protection, while the cash borrower obtains funds and undertakes the reverse leg. The presence of collateral does not remove every risk. Eligibility, valuation, haircut, margining, custody and legal enforceability matter. A reverse-repo description depends on which participant's perspective is being used; identify who supplies cash before applying a label.

Suppose securities valued at INR100 crore support an illustrative 5% haircut. Initial cash support in the simple exercise is INR95 crore. If the cash borrowing rate is 6% for seven days on a 365 basis, interest on that cash is approximately INR1,093,150.68. The haircut is not interest income and should not be added as a fee. It provides a valuation cushion under the stated model. Actual transactions may require further adjustments

and margin calls as prices change.

An outright security sale transfers the position under the agreed transaction, while a repo includes a repurchase obligation. Selling can reduce market exposure and realise a gain or loss; repo funding generally leaves important economic exposure and a future cash need. Treating both as identical because each raises cash today hides that distinction. A liquidity plan should also avoid counting the same pledged security as freely available for another sale or borrowing unless the arrangements actually permit it.

Examine discounted instruments

A discounted instrument is purchased below its redemption amount, with the difference contributing to return if redemption occurs as promised. Treasury bills are a familiar government example. The investor's simple yield on purchase price differs from a discount rate calculated on face value. The denominator matters. An instrument bought for INR98 and redeemed at INR100 produces a gain of INR2; over the same horizon, two divided by ninety-eight is not the same percentage as two divided by one hundred.

For a 182-day illustration on a 365 basis, purchase price INR98 per INR100 redemption implies simple annualised yield of approximately 4.0933%. The calculation is (100 minus 98) divided by 98, multiplied by 365 divided by 182. A face-value discount calculation instead gives approximately 4.0110%. Both describe a defined convention, but they are not interchangeable. A question asking for investment yield requires the purchase-price denominator, unless it explicitly establishes a different market quotation method.

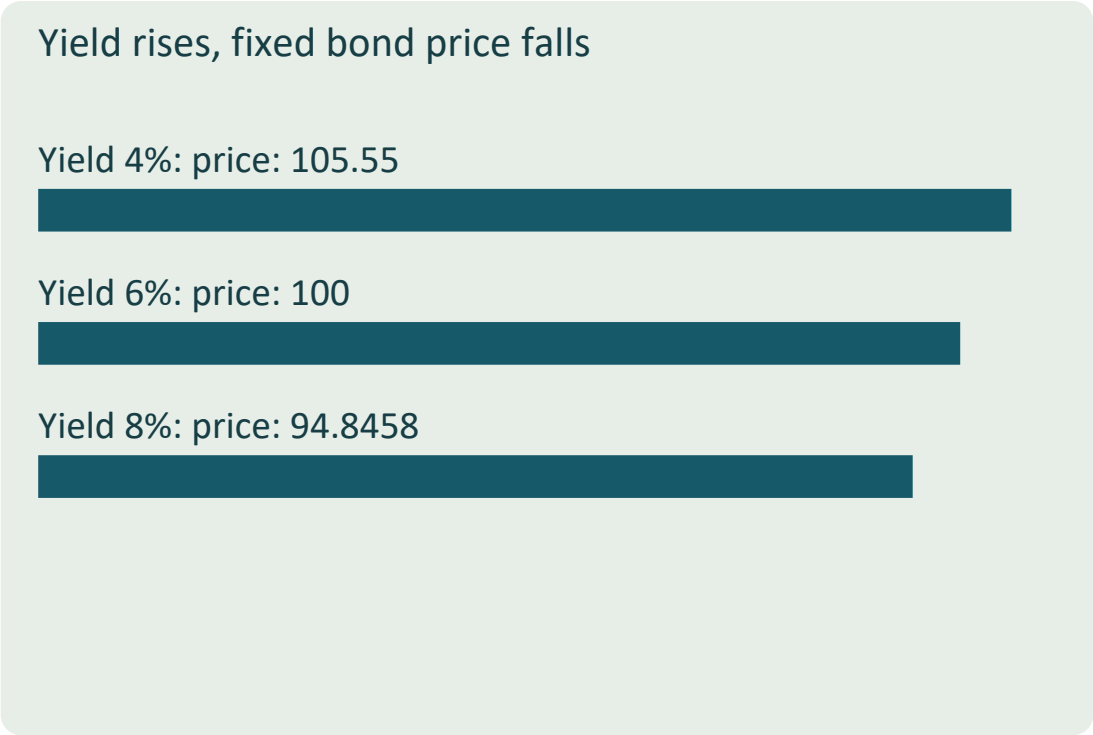
Certificates of deposit and commercial paper are also relevant short-term market products, with different issuers and governing conditions. Their credit quality and liquidity should not be assumed identical to government bills. An attractive annualised yield may compensate for risk, limited exit capacity or unusual terms. Compare maturity, issuer, settlement and conventions before choosing. Annualisation also does not mean the investor receives the quoted annual percentage over a much shorter holding period; the actual cash gain remains tied to the stated dates.

Value a plain fixed-rate bond

A plain bond's value is the present value of its contractual coupons and redemption under a specified required yield. For annual coupons, discount each year's payment by one plus yield raised to its year number. A three-year bond with face value INR100, annual coupon INR6 and redemption at par has cash flows of 6, 6 and 106. At a 6% annual yield its theoretical price is INR100. Matching coupon rate and yield gives par under these regular assumptions.

At an 8% yield, the same cash flows have present value approximately INR94.8458. At a 4% yield, value is approximately INR105.5502. The inverse relationship arises because a higher required discount rate reduces the present value of fixed payments. These examples assume no default, regular annual periods and valuation on a coupon date. Real instruments can have semiannual coupons, irregular dates, embedded options or other conventions requiring a more detailed calculation. The basic principle remains discounting the actual promised cash flows consistently.

Coupon rate is not the same as current yield or yield to maturity. Current yield is annual coupon divided by price and ignores redemption gain or loss and payment timing. Yield to maturity is a discount rate that equates price with contractual cash flows under the stated assumptions; it is not a guarantee of realised return if the bond is sold early or cash flows change. A calculator should name which quantity it computes instead of displaying the generic word “yield” for several different concepts.



Per 100 face; 6% annual coupon, three years, par redemption. Values are present values, not guaranteed sale quotes. [('Yield 4%: price', 105.5502), ('Yield 6%: price', 100), ('Yield 8%: price', 94.8458)]

Separate clean price, accrued interest and return

Between coupon dates, the seller may be entitled to accrued interest under the instrument's convention. The settlement amount commonly combines a clean quoted price with accrued interest to form a dirty or full price. A simple teaching example assumes a coupon of INR6 per INR100 per year and exactly half a regular coupon period elapsed, giving INR3 accrued interest. A clean price of INR99 then produces an illustrative full price of INR102. Actual day-count and coupon-frequency rules must be established separately.

Accrued interest is not automatically a new trading gain. Part of the next coupon compensates for the amount paid to the seller. A holding-period return should use consistent purchase and sale settlement amounts, coupons actually received and costs. If a bond is bought for INR98, pays INR6 during the period and is sold for INR101 under a simplified full-price example, gross gain is INR9 and holding-period return is approximately 9.1837%. Annualisation needs an explicit period and method.

Price return, income and funding cost should reconcile rather than overlap. If the bank counts the coupon as income and also treats the accrued portion of sale proceeds as an independent additional gain without adjusting the purchase basis, it can overstate performance. Systems need correct instrument data and accounting treatment. For examination problems, read whether prices are clean or full and whether the coupon was received. A mathematically accurate formula cannot repair an inconsistent set of inputs.

Compare domestic and global markets

Domestic and international markets differ in currencies, issuers, investor bases, conventions, legal arrangements and settlement infrastructure. A security issued abroad is not automatically foreign-currency risk for every participant; exposure depends on denomination and the investor's reporting and funding currencies. Likewise, a domestic-currency bond held by a foreign investor can create currency exposure for that investor. Always name the participant and currency perspective. The place of issuance alone does not determine who bears exchange-rate movements.

Global diversification can expand opportunities but introduces country, transfer, custody and time-zone considerations. A foreign security can be highly liquid in its home market yet difficult for a particular bank to monetise quickly because access or settlement arrangements are incomplete. Taxes, fees and hedging costs

can change the ranking of apparent yields. Compare net cash flows over the same horizon and currency rather than assume that the largest quoted percentage offers the best risk-adjusted opportunity.

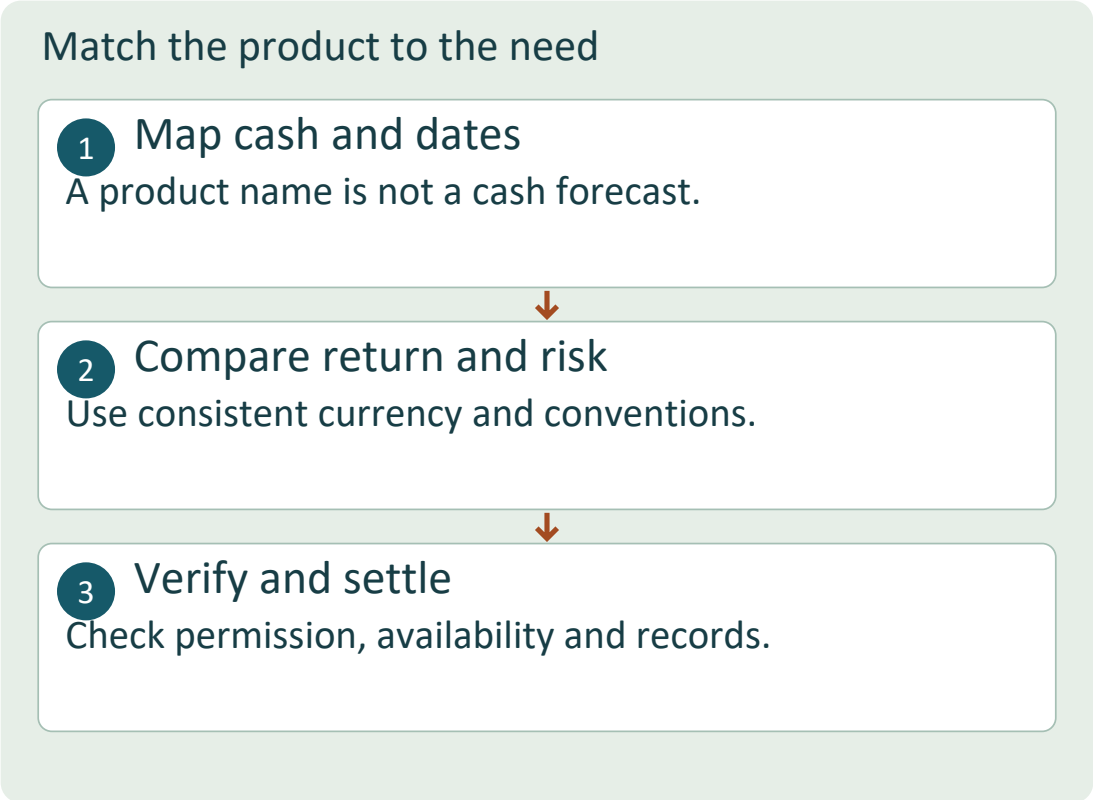
Market infrastructure also changes the practical meaning of a trade. An exchange may standardise contracts and provide a clearing arrangement, while an over-the-counter transaction is agreed between parties under relevant documentation. Central clearing can reduce particular bilateral exposures but creates margin and operational obligations. It does not make price movements harmless. Product analysis should identify the clearing and settlement chain, the parties involved and the resources needed if prices move adversely before final settlement.

Match the product to the business requirement

Meridian's short-term surplus should be assessed against confirmed cash needs, permitted instruments, counterparty limits and exit capacity. A high-yield long bond may be unsuitable for money needed next week even if the issuer is strong. A maturity-matched bill may fit the timing but still needs settlement and eligibility checks. The best product is the one that serves the defined objective within constraints. Product familiarity or a dealer's favourable view of prices is not enough to establish suitability.

For a customer expecting a foreign payment, distinguish certainty of amount and date from a forecast. A matching forward can address a contractual exchange-rate exposure, while an option has different cost and flexibility. If the underlying is uncertain, the hedge structure and authority require careful consideration. Do not promise that any derivative protects against every commercial outcome. The customer still needs to perform its own obligations, and the bank must assess the resulting credit, documentation and settlement exposure.

For revision, describe each product using cash flows, participant perspective, tenor and risk. Work interest with the stated basis, discounted yield with the correct denominator and bond value using the actual payment schedule. Keep spot separate from forward, repo separate from outright sale and coupon separate from total return. These distinctions are the foundation of treasury judgement. Later chapters use them to compare international funding, measure risk and design hedges without losing sight of the underlying business need.



A product name is not a cash forecast. Use consistent currency and conventions. Check permission, availability and records.

Build a practical comparison worksheet

Suppose Meridian compares a seven-day unsecured placement, a seven-day secured placement and a three-year bond. Record principal, expected receipts, counterparty, collateral, exit terms and settlement dates for each. Calculate a comparable short-horizon return only where the assumptions support it. The bond's annual coupon is not directly comparable to seven days of interest, and its sale price next week is uncertain. A spreadsheet should display that uncertainty rather than assume redemption value is available whenever the bank needs cash.

Next apply the bank's constraints: permitted activity, counterparty headroom, liquidity cushion, interest-rate sensitivity and operational readiness. A slightly lower return may be acceptable where it preserves needed flexibility. Conversely, an apparently liquid asset may be unavailable because it is already pledged. Document the reason for the selected product and the conditions that would trigger reconsideration. This makes the decision reviewable and helps distinguish a sound process with an unfavourable outcome from a weak process that happened to make money.

Finally, reconcile the chosen transaction after execution. Check that rate, basis, principal, value date and maturity match the approval and confirmation. Verify receipts and investigate differences promptly. Product knowledge is complete only when the banker can connect the economic explanation with the actual payment and records. The exercises below therefore combine formulas with interpretation: the result should explain the cash amount and its limits, allowing another person to follow the reasoning without relying on an unexplained calculator output.

Practice with explanations

01. Which product worksheet field is essential?

A. Only the salesperson's target	B. Only the brochure colour
C. Only the marketing name	D. Amount, currency, dates and obligations

Answer D. Economic fields establish cash flows and exposures. Branding and targets do not reveal repayment, settlement or risk, so they cannot replace a transaction-level analysis of what each participant promises.

02. At INR84.20/84.25 per USD, an importer buying dollars uses what?

A. The reciprocal without identifying direction	B. 84.25
C. 84.225 automatically	D. 84.20

Answer B. The bank sells dollars at ask, 84.25. Bid applies when it buys; a midpoint is not an executable assumption, and inversion without a consistent quotation changes the question.

03. USD100,000 bought at INR84.25 costs what before charges?

A. INR842,500	B. INR8,425,000
C. INR8,420,000	D. INR84,250,000

Answer B. Multiply 100,000 by 84.25. The bid-side amount is inappropriate for this purchase; the other alternatives mis-scale the quantity by ten rather than applying the supplied quote correctly.

04. INR84 per USD and USD1.10 per EUR imply what mid-rate?

A. INR85.10 per EUR	B. INR1.10 per EUR
C. INR76.36 per EUR	D. INR92.40 per EUR

Answer D. Units cancel through multiplication: INR/USD×USD/EUR=INR/EUR. Division reverses the chain, adding unlike quotations is invalid, and the dollar-euro input alone does not give a rupee rate.

05. Spot 84.25 plus signed points 0.35 gives outright of?

A. 84.60	B. 83.90
C. 84.2535	D. 35%

Answer A. The supplied points are rupee price units, so addition gives 84.60. Subtraction uses the wrong sign, decimal scaling changes the convention, and points are not an annual percentage here.

06. A forward chiefly provides what for a matching payable?

A. Elimination of all counterparty risk	B. Contractual exchange-rate certainty
C. Automatic rupee funding today	D. A guarantee that goods arrive

Answer B. A forward fixes the agreed exchange relationship. Commercial performance, funding and counterparty obligations remain separate; the hedge addresses the stated currency exposure rather than every risk in the transaction.

07. A foreign-exchange swap requires recording what?

A. Only a forecast of spot	B. Both near and far cash-flow legs
C. Only the near receipt	D. No maturity because legs offset

Answer B. The reverse leg creates future obligations even if exposures offset economically. Recording only the first leg or a forecast hides funding needs; offset does not erase contractual dates.

08. INR10 crore for seven days at 6%, basis 365, earns approximately what?

A. INR600,000	B. INR1,150,684.93
C. INR115,068.49	D. INR10 crore

Answer C. Simple interest is 100,000,000×0.06×7/365. The alternatives ignore the short period, mis-scale the result or confuse principal with interest. The stated basis must remain consistent. Ten crore equals one hundred million rupees, not ten million.

09. Changing that basis to 360 does what?

A. Leaves interest necessarily identical	B. Changes principal automatically
C. Makes interest negative	D. Slightly increases calculated simple interest

Answer D. For the same positive numerator, a smaller denominator increases interest. It does not change principal or sign. Conventions can produce different valid amounts, so the agreed basis needs explicit verification.

10. Overnight funding of a five-year asset creates what?

A. Automatic maturity matching	B. Rollover and repricing exposure
C. No liability after day one	D. Guaranteed five-year funding

Answer B. The borrowing must be renewed or replaced while the asset remains. Initial pricing does not guarantee future access or cost; short funding does not become long-term merely because it finances a long asset.

11. A repo differs from an outright sale because?

A. It includes an agreed reverse obligation	B. It permanently removes every exposure
C. It never uses securities	D. It has no maturity

Answer A. The repurchase leg creates future cash and securities obligations. Repo involves collateral securities and can retain economic exposure, so it is not equivalent to a final outright disposal without a reverse leg.

12. A cash provider's perspective on a repo-style arrangement is commonly called what?

A. Unsecured equity	B. A permanent donation
C. A call option	D. Reverse repo

Answer D. Perspective matters: the cash-providing side is commonly described as reverse repo. Equity, options and donations have different claims and do not describe the secured financing and reverse exchange in the case.

13. Collateral 100 crore with a supplied 5% haircut supports initial cash of?

A. INR5 crore	B. INR100 crore automatically
C. INR105 crore	D. INR95 crore

Answer D. Deduct the haircut: 100×0.95=95. Five is the cushion, adding it reverses the adjustment, and full value ignores the supplied protection. Actual eligibility and further margins remain separate.

14. A repo haircut is best interpreted as what?

A. A guaranteed realised loss	B. An annual coupon
C. Interest income	D. A valuation cushion in the supplied model

Answer D. The haircut reduces initial cash support against collateral. It is not automatically interest, coupon or a realised loss; its purpose and later margin treatment differ from the financing rate.

15. A bill bought at 98 and redeemed at 100 has investment-yield denominator of?

A. 182 always	B. 98
C. 100 always	D. 2

Answer B. Investment yield measures gain relative to purchase funds, so the denominator is 98. Face-value discount uses 100; two is the gain and days enter annualisation, not the invested-amount denominator.

16. For 182 days, basis 365, that simple annualised yield is approximately what?

A. 2% annually	B. 98%
C. 4.0110% investment yield	D. 4.0933%

Answer D. The calculation is (2/98)×365/182×100. Two percent is the unannualised gain on face value, 4.0110% uses the discount denominator, and ninety-eight is a price rather than yield.

17. Commercial paper and government bills should be compared for what?

A. Only the largest printed percentage	B. Issuer credit, liquidity, maturity and conventions
C. Guaranteed equal credit quality	D. Only identical short tenor

Answer B. Short maturity does not make issuers or exit capacity identical. A complete comparison includes risk and cash-flow conventions; a larger yield can compensate for limitations rather than prove superiority.

18. A three-year annual 6% coupon bond at 6% yield and par redemption is worth what on a coupon date?

A. 6	B. 94.8458
C. 106 always	D. 100 per 100 face

Answer D. Matching coupon and yield gives par under the stated regular assumptions. One hundred six is a cash flow, 94.8458 corresponds to a higher yield, and six is the coupon amount.

19. The same bond at 8% yield is approximately worth what?

A. 100 in every market	B. 94.8458
C. 108	D. 105.5502

Answer B. Discounting 6, 6 and 106 at 8% gives about 94.8458. The higher price belongs to a lower yield; coupon does not fix market price, and simply adding yield to par is invalid.

20. Current yield differs from yield to maturity because it ignores what?

A. Redemption gain or loss and cash-flow timing	B. The annual coupon entirely
C. The market price entirely	D. Every credit assumption automatically

Answer A. Current yield is coupon divided by price. It omits the full timing and redemption economics captured by a contractual-cash-flow yield calculation; it still uses coupon and price and does not solve credit uncertainty.

21. Clean price 99 plus assumed accrued interest 3 gives full price of?

A. 102	B. 3
C. 99	D. 96

Answer A. Full price combines the quoted clean amount with accrued interest. Subtraction reverses the adjustment, retaining ninety-nine omits accrual, and three is only one component of the settlement amount.

22. Bought at full price 98, coupon 6 received, sold at full price 101: holding return is approximately what?

A. 6% exactly	B. 9.1837%
C. 3.0612%	D. 109%

Answer B. Gain is 101+6-98=9; divide by 98. The smaller percentage omits coupon, six is not the total return, and 109 confuses a value total with a percentage gain.

23. An international issue's location alone establishes whose currency risk?

A. Always exactly half each	B. It does not establish the complete allocation
C. Always only the issuer's	D. Always nobody's

Answer B. Denomination, funding and reporting currencies determine exposure. Listing location alone cannot allocate it, and neither zero risk nor an equal split follows without examining the actual cash flows and participant perspectives.

24. Central clearing can create what despite reducing bilateral exposure?

A. Guaranteed protection from price loss	B. No collateral requirement ever
C. No settlement process	D. Margin and operational obligations

Answer D. Clearing changes counterparty arrangements but does not remove market movement or performance duties. Margin, collateral and operational processes remain relevant, so cleared status should not be equated with complete risk elimination.

25. For cash needed next week, a high-yield three-year bond needs what assessment?

A. No settlement check	B. Only its annual coupon
C. Automatic preference over a matching bill	D. Exit-price uncertainty and liquidity alongside return

Answer D. The bond may need sale before maturity at an uncertain price. Annual coupon alone is not a comparable short-horizon return, and timing suitability and settlement capability remain essential to the deployment decision.

C02 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
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02 Use fictional Meridian Bank, which has a temporary rupee surplus and a customer expecting a dollar payment.	**16** A discounted instrument is purchased below its redemption amount, with the difference contributing to return if redemption occurs as promised.
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14 Suppose securities valued at INR100 crore support an illustrative 5% haircut.	**28** Meridian's short-term surplus should be assessed against confirmed cash needs, permitted instruments, counterparty limits and exit capacity.

C03 International Equity and Debt Products

Practice / Quick Revision

Begin with the issuer and investor perspectives

International finance connects an issuer seeking resources with investors or lenders in another market. The instrument can represent ownership, debt or a combination with conversion features. Identify who raises money, who supplies it, which currency denominates the obligation and where cash will be generated for repayment. These questions matter more than the location of a listing alone. An international issue can broaden access while introducing currency, legal, disclosure and settlement requirements that do not arise in the same form for a purely domestic transaction.

Consider fictional Aster Engineering, an Indian company planning a new factory. It compares an overseas equity-linked route, a foreign-currency loan and a rupee-denominated overseas bond. Each can raise resources, but the consequences differ. Equity can dilute ownership; debt creates contractual payments; currency denomination allocates exchange-rate exposure. Treasury should compare consistent net proceeds and future cash flows, then separately establish regulatory eligibility. A low quoted cost cannot establish permission, and permission cannot establish that the financing is commercially sensible for the company.

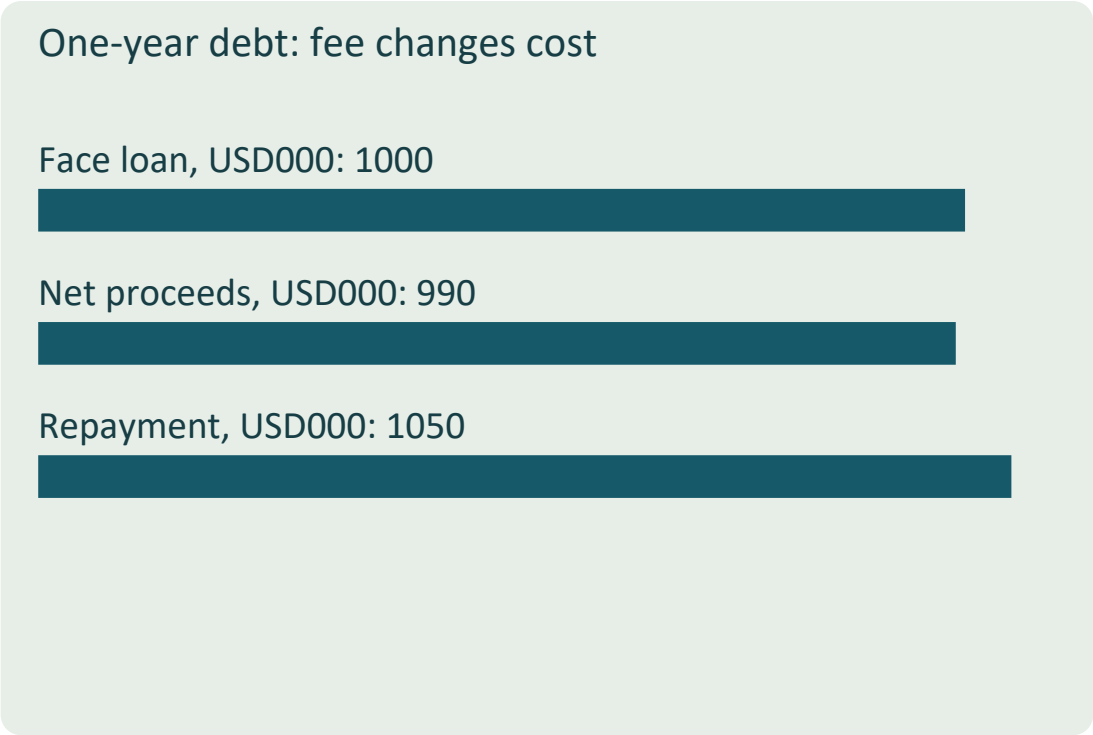
This chapter covers the regulatory environment, global and Indian depository receipts, external commercial borrowing, trade credit and rupee-denominated bonds. It teaches original conceptual explanations and transparent examples. Detailed current thresholds are not inferred from older summaries. The research located changes to the borrowing framework and a later index consolidation whose full operative text was not completely available. Consequently, examples explicitly supply their assumptions and the source register identifies the remaining current-rule verification item rather than presenting an obsolete route checklist as current certification.

Separate equity from debt

Equity investors generally participate in ownership and residual returns, while debt investors hold contractual claims according to the instrument's terms and priority. Equity proceeds do not create the same scheduled principal repayment as a conventional loan, but they can dilute existing shareholders and impose governance or disclosure obligations. Debt can preserve ownership while increasing leverage and refinancing pressure. Neither is universally cheaper or safer. The issuer's cash generation, control preferences, market access and capacity to absorb adverse outcomes influence the appropriate mix.

Suppose Aster has ten million existing shares and raises funds by issuing two million new shares under a simplified exercise. Existing holders collectively retain ten divided by twelve, or approximately 83.33%, of the enlarged share count. Their percentage ownership falls even if the money funds a valuable investment. This is dilution of proportionate ownership, not automatically destruction of economic value. The issue price, project returns and rights attached to the shares determine the wider effect. Do not equate a lower ownership percentage with a guaranteed lower investment value.

For debt, map coupon, fees, principal schedule and any option to repay or convert. A bullet maturity concentrates repayment at one date; amortisation distributes it across dates. Floating-rate debt exposes the issuer to benchmark changes unless effectively offset. A convertible instrument combines debt obligations with defined conversion rights and cannot be analysed as ordinary equity from inception merely because conversion might eventually occur. Read the actual terms and applicable treatment before calculating cost, ownership effects or regulatory eligibility.



USD thousands; 10 fee deducted, 5% coupon. Cost on net funds = 60/990 = 6.0606%. [('Face loan, USD000', 1000), ('Net proceeds, USD000', 990), ('Repayment, USD000', 1050)]

Explain the depository-receipt structure

A depository receipt represents an interest in underlying securities through a depository and custody arrangement. The investor deals in the receipt while the underlying securities are held within the prescribed structure. The receipt-to-share ratio determines the economic units represented. This arrangement can make an issuer's securities accessible in another market, but it does not create a second independent company or guarantee investment value. Rights, fees, distributions, conversion and cancellation depend on the governing documents and applicable rules.

For an illustrative global depository receipt, assume each receipt represents four ordinary shares. An issue of one million receipts therefore represents four million underlying shares. If each receipt is issued at USD12, gross proceeds are USD12 million before fees. A comparison with the domestic share price must use the ratio and a consistent exchange rate. Dividing the receipt price by four gives USD3 per underlying share before considering costs and any market or legal differences that prevent a simple arbitrage.

The custodian, depository, issuer and investor have distinct roles. The issuer's corporate obligations do not disappear because another institution administers receipts. The investor should understand voting arrangements, distribution handling and the conditions for conversion or cancellation. Treasury should also consider where proceeds are held and how they are deployed or converted. A listing venue can affect access and disclosure, but it should not be treated as a substitute for analysing the underlying issuer's business and financial condition.

Distinguish GDRs and IDRs

A global depository receipt is associated with access to overseas investors through a depository-receipt structure. An Indian depository receipt provides an Indian-market receipt structure connected to underlying shares of a foreign issuer under the applicable Indian framework. The direction of the underlying issuer and market access is therefore important. An IDR should not be described simply as an Indian company's foreign-currency loan. Its economic nature involves an interest in equity securities through the prescribed arrangement, not a conventional promise of principal repayment.

Assume an illustrative IDR represents one-tenth of a foreign share. Ten receipts then represent one underlying share. If the share is valued at USD50 and the supplied exchange rate is INR84 per USD, the simple underlying value per receipt is INR420 before costs and market differences. This is an equivalence exercise, not an executable price or claim that actual receipts always trade at exact parity. Restrictions, fees, liquidity and investor demand can affect observed prices and conversion opportunities.

Regulatory analysis should establish issuer eligibility, issuance conditions, investor access, disclosure and the handling of underlying securities. The relevant authorities and instruments depend on the structure. Do not import a rule from a debt instrument merely because both involve foreign parties. Similarly, a receipt ratio changes the number of underlying shares represented but not the issuer's business risk by itself. For revision, draw the issuer, custodian, depository and investor chain, then annotate the cash and securities movements separately.

Understand external commercial borrowing

External commercial borrowing, or ECB, concerns borrowing under the applicable cross-border framework by an eligible borrower from a recognised lender. It can take different permitted forms and currencies, subject to the governing rules. The key analytical fields include borrower and lender status, denomination, maturity, use of proceeds, cost, security, hedging and reporting. These fields are connected: an apparently suitable loan can fail a material condition even when several other conditions are satisfied. A checklist should test each required element rather than stop after identifying a low interest rate.

The research retrieved a February 2026 RBI consolidation containing substantial deletions in the older ECB section and located an official index indicating an 8 September 2026 consolidation. It also identified the February 2026 amendment to the borrowing regulations. These observations are a warning against copying an older ECB table into a current chapter. This lesson therefore explains the assessment method without claiming that every historical threshold remains operative. The exact current route, limits and reporting conditions require the latest governing text for the transaction date.

For Aster, a dollar loan creates a dollar repayment obligation even if the factory earns rupees. Compare the loan with the currency and timing of operating cash. A natural hedge may exist where reliable dollar receipts match payments, but gross export sales alone do not prove a complete match. Costs, timing and competing dollar obligations matter. A financial hedge can reduce currency uncertainty while adding premiums, spreads, collateral or rollover needs. The financing decision should assess the combined debt-and-hedge package rather than the coupon alone.

Calculate borrowing cost consistently

For a one-year bullet illustration, assume a USD1 million loan with a 5% coupon and USD10,000 upfront fee deducted from disbursement. Net proceeds are USD990,000 and repayment is USD1,050,000. The simple one-year cost on net proceeds is 60,000 divided by 990,000, or approximately 6.0606%. Calling the cost 5% ignores the fee. This economic calculation does not itself determine compliance with a legal all-in-cost definition, which may specify included and excluded items differently.

Currency can change the domestic cost. At INR84 per USD, net proceeds translate to INR83.16 million. If repayment occurs at INR87 per USD without a hedge, the rupee payment is INR91.35 million. The one-year difference divided by net rupee proceeds is approximately 9.8485%. If a contractual hedge fixes another rate, use that rate and include the relevant hedge costs consistently. A favourable future exchange rate could reduce realised cost, but an unhedged forecast is not a guaranteed financing advantage.

For instalment loans, a single coupon comparison can be misleading because principal outstanding changes over time. Weighted average maturity uses principal repayments as weights in a simple teaching calculation. Repaying 60% after one year and 40% after four years gives 0.6 times one plus 0.4 times four, or 2.2 years. This arithmetic is not a full legal maturity assessment unless the applicable definition matches the exercise.

Interest payments are not automatically principal weights, and calendar dates require consistent treatment in a detailed calculation.

Distinguish trade credit from general finance

Trade credit finances a qualifying trade transaction under the relevant framework. Supplier's credit arises when the overseas supplier allows deferred payment; buyer's credit involves financing arranged from another lender for the buyer's payment obligation. The commercial and financing relationships differ even when both support the same import. Identify who pays the supplier, who becomes the lender and when the importer must repay. A diagram of goods, money and debt obligations is more reliable than treating every deferred import payment as the same instrument.

Suppose machinery costs USD500,000 and an illustrative buyer's-credit arrangement pays the supplier now while the importer repays in ninety days. At a supplied simple annual rate of 6% and 360-day basis, interest is USD7,500. If a supplier instead quotes a deferred invoice of USD509,000 for the same period, compare the USD9,000 increment with the alternative financing costs and conditions. Include fees and matching dates before concluding that one route is cheaper. This example does not establish either route's current regulatory eligibility.

The underlying trade must remain genuine and documented. Financing terms should connect to the goods, payment evidence and relevant reporting. A low financing rate does not cure an impermissible import or fabricated invoice. The bank should also assess performance risk, currency exposure, lender conditions and any guarantee or security obligations. Trade credit can shorten the apparent cash gap today while creating a concentrated foreign-currency repayment later, so treasury should bring it into the maturity and currency forecasts rather than leave it only in the trade-finance file.

Analyse rupee-denominated overseas debt

A rupee-denominated overseas bond specifies contractual amounts in rupees even when international investors participate. This changes the allocation of currency exposure compared with a dollar-denominated loan. If the issuer earns rupees and owes fixed rupee amounts, the issuer does not face the same direct principal translation risk as with dollar debt. The investor's return in its own currency can still vary with the exchange rate. Denomination therefore matters, but it does not eliminate credit, refinancing or market risk.

Assume a foreign investor buys an illustrative INR84 million bond when INR84 equals USD1. Its initial dollar equivalent is USD1 million. If principal alone is repaid when the rate is INR90 per USD, INR84 million converts to approximately USD933,333.33, before coupons and costs. The issuer still pays the contractual rupee principal. This isolates investor currency exposure; it does not calculate total investment return. Coupons, purchase price, taxes and any investor hedge must be included for a complete comparison.

An issuer can still face indirect consequences of currency movements through imported inputs, demand or investor pricing. Investors may require a higher rupee yield to compensate for expected currency or liquidity risk. A bond's label does not establish a cheap funding source. Check the applicable issuance framework, investor eligibility, maturity and use-of-proceeds conditions, and compare net funding economics with domestic alternatives. The lesson is to identify which party bears each contractual exposure rather than claim that one denomination makes the whole transaction risk-free.



Equity, debt and receipts differ. Include fees, currency and repayment dates. Permission and cost are separate questions.

Compare instruments with a common cash-flow table

Build a table with net proceeds, currency, payment dates, ownership effect, funding cost, hedge cost and residual risk. Equity and debt cannot always be ranked by one interest percentage because their claims differ. A depository-receipt issue may avoid scheduled debt service but dilute ownership; a loan may preserve control but require cash regardless of project performance. A rupee bond may shift direct currency exposure toward the investor while changing the required coupon. Compare these trade-offs against the issuer's objectives and capacity.

The project cash flows should drive the financing schedule. A factory that generates cash only after construction may struggle with immediate amortisation. A bullet loan may fit early cash needs but concentrate refinancing risk. A floating-rate structure may initially cost less yet expose debt service to future rates. Stress the proposed schedule using lower revenue, delayed completion, higher rates or adverse currency movements as relevant. Avoid combining favourable assumptions for every variable and presenting that result as the expected cost of a robust plan.

Regulatory and commercial assessments remain separate gates. Passing one does not compensate for failure of the other. Keep a source record with issuer, title, version, effective date and scope for every material prescription. If a rule cannot be verified, identify the specific unresolved field rather than insert an old number with a vague disclaimer elsewhere. For examination practice, the supplied case assumptions permit calculation; for an actual transaction, material missing conditions must be established before approval or execution.

Control execution and ongoing obligations

International financing continues after disbursement. Monitor principal and interest dates, currency resources, covenants, reporting and changes to the transaction. A conversion option, prepayment, lender transfer or restructuring can have legal and regulatory consequences. The bank should use controlled processes and current authority rather than assume that an originally permitted loan can be changed without further analysis. Retain the original terms and a traceable record of authorised amendments so that cash forecasts and reporting reflect the actual obligation.

Operational details can determine whether a payment arrives correctly. Verify beneficiary and correspondent instructions, calendars, cutoffs and available balances. A sent message is not the same as confirmed receipt. Reconcile settlement and investigate differences promptly. For depository receipts, distributions and corporate actions need accurate handling under the structure. For debt, missed reporting or an overlooked covenant can create consequences even when the borrower has enough money. Product knowledge must therefore connect to the responsibilities and evidence required throughout the instrument's life.

For revision, distinguish ownership from contractual debt, receipts from underlying shares, denomination from issuance location and economic cost from a rule-defined cost measure. Draw the parties and cash flows, calculate the stated example and explain the residual exposures. Preserve source dates and avoid memorising an obsolete threshold as a timeless product feature. This approach allows you to answer unfamiliar case questions by analysing the promise being made and the resources needed to honour it, rather than relying solely on a product abbreviation.

Review Aster's financing proposal

Aster's management prefers the loan with the lowest coupon. Treasury should expand the comparison to net proceeds, repayment profile, hedging and fees. Under the one-year example, a 5% dollar coupon becomes a 6.0606% dollar cost on net funds after the upfront fee, before currency effects. An equity route has no comparable coupon but changes ownership and investor claims. A rupee debt route changes currency allocation and pricing. The recommendation should explain these differences in terms management can connect to project cash generation.

Next test a delay in factory completion. Debt service may begin before operating receipts, requiring a credible bridge or revised structure. A forecast export stream may be smaller or later than the proposed dollar repayment. An unverified assumption of refinancing is not a sufficient solution. Quantify the stressed cash gap, identify available resources and record conditions for proceeding. The analysis should show how the structure behaves when the project is less successful than planned, not only when every forecast is achieved.

Finally, resolve current regulatory eligibility and responsibilities before execution. The chapter's numerical tools explain cost, maturity, receipt ratios and investor currency effects, but do not authorise an issuance or borrowing. A complete proposal combines the economic comparison with verified conditions, documentation, settlement arrangements and ongoing monitoring. That combination is the practical role of treasury in international financing: it connects market access with a financing structure the institution can understand, control and service through ordinary and adverse conditions.

Practice with explanations

01. Which question begins an international financing assessment?

A. Only the issuer's preferred forecast	B. Only where the brochure was printed
C. Who owes what currency on which dates?	D. Only the lowest coupon

Answer C. Participant, currency and timing establish the economic obligation. Marketing location, coupon alone and optimistic forecasts omit material repayment, ownership and regulatory considerations necessary for a meaningful financing comparison.

02. Equity differs from conventional debt because it generally represents what?

A. Ownership and residual claims	B. A guaranteed coupon
C. An overnight deposit	D. A universal fixed principal repayment

Answer A. Equity participates in ownership and residual returns. Conventional debt creates contractual payment claims; an equity issue is not automatically a deposit or a guarantee of fixed coupon and principal payments.

03. Ten million old shares plus two million new shares leave old holders with what percentage?

A. 80%	B. 100%
C. 20%	D. 83.33% approximately

Answer D. Existing holders own 10/12 of the enlarged count, about 83.33%. The other percentages use the wrong denominator, describe the new issue incorrectly or ignore dilution of proportional ownership.

04. Ownership dilution necessarily means what about economic value?

A. Every share becomes debt	B. Value must fall by the same percentage
C. The project cannot create value	D. No guaranteed value loss follows from percentage alone

Answer D. Value depends on issue price, rights and use of proceeds. A smaller ownership percentage can accompany a valuable investment; dilution alone neither proves destruction nor changes ordinary shares into debt.

05. A bullet loan creates which distinctive concern?

A. No repayment obligation	B. Identical cash flows to amortisation
C. Automatic ownership dilution	D. Concentrated principal repayment at maturity

Answer D. A bullet concentrates principal at one date, potentially increasing refinancing needs. It remains debt, does not itself issue shares, and differs from instalments that distribute principal payments over time.

06. A depository receipt represents what?

A. Always a short-term loan	B. A second independent operating company
C. Always a sovereign guarantee	D. An interest in underlying securities through a defined structure

Answer D. The receipt links investors to underlying securities through depository and custody arrangements. It does not create a separate operating issuer, guarantee value or necessarily constitute conventional short-term borrowing.

07. One million receipts each represent four shares. Underlying share count is?

A. Five million	B. Four million
C. Quarter million	D. One million

Answer B. Multiply receipts by shares per receipt: one million times four. Dividing reverses the stated ratio; adding the counts or retaining the receipt count does not measure underlying shares represented.

08. One million receipts issued at USD12 raise gross proceeds of?

A. USD3 million	B. USD1 million
C. USD48 million automatically	D. USD12 million

Answer D. Receipt count times issue price gives twelve million dollars. The share ratio does not multiply proceeds again, and per-underlying-share equivalence is different from the total cash raised before fees.

09. A USD12 receipt representing four shares implies what per underlying share before differences?

A. USD48	B. USD0.25
C. USD3	D. USD12 always

Answer C. Divide receipt price by represented shares: 12/4=3. Multiplication reverses the ratio, retaining twelve ignores it, and one-quarter is a quantity relationship rather than the price per underlying share.

10. An IDR conceptually connects an Indian-market receipt with what?

A. Underlying shares of a foreign issuer	B. Only an Indian company's dollar loan
C. A government treasury bill	D. A cash reserve at RBI

Answer A. The IDR structure concerns foreign underlying equity accessed through Indian receipts. A dollar loan, reserve balance and government bill have different issuers, claims and cash-flow structures, so they are not interchangeable definitions.

11. An IDR represents one-tenth of a USD50 share at INR84 per USD. Simple equivalent is?

A. INR42	B. INR840
C. INR4,200	D. INR420

Answer D. The underlying share equivalent is 50×84=4,200 rupees; one-tenth is 420. Other answers omit or misapply the ratio or exchange conversion. This is equivalence arithmetic, not a guaranteed executable receipt price.

12. A receipt's simple underlying equivalence guarantees what market price?

A. A permanent premium	B. Exact parity at every moment
C. No exact tradable parity without considering constraints	D. A permanent discount

Answer C. Fees, liquidity, conversion conditions and demand can affect prices. The arithmetic benchmark alone does not guarantee parity or a persistent premium or discount; the actual market and legal structure need analysis.

13. An ECB assessment should establish what?

A. Only foreign lender nationality	B. Only a low coupon
C. Borrower, lender, currency, maturity, use and applicable conditions	D. Only the account's marketing label

Answer C. The framework has several connected conditions. One favourable attribute does not establish eligibility. A full assessment therefore checks the parties, terms, purpose and operative rules rather than assuming permission from price or branding.

14. Why is an older ECB table insufficient for current advice?

A. All historical information is worthless	B. Economic cost replaces legal eligibility
C. The framework and operative text may have changed	D. A search index automatically gives every condition

Answer C. Historical material needs version control because rules can change. It can still teach context, but an index is not complete text and a favourable economic calculation cannot establish legal permission.

15. A dollar loan funded by rupee revenue creates what direct issue?

A. Automatic natural hedging	B. Guaranteed cheaper rupee cost
C. Currency mismatch in repayment resources	D. No exchange exposure

Answer C. Dollar obligations require dollars or conversion. Rupee revenue alone does not match them; currency movements and hedging costs can change domestic cost, so a low coupon does not guarantee cheap funding.

16. Gross dollar export sales prove a complete natural hedge?

A. No, amounts, timing and other dollar uses also matter	B. Yes, even if sales never occur
C. Yes, without considering costs	D. Yes, irrespective of dates

Answer A. A natural match requires reliable net resources aligned with obligations. Gross sales can be uncertain or needed elsewhere; ignoring timing and costs overstates protection and can leave a repayment shortfall.

17. A USD1 million loan deducts USD10,000 fee. Net proceeds are?

A. USD1 million unchanged	B. USD1,010,000
C. USD990,000	D. USD10,000

Answer C. The deducted fee reduces available funds to 990,000. Adding it reverses the cash flow, ignoring it overstates proceeds, and the fee alone is not the amount the borrower can use.

18. Repayment USD1,050,000 against net proceeds USD990,000 gives one-year cost of approximately what?

A. 1%	B. 60%
C. 5%	D. 6.0606%

Answer D. The financing difference is 60,000 divided by 990,000. Five percent ignores the upfront deduction; one percent considers only the fee and sixty percent mis-scales the resulting ratio.

19. Net proceeds USD990,000 at 84 and repayment USD1,050,000 at 87 imply rupee cost of approximately what?

A. 3.5714% only	B. 9.8485%
C. 5%	D. 6.0606% necessarily

Answer B. Rupee amounts are 83.16 and 91.35 million; their difference divided by 83.16 is about 9.8485%. Dollar cost and currency movement alone each omit part of the combined effect.

20. Principal repaid 60% at year one and 40% at year four has simple weighted maturity of?

A. 1 year	B. 2.5 years
C. 4 years	D. 2.2 years

Answer D. Use principal weights: 0.6×1+0.4×4=2.2. An unweighted average ignores amounts, while selecting either extreme omits the other repayment. Legal maturity definitions still require separate verification. Interest payments are not principal weights in this exercise.

21. Supplier's credit differs from buyer's credit because?

A. Both always have identical parties	B. Only the goods' colour changes
C. Neither creates debt	D. The supplier allows deferment rather than another lender funding the buyer's payment

Answer D. The financing-party structure differs. Both can create repayment obligations, but their contracts and flows are not necessarily identical. Product analysis should identify who pays whom and who becomes the creditor.

22. USD500,000 for ninety days at 6%, basis 360, costs what simple interest?

A. USD750	B. USD30,000
C. USD7,500	D. USD9,000

Answer C. Interest is 500,000×0.06×90/360=7,500. Thirty thousand is a full year's amount, seven hundred fifty mis-scales it, and nine thousand belongs to the alternative deferred-price example rather than this formula.

23. A rupee-denominated overseas bond primarily fixes what for the rupee-paying issuer?

A. Every investor's dollar return	B. All future refinancing rates
C. The issuer's imported-input cost	D. Contractual rupee principal and interest amounts under its terms

Answer D. Denomination determines contractual currency. Investors' translated returns and the issuer's other business costs can still vary, while refinancing depends on later conditions. Rupee denomination does not eliminate all economic risk.

24. INR84 million principal converts at INR90 per USD to approximately what?

A. USD933,333.33	B. USD84 million
C. USD1.0714 million	D. USD1 million

Answer A. Divide rupees by rupees per dollar: 84 million/90. The original dollar equivalent used a different rate; multiplying or ignoring conversion produces the other errors. Coupons are excluded from this principal-only illustration.

25. After disbursement, international debt needs what?

A. Only the original coupon screenshot	B. Automatic permission for every restructuring
C. Continued payment, covenant, reporting and amendment monitoring	D. No further review

Answer C. Obligations continue through the financing life. A screenshot is insufficient evidence, and amendments can require new analysis. Original permission does not automatically authorise every later change or eliminate ongoing reporting and cash planning.

C03 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 International finance connects an issuer seeking resources with investors or lenders in another market.	**15** For a one-year bullet illustration, assume a USD1 million loan with a 5% coupon and USD10,000 upfront fee deducted from disbursement.
02 Consider fictional Aster Engineering, an Indian company planning a new factory.	**16** Currency can change the domestic cost.
03 This chapter covers the regulatory environment, global and Indian depository receipts, external commercial borrowing, trade credit and rupee-denominated bonds.	**17** For instalment loans, a single coupon comparison can be misleading because principal outstanding changes over time.
04 Equity investors generally participate in ownership and residual returns, while debt investors hold contractual claims according to the instrument's terms and priority.	**18** Trade credit finances a qualifying trade transaction under the relevant framework.
05 Suppose Aster has ten million existing shares and raises funds by issuing two million new shares under a simplified exercise.	**19** Suppose machinery costs USD500,000 and an illustrative buyer's-credit arrangement pays the supplier now while the importer repays in ninety days.
06 For debt, map coupon, fees, principal schedule and any option to repay or convert.	**20** The underlying trade must remain genuine and documented.
07 A depository receipt represents an interest in underlying securities through a depository and custody arrangement.	**21** A rupee-denominated overseas bond specifies contractual amounts in rupees even when international investors participate.
08 For an illustrative global depository receipt, assume each receipt represents four ordinary shares.	**22** Assume a foreign investor buys an illustrative INR84 million bond when INR84 equals USD1.
09 The custodian, depository, issuer and investor have distinct roles.	**23** An issuer can still face indirect consequences of currency movements through imported inputs, demand or investor pricing.
10 A global depository receipt is associated with access to overseas investors through a depository-receipt structure.	**24** Build a table with net proceeds, currency, payment dates, ownership effect, funding cost, hedge cost and residual risk.
11 Assume an illustrative IDR represents one-tenth of a foreign share.	**25** The project cash flows should drive the financing schedule.
12 Regulatory analysis should establish issuer eligibility, issuance conditions, investor access, disclosure and the handling of underlying securities.	**26** Regulatory and commercial assessments remain separate gates.
13 External commercial borrowing, or ECB, concerns borrowing under the applicable cross-border framework by an eligible borrower from a recognised lender.	**27** International financing continues after disbursement.
14 For Aster, a dollar loan creates a dollar repayment obligation even if the factory earns rupees.	**28** Operational details can determine whether a payment arrives correctly.

C04 Funding and Regulatory Aspects

Practice / Quick Revision

Connect funding to the bank's obligations

A treasury raises and deploys money within legal, supervisory and internal constraints. Funding is therefore more than selecting the lowest quoted rate. The bank needs the right amount, currency, maturity and settlement access, while maintaining required reserves and sufficient usable liquidity. A source that is cheap but uncertain at renewal can create a fragile balance sheet. A source that arrives after the payment deadline cannot solve today's shortage. Begin with a dated cash forecast and identify which resources are confirmed rather than merely hoped for.

Fictional Meridian Bank expects a large deposit maturity and several customer payments this week. Its treasury must distinguish operating cash, reserve requirements, eligible securities and borrowing capacity. These resources have different conditions and cannot automatically be counted twice. A government bond may satisfy a specified regulatory asset requirement yet need operational steps before it can raise cash. A central-bank facility may require eligible collateral and access. The funding plan should show these dependencies rather than assume that every valuable asset is immediately spendable.

This chapter covers CRR, SLR, the liquidity adjustment framework and payment and settlement systems. It explains the mechanisms and uses explicitly supplied rates in calculations. Current prescriptions can change and may differ by institution category. The source register records official references and retrieval limitations. The RBI circular's operative wording was located through the official indexed text and corroborated by its October bulletin: daily CRR maintenance increased to 99% of the requirement from the fortnight beginning 16 October 2026, distinct from the average requirement.

Understand the purpose of CRR

The Cash Reserve Ratio requires specified cash balances with the Reserve Bank under the applicable framework. The relevant liability base is defined by rules rather than simply every balance-sheet liability added together. For a supplied base of INR10,000 crore and an assumed CRR of 3%, the basic arithmetic requirement is INR300 crore. This calculation does not establish the bank's actual net demand and time liabilities, exemptions, reporting date or compliance. Those must be determined before applying the percentage to a real return.

CRR affects deployable resources and the treasury's cash planning. A bank cannot assume that the entire deposit inflow is available for lending or investment without considering applicable reserve and liquidity needs. At the same time, a reserve requirement is not identical to a business liquidity buffer. The two can have different definitions, purposes and availability. A prudent forecast distinguishes required balances from discretionary resources so that a proposed payment or investment does not rely on money that must be maintained for another obligation.

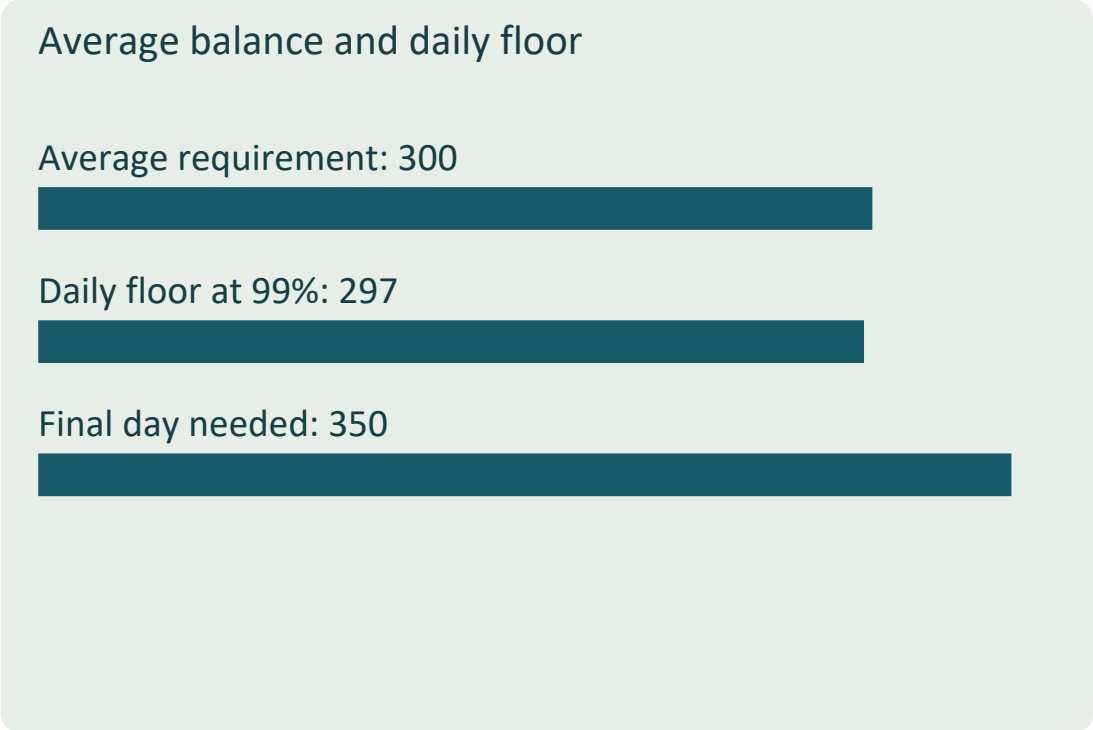
The relevant law, directions and institution scope matter. Commercial-bank directions do not necessarily establish identical treatment for every category of bank. Changes can affect the rate, liability calculation, maintenance or reporting. Record the version and effective date, and separate the examination's prescribed cutoff from the current operational position. A historical question may legitimately supply an older rate; the correct arithmetic follows that stated case without implying that the same rate remains current for all later transactions.

Separate average maintenance from a daily floor

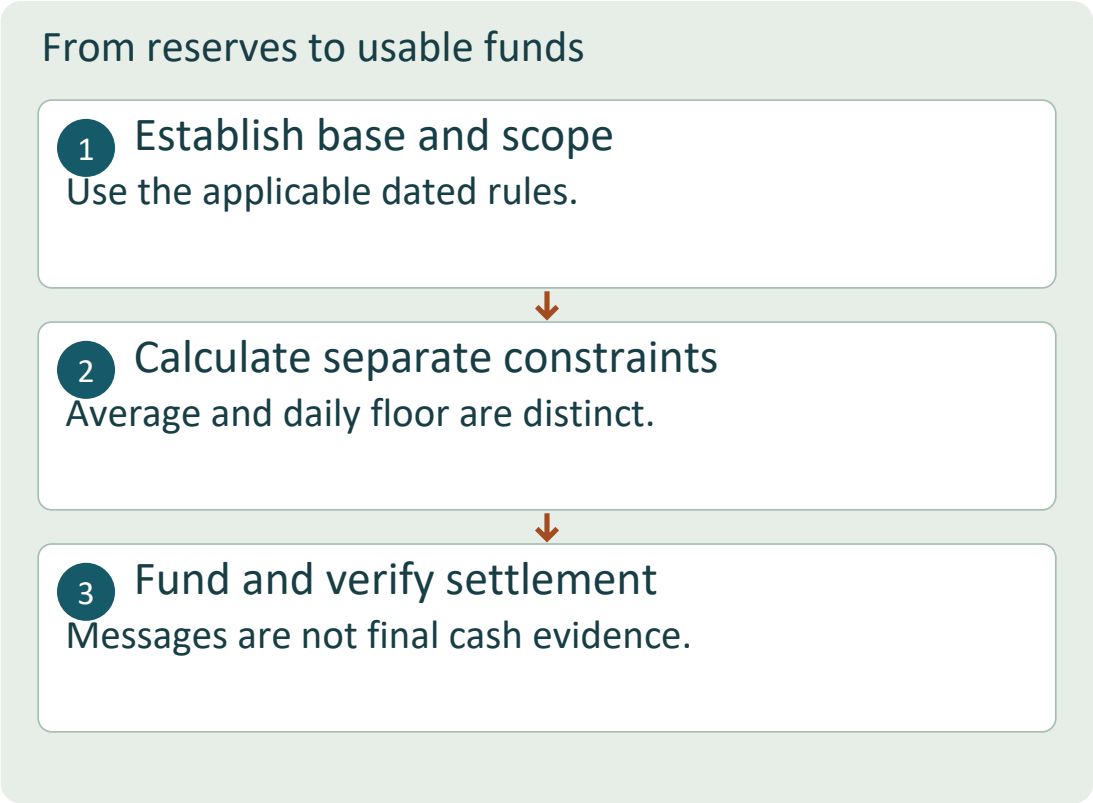
An average maintenance requirement and a daily minimum are different constraints. Meeting one does not automatically meet the other. If the required average balance is INR300 crore over fourteen days, total balance-days must reach INR4,200 crore-days. Holding too little on one day might still permit the average to be restored later, but a separate daily floor can prohibit that low balance. The applicable floor and maintenance period must be verified from the operative rules rather than inherited from a remembered historical percentage.

Using the dated 99% daily-floor provision with an illustrative INR300 crore average requirement gives a daily minimum of INR297 crore. If thirteen daily observations total INR3,850 crore-days, the final day needs INR350 crore to reach the INR4,200 target. The final-day amount must also satisfy the separate floor. Meeting the final total cannot retrospectively cure an earlier daily breach. This arithmetic uses a simplified fixed requirement; the actual base, period and applicable conditions still need to be established for a real bank.

Students should recognise the trap of reading an introductory sentence as the amended rule. A circular may first describe the previous position and then announce a new requirement. Search snippets can show only the first part. For calculations, the tool therefore accepts the daily-floor percentage as an explicit input and labels it an assumption. For regulatory review, read the entire operative instrument and its effective date. A neat calculation using an unverified threshold remains an unreliable compliance conclusion.



INR crore; fourteen-day target 4,200 crore-days, observed thirteen-day sum 3,850. Average and daily tests are distinct. [('Average requirement', 300), ('Daily floor at 99%', 297), ('Final day needed', 350)]



Use the applicable dated rules. Average and daily floor are distinct. Messages are not final cash evidence.

Understand SLR and eligible assets

The Statutory Liquidity Ratio concerns maintaining specified assets against the defined liability base under the applicable framework. The composition and eligibility conditions matter as much as the percentage. It should not be described simply as another cash balance identical to CRR. A bank may hold relevant cash, gold or approved securities as permitted, subject to governing definitions and conditions. The bank must establish which assets qualify and how they are valued before comparing their recognised amount with the requirement.

With an explicitly supplied base of INR10,000 crore and an assumed SLR of 18%, the arithmetic requirement is INR1,800 crore. If eligible recognised holdings are INR1,850 crore, the simple excess is INR50 crore. If a portion is not eligible or cannot be recognised under the applicable encumbrance treatment, the apparent excess can disappear. The calculator accepts an already established eligible amount; it does not classify securities, apply the complete valuation rules or determine legal availability from the asset's name.

SLR and the Liquidity Coverage Ratio have different frameworks. A security's treatment for one purpose should not be assumed to answer every question under the other. Some collateral arrangements have specified treatment and exceptions, so a blanket statement that every pledged security is either always eligible or always ineligible can be wrong. The relevant direction must be checked. Management also needs to prevent double counting resources in a funding plan even where a rule permits a particular asset to receive recognition for a defined regulatory measure.

Read the combined resource effect carefully

CRR, SLR and operating liquidity can all influence how the bank deploys funding, but simply adding percentages can be misleading if bases, eligible assets or availability differ. For a deliberately simplified example with a common INR10,000 crore base, 3% cash reserve and 18% eligible-asset requirement imply INR300 crore and INR1,800 crore respectively. Their sum is INR2,100 crore in that exercise. This does not prove that the remaining INR7,900 crore is freely lendable or that all other constraints have disappeared.

The bank also faces capital, liquidity, concentration, operational and business limits. Existing assets and liabilities create future flows, and the cost of reserves influences pricing. A new deposit may improve cash today while increasing future repayment obligations and relevant reserve requirements. Treasury should model the incremental balance-sheet effect rather than assume that every rupee received creates an equal permanent lending capacity. Funds transfer pricing can help communicate these costs to business lines, provided the allocation method is transparent and consistent.

Reconciliation matters. The liability base used in reserve calculations should be traceable to source records and adjustments. Eligible holdings should reconcile to custody and accounting records. Missing classifications, stale values or duplicated assets can produce a favourable ratio without real compliance. Independent checks should examine both the arithmetic and the underlying data. A calculator can verify multiplication, but it cannot establish that the supplied base and asset amount were legally and operationally correct.

Explain liquidity adjustment operations

Central-bank liquidity operations influence the availability and price of banking-system funds. A repo-style injection provides cash against eligible securities under specified terms, while an absorption operation removes liquidity through the relevant arrangement. The current operating framework can include standing facilities, variable-rate operations and other instruments. Their purposes, rates and access conditions should be distinguished. Do not treat a historical description of the corridor or a past policy rate as a timeless rule for today's treasury.

At the transaction level, identify who supplies cash, what collateral is delivered, the maturity, rate and reverse obligation. Suppose an authorised illustrative borrowing provides INR100 crore for one day at 6% on a 365-day simple basis. Interest is approximately INR164,383.56. The transaction supplies cash today but creates repayment tomorrow. Eligible collateral, settlement capacity and applicable conditions still need verification. A facility's existence does not mean every institution can obtain unlimited funds whenever it chooses.

Liquidity operations should also be separated from outright open-market transactions. An outright purchase or sale changes the security holding without the same contractual repurchase leg as a repo. Both can affect system liquidity, but their cash-flow structures differ. For examination questions, describe the operation and direction of funds before calculating interest or interpreting policy effects. This avoids confusing the central bank's perspective with the commercial bank's perspective, a common source of reversed answers in repo and reverse-repo cases.

Treat collateral as an operational resource

A collateral schedule should identify asset, quantity, market value, haircut, encumbrance, location and mobilisation process. If an eligible asset is valued at INR100 crore with an assumed 5% haircut, the simple initial cash support is INR95 crore. The INR5 crore difference is a valuation cushion, not interest earned by the lender. Price changes can require additional collateral or cash under the arrangement. Funding plans should therefore consider both initial capacity and potential margin demands during stress.

Operational readiness can limit access even when sufficient assets exist. Documentation may be incomplete, access rights unavailable or transfer cutoffs missed. Staff should know who can authorise a pledge and how to verify completion. Test the process before relying on it in a contingency plan. A theoretical borrowing capacity that takes two days to mobilise cannot be counted as certain same-day cash for an obligation due this afternoon. The plan needs realistic timing and an alternative if the process fails.

Do not count the same securities simultaneously as available for unrelated sales, borrowing and other obligations unless the actual arrangements support those uses. A consolidated asset total can hide prior commitments. Reconcile treasury's inventory with custody and settlement records, including pending transactions. Collateral management is therefore a daily information and control task, not only an annual

policy statement. It connects valuation, legal rights and practical access to the resources that make a funding strategy executable.

Distinguish payment instructions from settlement

A payment instruction requests a transfer; clearing determines or exchanges obligations through the relevant process; settlement discharges them through the specified transfer of funds or assets. These stages can occur differently across systems. A message accepted by a network is not automatically final beneficiary credit. Treasury needs evidence of the actual state so that it can forecast balances, avoid duplicate payments and investigate failures. Customer communication should use accurate status labels rather than describe every submitted instruction as completed settlement.

Real-time gross settlement processes eligible transactions individually rather than only a later net batch, while a deferred net arrangement settles defined net obligations at specified times. These broad concepts do not establish every operating detail of a named system. Current hours, limits, access and procedures require official verification. The economic distinction remains useful: gross settlement can create significant intraday funding needs, while netting can reduce settlement amounts but leaves obligations dependent on the arrangement's rules and timing.

In a securities transaction, delivery-versus-payment links asset delivery and cash payment under the relevant mechanism, reducing a particular principal risk. Payment-versus-payment links the exchange of currencies under a suitable arrangement. Neither removes all market, liquidity, legal or operational exposure. Treasury should identify which risks the mechanism addresses and which remain. A safer settlement design still needs sufficient balances, correct instructions, functioning systems and reconciliation after completion.

Manage intraday resources and failed payments

End-of-day cash can be positive while an earlier payment lacks funding. Suppose Meridian must pay INR60 crore at 10 a.m. and expects INR70 crore at 4 p.m., starting with INR20 crore. The daily net change is favourable, but the morning shortfall is INR40 crore before other resources. Treasury must arrange timely liquidity or manage payments within contractual and system rules. Adding the evening receipt to the morning balance without recognising its timing would conceal the actual problem.

Intraday forecasts should identify major receipts, payments, settlement deadlines and potential delays. Payment prioritisation and queue management can help where permitted, but delaying a critical obligation can create consequences for customers or other participants. Counterparty receipts are not fully under the bank's control. Stress a delayed incoming payment, a system outage or an unexpected collateral call. The institution should know which resources are available immediately and which require an approval or mobilisation step before use.

Failed or ambiguous payments require controlled investigation. A retry should not create a duplicate if the first instruction actually settled. Unique references, reliable status checks and reconciliation help. Changes to settlement instructions need authentication and appropriate approval. Record what happened and preserve evidence; an informal cancellation request may not reverse a final payment. Treasury's liquidity view and operations' transaction status should remain aligned so that missing or duplicated records do not lead to a second funding or payment error.

Maintain reporting, controls and version records

Regulatory returns require the prescribed definitions, formats and timing for the institution concerned. Internal management information should be sufficiently frequent for decisions and can need greater detail than an external return. A bank should not wait for the reporting date to investigate an emerging shortfall. Data ownership, reconciliations, independent review and controlled changes are essential. A consistent source trail allows a reviewer to understand how the reported liability base, recognised assets and maintenance figures were produced.

Rule management needs the same discipline. Record the authority, instrument, consolidation date, amendments and commencement. A retrieved older page and a current index entry are different evidence. The source register for this module explicitly records the unresolved full-text retrieval for some later changes. This prevents a student or publisher from mistaking a teaching assumption for a verified current prescription. Where a question supplies a rate, calculate using it and state the assumption; where it asks for current law, the operative source must support the answer.

For revision, distinguish CRR from SLR, average maintenance from daily minimum, collateral value from cash support and payment messaging from final settlement. Trace each resource through time and identify the condition that makes it usable. The calculators below illustrate reserve amounts, remaining-day average requirements, repo interest and intraday shortfalls. They support understanding and error detection, while actual compliance remains dependent on correctly established inputs, scope and dated rules.

Prepare a controlled funding recommendation

Meridian's recommendation should begin with confirmed obligations and resources. Show the reserve requirements separately from the operational cash forecast, identify eligible collateral and calculate the time-specific funding gap. Compare available borrowing sources by tenor, cost, conditions and execution time. A slightly more expensive reliable source may be preferable to a cheaper line that is uncommitted or cannot settle before the deadline. The decision should explain this trade-off rather than rank sources by interest percentage alone.

Next evaluate tomorrow's position after today's borrowing matures. Include principal, interest, collateral release and any further expected flows. A sequence of overnight solutions can conceal a persistent structural mismatch if each day is reviewed in isolation. Escalate that pattern to the appropriate balance-sheet governance process. Daily treasury execution and longer-term funding strategy should reinforce each other, with limits and internal pricing discouraging business growth that depends on continuous optimistic refinancing assumptions.

Finally, record authority and verify execution. Front office captures the borrowing, independent oversight checks relevant limits, and operations confirms settlement and reconciles balances. Review forecast differences and any failed or delayed transaction. This closes the loop from policy through calculation to actual cash. The chapter's central lesson is that funding and regulation meet in a practical schedule of obligations: compliance amounts, collateral and payment systems all matter because the bank must deliver the right resources at the right time under the applicable conditions.

Practice with explanations

01. Funding should be compared on which dimensions?

A. Only lender logo	B. Only the closing accounting total
C. Amount, currency, maturity, reliability and cost	D. Only the lowest rate

Answer C. Resources must be usable for the obligation. Rate or branding alone omits timing and access; an accounting total can conceal encumbrance, currency mismatch or a source that cannot settle before the deadline.

02. A supplied liability base of 10,000 crore at assumed 3% CRR gives what?

A. INR300 crore	B. INR30 crore
C. INR3,000 crore	D. INR3 crore

Answer A. Multiply the supplied base by 0.03. The other amounts are scale errors. Correct arithmetic does not establish the real liability base, exemptions or compliance under the institution's applicable rules.

03. Why is the CRR base not simply every liability added together?

A. Only equity is counted	B. Definitions and adjustments come from the governing rules
C. A dealer can choose the base freely	D. All liabilities are always exempt

Answer B. The prescribed base requires classification and adjustments. Neither blanket exemption nor equity alone follows, and discretionary selection would undermine compliance even if the final multiplication were arithmetically correct.

04. Average balance 300 crore over fourteen days requires how many balance-days?

A. 4,200 crore-days	B. 4,500 crore-days
C. 21.43 crore-days	D. 300 crore-days

Answer A. Multiply average target by days: 300×14=4,200. The average alone is not the cumulative target, division answers a different question, and 4,500 uses an unsupported period.

05. Thirteen observations total 3,850 crore-days against that target. Final-day average need is?

A. INR300 crore	B. INR4,200 crore
C. INR270 crore	D. INR350 crore

Answer D. Subtract accumulated balances from required total: 4,200-3,850=350. The daily floor is a separate constraint; the average target or full total cannot replace the remaining-day calculation.

06. The verified October 2026 change set the daily CRR floor at what proportion of requirement?

A. 99%	B. 3% of the required balance
C. 90% as the new rule	D. 95% universally

Answer A. The operative official indexed wording raises the floor to 99%, effective from the fortnight beginning 16 October 2026. Ninety describes the preceding position; other figures confuse historical or base-rate concepts with the daily floor.

07. At an illustrative 300 crore requirement, a 99% daily floor is?

A. INR299 crore	B. INR270 crore
C. INR297 crore	D. INR3 crore

Answer C. The floor is 300×0.99=297. Two hundred seventy uses 90%; 299 subtracts one currency unit rather than one percent, and three is the one-percent difference rather than required maintenance.

08. Can a satisfactory fortnightly average automatically cure an earlier daily-floor breach?

A. Yes, if the last balance is high	B. No, the constraints are distinct
C. Only the arithmetic total matters	D. Yes, every breach disappears

Answer B. Average and daily minimum are separate requirements. A high final observation can restore an average but does not change a prior day's balance, so both tests need their own evidence.

09. Why read beyond a circular's introductory paragraph?

A. It may describe the previous rule before announcing an amendment	B. Search snippets guarantee full context
C. Effective dates never matter	D. The opening always contains every new rule

Answer A. A snippet can show old context without the operative change. Full wording and commencement determine application; neither the opening alone nor an undated summary establishes the current prescription.

10. SLR differs from CRR because it concerns what?

A. Only trading profits	B. Specified eligible assets under a separate framework
C. All assets regardless of eligibility	D. Only an identical RBI cash balance

Answer B. SLR has its own eligible-asset and valuation conditions. It is not simply CRR repeated, and neither every asset nor a profit amount automatically satisfies the requirement against the defined base.

11. A supplied 10,000 crore base at assumed 18% SLR gives what?

A. INR180 crore	B. INR1,800 crore
C. INR18 crore	D. INR8,200 crore

Answer B. The requirement is 10,000×0.18=1,800. Eight thousand two hundred is the residual after that amount, while the other choices mis-scale the percentage. Eligibility of holdings remains a separate assessment.

12. Eligible holdings 1,850 crore against requirement 1,800 give what simple excess?

A. INR3,650 crore	B. INR1,850 crore
C. INR50 crore	D. Minus INR50 crore

Answer C. Recognised holdings minus requirement gives positive fifty. Holdings themselves and their sum with the requirement do not measure headroom; reversing subtraction changes the sign and misstates the supplied position.

13. SLR eligibility automatically settles LCR eligibility?

A. Yes, for every security	B. Yes, because both use percentages
C. Yes, even without availability	D. No, the frameworks have distinct conditions

Answer D. Different purposes and definitions require separate checks. Recognition under one measure does not automatically establish the other, and common percentage notation cannot remove asset, availability or composition conditions.

14. Why not call 79% of a common base freely lendable after 3% and 18% assumptions?

A. Arithmetic makes lending unlimited	B. Capital requirements disappear
C. All future payments cease	D. Other constraints and availability still matter

Answer D. The simplified residual omits capital, liquidity, commitments and operational needs. Adding two percentages can illustrate amounts but cannot certify deployment capacity or eliminate the bank's continuing obligations and risk limits.

15. A repo-style central-bank injection supplies what to the borrowing bank?

A. An outright debt cancellation	B. A guarantee of unlimited access
C. Permanent equity automatically	D. Cash against eligible collateral with future obligations

Answer D. The transaction supplies liquidity under conditions and a reverse leg. It is not automatically equity or debt forgiveness, and facility access, collateral and capacity must be established rather than assumed unlimited.

16. One-day interest on 100 crore at 6%, basis 365, is approximately what?

A. INR6 crore	B. INR164,383.56
C. INR16,438.36	D. INR600,000

Answer B. Use 1,000,000,000×0.06/365. Six crore is the annual amount, and the other choices mis-scale or use an unsupported period. Principal repayment is separate from the interest calculation.

17. An outright open-market purchase differs from a repo because?

A. It lacks the same contractual repurchase leg	B. It never changes cash
C. It is always unsecured overnight borrowing	D. It automatically has identical maturity

Answer A. Both can affect liquidity, but their transaction structures differ. An outright transfer is not the same reverse-obligation financing arrangement; cash and holdings still change under the agreed settlement.

18. Collateral value 100 crore with assumed haircut 5% yields what initial support?

A. INR100 crore regardless of terms	B. INR95 crore
C. INR5 crore interest	D. INR105 crore

Answer B. The model reduces value by five percent. The cushion is not interest, adding it is incorrect, and ignoring it overstates support. Actual eligibility, margining and access require further verification.

19. Why test collateral mobilisation before stress?

A. Documentation, access and transfer timing can limit use	B. Eligibility guarantees instant cash
C. Testing removes every future risk	D. Only market value matters

Answer A. Operational readiness is separate from theoretical capacity. Testing reveals constraints but cannot guarantee all outcomes. A valuable eligible asset still needs authorised and timely transfer to support the assumed borrowing.

20. An accepted payment message proves what?

A. No reconciliation is needed	B. Every settlement stage is complete
C. Instruction acceptance, not necessarily final beneficiary credit	D. The payment can never fail

Answer C. Messaging and settlement states differ. Acceptance alone does not establish final transfer or eliminate investigation and reconciliation; accurate status evidence prevents premature claims and potentially unsafe duplicate retries.

21. Real-time gross settlement conceptually processes what?

A. Only messages with no funds	B. Individual eligible transactions rather than only a later net batch
C. Only securities coupons	D. Only annual net totals

Answer B. The broad distinction is individual gross settlement versus deferred net obligations. Current system details need separate verification; neither annual totals, coupons alone nor messaging alone defines the settlement mechanism.

22. Delivery-versus-payment primarily reduces which risk?

A. All documentation requirements	B. Every price loss
C. Principal risk from unlinked asset and cash delivery	D. Every liquidity demand

Answer C. Linking delivery and payment addresses a particular settlement risk. Market values can still move, funds are still needed and documentation remains essential, so the mechanism does not eliminate every transaction exposure.

23. Starting cash 20, morning payment 60 and evening receipt 70 crore create morning need of?

A. INR10 crore	B. INR40 crore
C. No need because daily net is positive	D. INR90 crore

Answer B. Before the evening receipt, only twenty is available against sixty due, leaving forty. End-of-day improvement does not fund an earlier obligation; netting across time hides the intraday shortfall.

24. A retry after an ambiguous payment status should first do what?

A. Send repeatedly until someone confirms	B. Delete the first reference
C. Establish whether the original settled using controlled records	D. Assume all timeouts mean failure

Answer C. An ambiguous response can conceal completed settlement. Controlled status checks and unique references prevent duplicates; repeated sending or deleting history weakens evidence and can create a second loss or cash demand.

25. Why include tomorrow's borrowing maturity in today's recommendation?

A. Collateral release is always immediate and unconditional	B. Borrowing erases future obligations
C. Today's solution creates a future principal and interest need	D. Only today's closing balance matters

Answer C. A funding action has a life cycle. Principal, interest and collateral timing affect later resources; ignoring them can conceal persistent rollover dependence despite an apparently successful same-day liquidity solution.

C04 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 A treasury raises and deploys money within legal, supervisory and internal constraints.	**15** Central-bank liquidity operations influence the availability and price of banking-system funds.
02 Fictional Meridian Bank expects a large deposit maturity and several customer payments this week.	**16** At the transaction level, identify who supplies cash, what collateral is delivered, the maturity, rate and reverse obligation.
03 This chapter covers CRR, SLR, the liquidity adjustment framework and payment and settlement systems.	**17** Liquidity operations should also be separated from outright open-market transactions.
04 The Cash Reserve Ratio requires specified cash balances with the Reserve Bank under the applicable framework.	**18** A collateral schedule should identify asset, quantity, market value, haircut, encumbrance, location and mobilisation process.
05 CRR affects deployable resources and the treasury's cash planning.	**19** Operational readiness can limit access even when sufficient assets exist.
06 The relevant law, directions and institution scope matter.	**20** Do not count the same securities simultaneously as available for unrelated sales, borrowing and other obligations unless the actual arrangements support those uses.
07 An average maintenance requirement and a daily minimum are different constraints.	**21** In a securities transaction, delivery-versus-payment links asset delivery and cash payment under the relevant mechanism, reducing a particular principal risk.
08 Using the dated 99% daily-floor provision with an illustrative INR300 crore average requirement gives a daily minimum of INR297 crore.	**22** End-of-day cash can be positive while an earlier payment lacks funding.
09 Students should recognise the trap of reading an introductory sentence as the amended rule.	**23** Intraday forecasts should identify major receipts, payments, settlement deadlines and potential delays.
10 The Statutory Liquidity Ratio concerns maintaining specified assets against the defined liability base under the applicable framework.	**24** Failed or ambiguous payments require controlled investigation.
11 With an explicitly supplied base of INR10,000 crore and an assumed SLR of 18%, the arithmetic requirement is INR1,800 crore.	**25** Regulatory returns require the prescribed definitions, formats and timing for the institution concerned.
12 SLR and the Liquidity Coverage Ratio have different frameworks.	**26** Rule management needs the same discipline.
13 The bank also faces capital, liquidity, concentration, operational and business limits.	**27** For revision, distinguish CRR from SLR, average maintenance from daily minimum, collateral value from cash support and payment messaging from final settlement.
14 Reconciliation matters.	**28** Meridian's recommendation should begin with confirmed obligations and resources.

C05 Treasury Risk Management

Practice / Quick Revision

Move from a position to its risk drivers

Treasury risk management connects market positions, counterparty obligations, funding and operational controls. A bond purchase can create interest-rate sensitivity, issuer exposure, settlement obligations and a refinancing need. A derivative can reduce one market exposure while creating collateral demands or counterparty risk. The first task is therefore to identify what the bank has promised and what can change its value or cash flows. A single product label or an aggregate profit number cannot explain the full risk of the activity.

Fictional Meridian Bank holds fixed-rate bonds, quotes foreign exchange to customers and uses interest-rate swaps. Its report shows a favourable daily profit, but independent risk notices a growing bond sensitivity and an unresolved trade confirmation. These facts need different responses. The sensitivity may require a position or hedge decision, while the confirmation issue requires operational investigation. Treating both as harmless because the day was profitable would confuse an outcome with the quality of the underlying risk process.

This chapter applies the risk concepts introduced in Module B to treasury decisions. It covers supervision, control, market and credit exposure, duration, value at risk and derivative use. Calculators use transparent educational models rather than claim to implement a complete regulatory capital method. The student should be able to explain the direction, units and limitations of a result. That explanation matters because a correct calculation can still support an unsuitable decision if the position, horizon or assumptions were misunderstood.

Establish an independent control structure

The board and senior management establish permitted activities, appetite and oversight. Treasury executes within delegated authority. Independent risk oversight challenges measures and monitors limits, while settlement and accounting functions confirm and reconcile transactions. Internal audit assesses the framework and its operation. Actual organisational names vary; the principle is a clear separation of conflicting duties with accountable decisions. An institution should not rely on one dealer to originate a position, value it, approve its limit and resolve every resulting reconciliation difference.

Independent valuation uses appropriate market evidence and controlled methods. A dealer's quote can be informative but may be influenced by incentives. Illiquid positions require particular attention because a small indicative quote may not represent an executable price for the full holding. Valuation adjustments and uncertainty should be visible to decision makers. A model can generate a precise number without reliable inputs, so the review should challenge data sources, assumptions and changes as well as arithmetic implementation.

Trade completeness is equally important. Late capture, duplicate records or unauthorised amendments can invalidate every subsequent risk calculation. Reconcile dealing systems, confirmations, accounting and settlement records, investigate material breaks and preserve an audit trail. Emergency access needs boundaries and review. A sophisticated risk report based on an incomplete position file can be less useful than a simple accurate report, because its apparent precision may discourage the questions that would reveal the missing exposure.

Design limits that match the exposure

Limits translate appetite into usable boundaries. Notional limits constrain size, position limits constrain net or gross exposure as defined, sensitivity limits constrain response to specified market movements, and counterparty limits constrain relevant credit exposure. VaR and stress limits add other views. A stop-loss threshold responds to a defined loss measure but does not guarantee execution at that amount. Each limit needs a definition, owner, measurement frequency and escalation process. A number without an action rule is weak operational guidance.

Suppose a desk has an assumed DV01 limit of INR5 lakh and current magnitude INR4 lakh. Utilisation is 80%, leaving INR1 lakh headroom under that measure. A proposed trade adding INR1.5 lakh sensitivity would raise the total to INR5.5 lakh if the sensitivities add in the stated scenario. The transaction should not proceed merely because notional headroom remains. Different limits address different dimensions, and passing one does not authorise a breach of another.

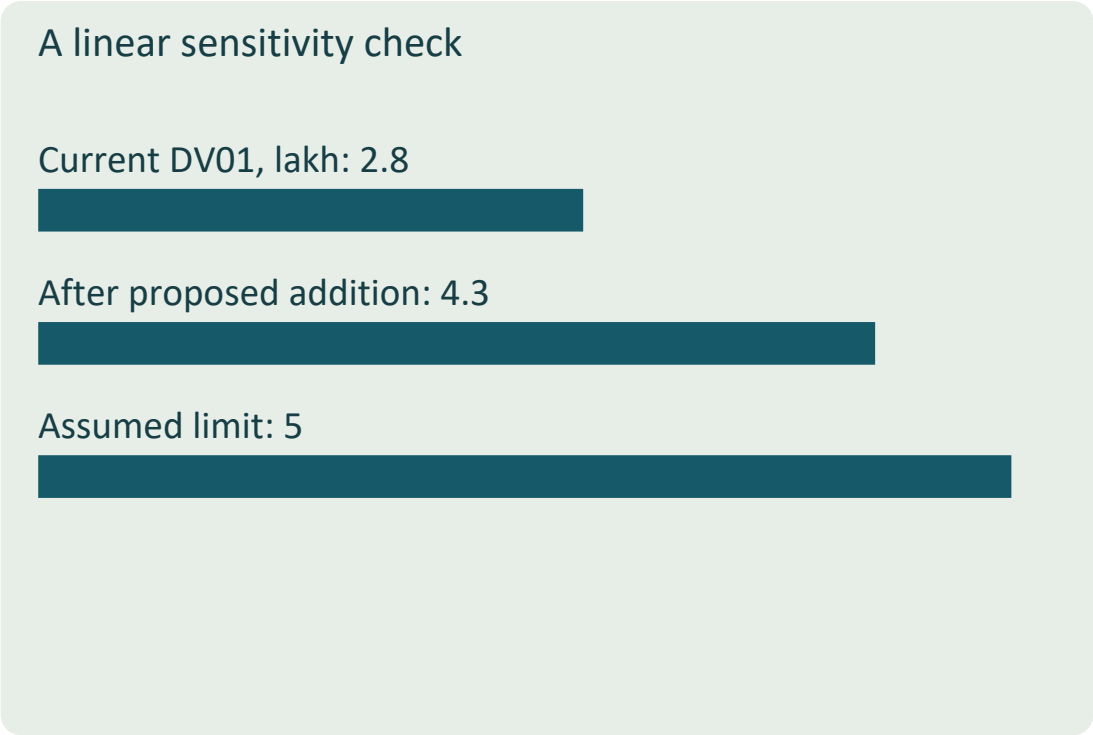
Warnings should permit action before a hard boundary is crossed. Breaches require timely explanation, containment and authorised resolution. Raising a limit retrospectively should not become routine loss avoidance or a means of hiding weak controls. Temporary exceptions need rationale, conditions and expiry. Management should also examine repeated near-breaches or rapid utilisation growth: a desk can become vulnerable before a formal breach occurs, particularly where liquidity deteriorates and the capacity to reduce exposure is shrinking.

Measure bond sensitivity with duration and DV01

Modified duration estimates the percentage price response to a small yield change. Approximate monetary change equals minus market value times modified duration times the yield change expressed as a decimal. For INR80 crore market value, duration 3.5 and a 20-basis-point yield rise, the change is minus 80 times 3.5 times 0.002, or minus INR0.56 crore. The negative sign describes the usual inverse price-yield relationship for the assumed fixed-rate position. It is not an arbitrary convention to discard after calculation.

DV01 is the approximate value change for one basis point, often reported as a positive magnitude. In the example, 80 times 3.5 times 0.0001 gives INR0.028 crore, or INR2.8 lakh per basis point. A twenty-basis-point rise therefore implies twenty times that magnitude of loss under the linear approximation. State both the monetary unit and reporting convention. Confusing one percentage point with one basis point creates a hundredfold error, while mixing lakh and crore can create another major scale error.

Duration is local and incomplete. A large shock, non-parallel curve movement, spread change or embedded option can cause actual revaluation to differ. A portfolio can have a small aggregate duration while retaining substantial exposure to the relative movement of different maturities. Use bucketed sensitivities or suitable full revaluation where needed. The simple tool teaches the first-order relationship; it should not be presented as a complete pricing engine for callable bonds, structured instruments or a stressed yield curve.



Same-direction addition 1.5 lakh. Utilisation becomes 86%; other constraints still require review. [('Current DV01, lakh', 2.8), ('After proposed addition', 4.3), ('Assumed limit', 5)]

Build a hedge using sensitivity rather than face value

A hedge should address the exposure's economic driver. Equal face values do not ensure equal and opposite sensitivity. Suppose an asset portfolio has DV01 magnitude INR2.8 lakh and one hedge contract provides INR0.07 lakh of opposite DV01. A simplified full sensitivity hedge requires forty contracts. The direction of the hedge must be established separately. For a long fixed-rate bond position harmed by rising yields, an appropriate short price exposure may offset part of that sensitivity under the assumed relationship.

Rounding can leave residual risk. If the ideal contract count is 40.4 but only whole contracts are available, compare forty and forty-one using the resulting net sensitivity and policy. The choice should not be made solely by rounding to the nearest integer without considering over-hedging constraints or other exposures. A hedge also needs liquidity, documentation, counterparty and margin assessment. A reduction in DV01 can coexist with greater cash demands if the derivative requires collateral before the asset's economic benefit is realised.

Basis risk remains when the hedge and asset do not move identically. Different reference rates, maturities, credit spreads or deliverable instruments can weaken the offset. Monitor the combined position and reassess when the underlying changes. If a bond is sold but its hedge remains, the derivative can become a new exposure. A hedge register should therefore connect the transaction to its objective, amount, horizon and review conditions rather than treat an initial approval as permanent evidence of effectiveness.

Interpret VaR as a conditional quantile

Value at risk describes a loss threshold for a specified horizon and confidence level under a model. A one-day 99% VaR of INR2 crore means the model assigns about 1% probability to exceeding that loss over a day. It is not a maximum loss, an average daily loss or a guarantee that a position can be closed at the threshold. Always name the portfolio, horizon, confidence and method. Without those details, comparisons between two VaR numbers can be meaningless.

For a zero-mean normal-return illustration, portfolio value INR100 crore and daily volatility 1% give a one-day 99% VaR of approximately INR2.32635 crore. The formula multiplies value, decimal volatility and the normal quantile 2.32635. Under independent identically distributed daily returns and constant volatility, ten-day

scaling uses the square root of ten, producing approximately INR7.35656 crore. Multiplying by ten assumes a different relationship. The stated shortcut should not be extended automatically to serial dependence, changing volatility or nonlinear portfolios.

Parametric, historical and simulation methods depend on different modelling choices. Historical simulation still assumes that the selected past movements are informative. Monte Carlo requires a suitable model and reliable revaluation; more paths do not repair a bad specification. Model governance should cover data, conceptual validity, implementation and use. A simple transparent measure with understood limitations can support better decisions than a complex estimate whose users cannot explain what loss distribution or position set it represents.

Challenge estimates with outcomes and stress

Backtesting compares forecasts with realised outcomes under a defined profit-and-loss measure. A 99% daily model does not require exactly one exception in every hundred observations. Counts vary, and patterns matter. Investigate whether exceptions arise from market behaviour, data errors, new trades, valuation differences or use outside the model's intended scope. An apparently good exception count does not prove that every assumption is sound, especially if the observation period contains little stress or the portfolio changes materially.

Stress testing examines specified adverse conditions beyond routine estimates. A coherent treasury scenario might combine a yield rise, currency movement, widening spreads, lower market depth and larger collateral calls. Explain the economic links before calculating. A random collection of unrelated worst observations can be difficult to interpret, while mild recent history can understate vulnerability. Show results before and after feasible management actions, and do not assume that a large position can be sold instantly at its previous mid-market valuation.

Reverse stress testing starts from a critical outcome such as exhausting a loss allowance or available liquidity and asks what conditions could cause it. This is a vulnerability analysis, not a prediction of certain failure. It can reveal dependence on one market relationship or funding source. Management should identify early warnings and actions with credible authority, capacity and timing. A scenario report that produces no changes or follow-up may add information without improving the institution's ability to respond.

Measure counterparty exposure separately

Treasury credit risk includes issuer risk on securities, interbank exposure and derivative counterparty risk. A positive derivative replacement value represents an amount potentially lost if the counterparty fails, subject to the applicable netting, collateral and exposure method. Future market changes can increase exposure. Notional principal is a reference amount and should not automatically be treated as current loss. Conversely, a zero-value contract at inception can still create substantial future exposure and cash obligations.

Suppose Meridian has a positive replacement value of INR3 crore and an explicitly assumed future-exposure add-on of INR2 crore in a simplified teaching case. Gross illustrative exposure is INR5 crore before any recognised offsets. If eligible collateral of INR1 crore is applied under the supplied model, residual exposure is INR4 crore. This is not a complete regulatory method. Legal enforceability, margin timing, disputes, wrong-way risk and the governing exposure rules need separate assessment before a real capital or limit calculation.

Wrong-way risk occurs when exposure increases as the counterparty's credit quality worsens. A hedge can be least reliable when needed if its provider is closely linked to the same adverse driver. Collateral can also lose value in the same scenario. Counterparty assessment should therefore examine common dependencies rather than assume that a contract with another institution necessarily diversifies risk. Limits, documentation, collateral practices and monitoring work together; none alone guarantees collection after a default.

Incorporate trading and funding liquidity

Market liquidity determines the cost and time needed to reduce a position. A quoted price for a small quantity may not apply to the full holding. Bid-ask spreads, market depth and concentration affect achievable proceeds. If a bank must sell quickly, the loss can exceed a model based on ordinary daily price changes. Reports should distinguish marked value from estimated stressed execution value and identify assets that are unavailable because of encumbrance or settlement commitments.

Funding liquidity concerns cash needed to maintain or settle positions. A hedge that stabilises eventual economic value can require margin today. A bond financed overnight may face rollover pressure even when its market price is unchanged. Treasury should connect price stress with collateral, funding and payment schedules. A position can be economically sensible over its horizon but impossible to hold through an interim cash squeeze. This is why market-risk mitigation and liquidity planning must be reviewed together rather than by disconnected reports.

For an illustrative marked holding of INR50 crore, a 3% stressed discount and INR0.10 crore execution cost imply proceeds of INR48.40 crore. The INR1.60 crore reduction is separate from any loss already recognised in the mark; avoid double counting the same price movement. State the starting valuation and scenario assumptions clearly. A stress calculation should explain whether the discount represents additional execution cost, a market shock or both, so that users can reconcile it with other reported losses.

Report decisions and residual risk

A treasury report should connect exposure, limits, changes, causes and required actions. Include significant sensitivities, counterparty positions, VaR or approved measures, stress results, liquidity assumptions and unresolved exceptions. A large gain can conceal a growing risk, while a loss can arise from an authorised hedge offset by an underlying benefit elsewhere. Profit attribution and risk reporting should therefore reconcile across the relevant perimeter. Neither an isolated derivative gain nor an isolated trading loss is enough to judge hedge effectiveness.

Model and limit changes need controls. A change that lowers measured risk should be independently reviewed before it creates apparent headroom for more business. Preserve the prior method, rationale, testing and approval. Staff should know when a model is unsuitable and which fallback applies. A report that silently changes definitions across periods can make a trend look favourable without any economic improvement. Clear documentation supports both operational use and later examination of the decisions made under uncertainty.

For revision, identify the position and driver, establish the units, select a suitable measure, calculate and interpret, then test the limitations and response. Duration is a local approximation, VaR a modelled quantile and a hedge a conditional offset. Counterparty and liquidity exposures remain even when market sensitivity falls. A strong case answer explains the result and the action it supports, while recognising what further information is required before the bank can approve or maintain the position.

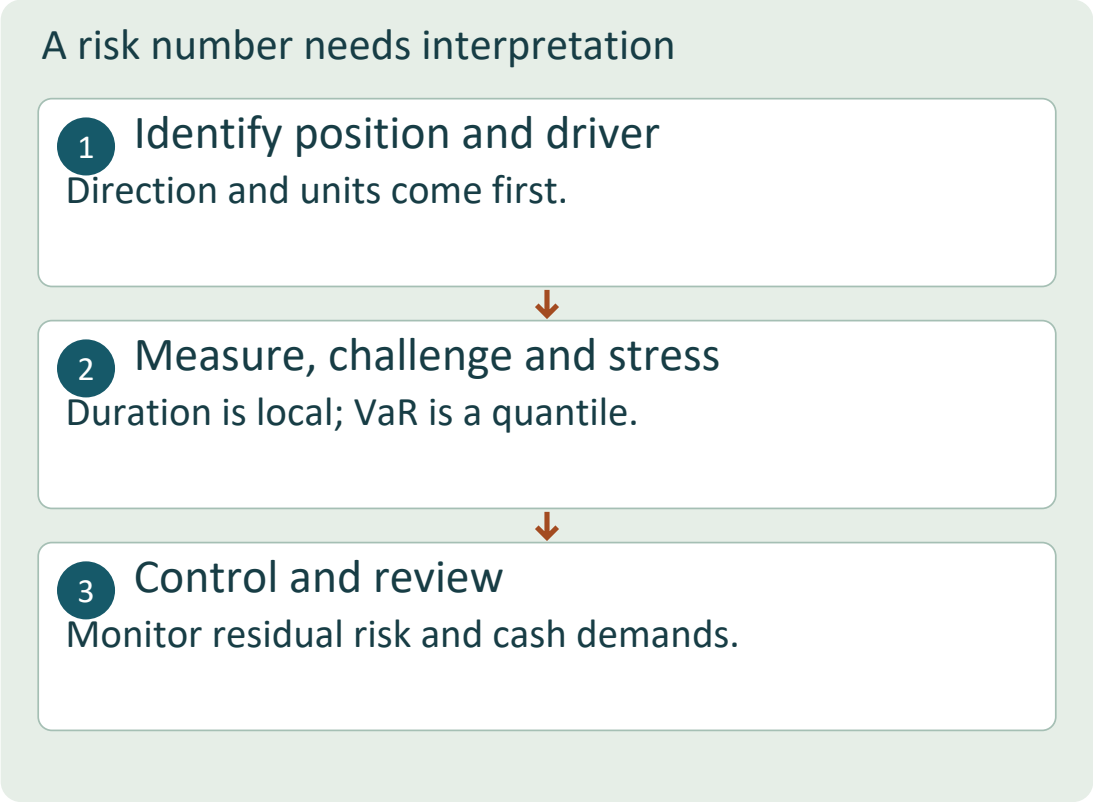
Conduct a morning risk review

Meridian's desk proposes increasing its bond holding after a quiet week. Current DV01 is INR2.8 lakh against an assumed INR5 lakh limit. The proposed addition contributes INR1.5 lakh, producing INR4.3 lakh and 86% utilisation if sensitivities add. That passes this particular limit, but the review should also examine concentration, stress loss, funding and settlement capacity. A quiet week may lower historical volatility without reducing the consequences of a large yield movement. Available headroom is permission to consider a trade, not proof that it is desirable.

If the bank chooses to hedge part of the addition, calculate the opposite sensitivity and examine basis risk and margin needs. Record the intended combined exposure rather than only the number of contracts. Independent risk should verify the inputs, while operations confirms that documentation and settlement

arrangements support the plan. Any unresolved confirmation or data issue should be addressed before it undermines the position report. Risk management relies on a complete transaction record as well as sound models.

The final recommendation should specify position size, limits, hedge objective, residual exposure and review triggers. After execution, compare actual positions and cash flows with the approved plan. Investigate differences and reassess if market depth, funding or the underlying exposure changes. This closes the loop from identification to control and reporting. The calculators provide a way to practise sensitivity, hedge sizing, VaR, counterparty exposure and stressed proceeds, but their outputs remain useful only when the assumptions fit the actual treasury decision.



Direction and units come first. Duration is local; VaR is a quantile. Monitor residual risk and cash demands.

Practice with explanations

01. A profitable day proves what about treasury controls?

A. No automatic conclusion of control effectiveness	B. No hidden exposure exists
C. Every confirmation matched	D. Every trade was authorised

Answer A. Profit is an outcome that can coexist with weak controls or omitted trades. Authority, confirmations and completeness need evidence of their own; a gain cannot certify those processes.

02. Why separate dealing and independent valuation?

A. To challenge conflicts and unreliable prices	B. To remove settlement duties
C. To guarantee price appreciation	D. To replace all limits

Answer A. Independent valuation challenges data and incentives. It cannot control market direction, discharge obligations or replace exposure boundaries; it supports a reliable position and performance assessment alongside other controls.

03. An indicative quote for a small lot may fail to represent what?

A. Executable value for the full position	B. The existence of a market variable
C. Any useful information ever	D. The instrument's currency

Answer A. Quote size and depth matter to achievable proceeds. The quote can still be informative, but it does not automatically establish full-size liquidity; this limitation does not change currency or eliminate the underlying driver.

04. Current DV01 4 lakh against limit 5 lakh gives utilisation of?

A. 5%	B. 80%
C. 20%	D. 125%

Answer B. Utilisation is 4/5×100=80%. Twenty is unused proportion, the reciprocal reverses the relationship, and five confuses the limit amount with a percentage. Other applicable constraints still need checking.

05. A trade adds 1.5 lakh DV01 to that 4 lakh position, with additive sensitivity. Result is?

A. 5.5 lakh, above the supplied limit	B. 1.5 lakh total
C. 2.5 lakh, always safe	D. 4 lakh unchanged

Answer A. Adding the stated same-direction sensitivity gives 5.5, exceeding five. Subtracting assumes an opposite hedge not supplied; retaining four or using the increment alone omits part of the combined position.

06. Value 80 crore, duration 3.5, yield rise 20 bp gives approximate change of?

A. Minus INR0.56 crore	B. Plus INR0.56 crore
C. Minus INR56 crore	D. Zero

Answer A. Apply -80×3.5×0.002=-0.56 crore. The positive answer reverses direction, fifty-six mis-scales basis points, and zero ignores fixed-rate sensitivity. The result remains a first-order approximation. A non-parallel curve shift requires additional sensitivity information.

07. The same portfolio's DV01 magnitude is?

A. INR2.8 lakh	B. INR28 lakh
C. INR280 crore	D. INR0.28 lakh

Answer A. Value×duration×0.0001 gives 0.028 crore, equal to 2.8 lakh. The other amounts confuse decimal conversion or crore/lakh units, errors that can materially distort hedge sizes and limit reports.

08. A small aggregate duration can conceal what?

A. No valuation uncertainty	B. Yield-curve bucket and basis exposures
C. Guaranteed immunity to rates	D. No future cash flows

Answer B. Offsetting aggregate sensitivity can leave different maturities moving unfavourably. Duration does not prove immunity, erase cash flows or resolve valuation uncertainty, so richer analysis may be needed for the actual portfolio.

09. Portfolio DV01 2.8 lakh and opposite contract DV01 0.07 lakh imply how many simple hedge contracts?

A. 0.025	B. 400
C. 4	D. 40

Answer D. Divide the exposure magnitude by per-contract opposite sensitivity: 2.8/0.07=40. The other choices reverse the ratio or introduce scale errors. Direction, basis and whole-contract constraints still require assessment.

10. An ideal hedge count of 40.4 requires what before choosing a whole number?

A. Always ignore the fraction	B. Compare residual exposure and policy for adjacent counts
C. Always round up regardless of risk	D. Assume fractional exchange contracts are available

Answer B. Rounding changes residual or over-hedged exposure. Policy and other positions matter; automatic rounding or assuming fractional contracts can create an unintended position even when the ideal continuous calculation is correct.

11. A hedge remains after the underlying bond is sold. What may occur?

A. No monitoring need	B. Automatic cancellation of the hedge
C. Permanent perfect offset	D. A new standalone exposure

Answer D. The offset can disappear when the underlying changes. Contracts do not necessarily cancel automatically, so the remaining derivative needs reassessment, authority and monitoring rather than continued classification as an unchanged hedge.

12. One-day 99% VaR describes what?

A. Average daily profit	B. A guaranteed sale price
C. The largest possible loss	D. A modelled loss threshold with about 1% exceedance probability

Answer D. VaR is a conditional quantile for a defined horizon and model. It does not establish a maximum, executable exit or mean profit, and losses beyond it remain possible.

13. Value 100 crore, daily volatility 1% and 99% normal quantile 2.32635 give what?

A. INR2.32635 crore	B. INR1 crore
C. INR232.635 crore	D. INR0.0232635 crore

Answer A. Use 100×0.01×2.32635. One crore is one standard deviation rather than the selected quantile; the larger and smaller alternatives mis-convert percentage volatility or monetary scale. Losses beyond this threshold remain possible under the model.

14. Square-root-of-time scaling requires which simplifying assumption?

A. No market changes	B. Independent returns with constant relevant volatility
C. Guaranteed identical daily losses	D. Unlimited liquidity

Answer B. Variance addition under the specified return assumptions supports the shortcut. Identical losses, frozen markets and unlimited liquidity are neither the model nor guarantees; dependence and changing volatility can invalidate scaling.

15. A Monte Carlo estimate can be precisely wrong when?

A. It uses many paths	B. The model or exposure mapping is unsuitable
C. Its random generator is tested	D. It has readable documentation

Answer B. Many paths reduce simulation noise, not conceptual error. Documentation and generator tests are useful safeguards, but model suitability and correct position mapping remain essential to a meaningful estimate.

16. Backtesting needs a defined realised P&L measure because?

A. Forecast and outcome must be comparable	B. Valuation differences are impossible
C. Any profit number is automatically equivalent	D. New trades never matter

Answer A. Differences in positions, trading and valuation can affect outcomes. Defining the comparison avoids false conclusions; it does not assume those differences vanish or that every reported profit measures the modelled portfolio.

17. Exactly one exception every hundred days is required by 99% VaR?

A. Ninety-nine exceptions are required	B. Yes, without variation
C. No, realised sample counts vary	D. No exceptions can occur

Answer C. Probability gives a long-run model expectation, not a fixed sample count. Exceptions can vary or cluster; investigation should assess patterns and causes rather than apply an impossible deterministic rule.

18. A coherent stress scenario should include what?

A. Instant sale at every old mark	B. Only unrelated maxima added blindly
C. Unlimited emergency funding	D. Economically linked shocks and feasible actions

Answer D. Linked assumptions make results interpretable. Arbitrary maxima, unchanged execution prices in illiquidity and unlimited funding can contradict the scenario or hide dependencies, preventing a realistic assessment of response capacity.

19. Reverse stress testing begins with what?

A. A preferred profitable forecast	B. A critical outcome and conditions that could produce it
C. A guarantee that failure will happen	D. Only last week's volatility

Answer B. Reverse analysis identifies vulnerabilities by working backwards. It is neither a failure prediction nor a routine favourable forecast, and its scope can extend beyond recent volatility observations to combined adverse mechanisms.

20. Positive replacement value 3 plus assumed add-on 2 crore gives gross illustrative exposure of?

A. INR3 crore	B. INR2 crore
C. INR5 crore	D. INR1 crore

Answer C. The supplied model adds current and future components to get five. Subtraction or selecting one component omits exposure. This simple exercise does not establish a complete regulatory derivative exposure methodology.

21. Eligible collateral 1 crore against that 5 crore model exposure leaves what?

A. Zero automatically	B. INR6 crore
C. INR1 crore	D. INR4 crore

Answer D. Under the supplied subtraction model, residual exposure is four. Adding collateral reverses its role, full elimination overstates protection, and one is the collateral amount rather than the remaining exposure.

22. Wrong-way risk means what?

A. Exposure rises as counterparty quality worsens	B. Collateral is always cash
C. Every hedge is invalid	D. Market prices never move

Answer A. Adverse dependence can weaken protection when needed. It does not imply every hedge fails or that prices and collateral are fixed; it requires analysing linked drivers, provider capacity and collateral behaviour.

23. A market hedge can still create a funding problem because?

A. All hedges pay gains first	B. Margin may be due before underlying benefits are realised
C. Collateral terms never change	D. Economic offset is instant cash

Answer B. Economic and cash-flow timing differ. A hedge may reduce eventual price risk while requiring interim resources; neither guaranteed gain-first ordering nor unlimited collateral stability follows from the hedge objective.

24. Marked value 50 crore, additional discount 3%, costs 0.10 give proceeds of?

A. INR1.60 crore	B. INR51.60 crore
C. INR48.50 crore	D. INR48.40 crore

Answer D. Discounted value is 48.5 and costs reduce it to 48.4. One point six is the reduction from mark; omitting costs or adding deductions gives the other incorrect interpretations.

25. A method change lowers measured risk. What should follow before using new headroom?

A. Immediate doubling of exposure	B. Deletion of the prior method
C. Independent review, testing and approval	D. No documentation if profit rises

Answer C. Changed measurement can create artificial headroom. Controlled validation and records are needed; immediate growth or erased history prevents comparison, and favourable profit does not establish conceptual or implementation correctness.

C05 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 Treasury risk management connects market positions, counterparty obligations, funding and operational controls.	**15** Basis risk remains when the hedge and asset do not move identically.
02 Fictional Meridian Bank holds fixed-rate bonds, quotes foreign exchange to customers and uses interest-rate swaps.	**16** Value at risk describes a loss threshold for a specified horizon and confidence level under a model.
03 This chapter applies the risk concepts introduced in Module B to treasury decisions.	**17** For a zero-mean normal-return illustration, portfolio value INR100 crore and daily volatility 1% give a one-day 99% VaR of approximately INR2.32635 crore.
04 The board and senior management establish permitted activities, appetite and oversight.	**18** Parametric, historical and simulation methods depend on different modelling choices.
05 Independent valuation uses appropriate market evidence and controlled methods.	**19** Backtesting compares forecasts with realised outcomes under a defined profit-and-loss measure.
06 Trade completeness is equally important.	**20** Stress testing examines specified adverse conditions beyond routine estimates.
07 Limits translate appetite into usable boundaries.	**21** Reverse stress testing starts from a critical outcome such as exhausting a loss allowance or available liquidity and asks what conditions could cause it.
08 Suppose a desk has an assumed DV01 limit of INR5 lakh and current magnitude INR4 lakh.	**22** Treasury credit risk includes issuer risk on securities, interbank exposure and derivative counterparty risk.
09 Warnings should permit action before a hard boundary is crossed.	**23** Suppose Meridian has a positive replacement value of INR3 crore and an explicitly assumed future-exposure add-on of INR2 crore in a simplified teaching case.
10 Modified duration estimates the percentage price response to a small yield change.	**24** Wrong-way risk occurs when exposure increases as the counterparty's credit quality worsens.
11 DV01 is the approximate value change for one basis point, often reported as a positive magnitude.	**25** Market liquidity determines the cost and time needed to reduce a position.
12 Duration is local and incomplete.	**26** Funding liquidity concerns cash needed to maintain or settle positions.
13 A hedge should address the exposure's economic driver.	**27** For an illustrative marked holding of INR50 crore, a 3% stressed discount and INR0.10 crore execution cost imply proceeds of INR48.40 crore.
14 Rounding can leave residual risk.	**28** A treasury report should connect exposure, limits, changes, causes and required actions.

C06 Derivative Products

Practice / Quick Revision

Start with the underlying exposure

A derivative's value or cash flows depend on an underlying variable such as an exchange rate, interest rate, security price or credit event. It can reshape an existing exposure or create a new one. The contract should therefore be understood together with the business objective. A hedge is a relationship between positions, not an inherent guarantee attached to a product name. Buying a derivative without a matching need can introduce speculation even if the same instrument would reduce risk in another context.

Fictional Meridian Bank supports Aster Engineering, which expects to pay USD1 million in three months and has a floating-rate loan. A currency forward can address the dollar payment's exchange-rate uncertainty, while an interest-rate swap can alter the loan's rate exposure. These are different objectives. A currency contract does not fix the interest benchmark, and a rate swap does not create the dollars needed for the supplier. Begin by naming the amount, dates, variable and participant perspective for each exposure.

The chapter covers forwards, futures, options, swaps, OTC and exchange-traded structures, and the role of RBI rules. Numerical cases deliberately simplify settlement and omit items unless expressly supplied. They explain economic mechanics rather than authorise a transaction or implement a full pricing model. Current participant eligibility, product permissions, reporting and documentation require the applicable direction. The source register identifies retrieved versions and later index updates so that a historical framework is not silently presented as complete current permission.

Distinguish OTC and exchange-traded contracts

An over-the-counter contract is agreed between counterparties, often allowing terms tailored to the exposure. An exchange-traded derivative uses standardised specifications and the exchange's trading and clearing arrangements. Tailoring can improve matching but requires attention to documentation, valuation and counterparty exposure. Standardisation can improve trading and clearing processes but leave basis or maturity mismatch. Neither structure is universally superior. Compare the actual contract, market access, liquidity, margin and operational requirements with the hedge objective.

Central clearing interposes a central counterparty under its rules and reduces particular bilateral exposures. It also creates collateral, margin, default-management and operational dependencies. A cleared position can lose money as prices move and can require cash promptly. Do not describe clearing as eliminating all risk. The treasury needs to understand where obligations sit, which resources support them and what happens during default or market disruption. A small initial payment does not establish that the total potential loss is small.

OTC documentation should establish payments, netting, collateral, events of default, termination and dispute processes as applicable. Legal enforceability matters particularly when a counterparty fails. An economic offset is not automatically a legally recognised netting right. Systems should record the actual terms and connect them to valuation and settlement. A dealer's verbal description cannot replace controlled documentation, and a contract should not be treated as an effective hedge merely because its notional amount resembles the underlying exposure.

Understand a forward obligation

A forward commits the parties to the agreed exchange or settlement at a future date under the contract. For a simple long position on an asset, terminal economic payoff can be represented as quantity times spot at maturity minus delivery price, subject to the settlement structure. A buyer benefits when the underlying price rises above the agreed price. A seller has the opposite linear exposure. This payoff illustration excludes funding, credit, fees and delivery details and should not be confused with a complete fair-value formula before maturity.

If Aster agrees to buy USD1 million at INR85 per USD, its contractual rupee amount is INR85 million. At maturity spot of INR87, the simple economic benefit relative to buying then is INR2 million. At spot INR83, the contract is INR2 million less favourable than the new market price, but Aster still obtained the intended rate certainty. Judging the hedge only by the derivative outcome ignores the underlying dollar payment. A favourable market move does not retrospectively make a properly designed hedge irrational.

The hedge can become imperfect if the supplier payment is cancelled, delayed or reduced. A remaining forward may then create a new position requiring authorised action. Monitor the underlying alongside the derivative and control amendments or cancellation. A forward price is not simply a forecast of future spot: funding relationships, market conditions and contract terms affect pricing. The calculator uses a supplied delivery price so that students can study payoff direction without assuming that a simple example establishes a tradable quotation.

Understand futures and daily margin

Futures are standardised contracts with specified terms and clearing arrangements. They can provide an opposite price exposure to an underlying position, but contract size, maturity and reference instrument may not match perfectly. Hedge sizing should use relevant sensitivity or economic exposure, not only face value. A position intended to offset a long bond's price loss may require a short futures exposure under the relevant contract relationship. The actual direction must be established from the instrument and quotation rather than memorised without context.

Daily marking to market creates cash flows before the hedge ends. Assume a long illustrative futures position on 1,000 units is entered at 100. A settlement price of 98 produces a loss of 2,000 units of currency for that movement; a later rise to 101 produces a gain of 3,000 from 98. The total terminal price difference is a gain of 1,000, but the participant still needed resources to meet the earlier loss. Terminal payoff alone therefore hides the liquidity path.

Initial margin is collateral supporting the position, not the full economic purchase price and not automatically a fee consumed on entry. Variation margin reflects market movements under the applicable arrangement. Margin requirements can change during volatility, creating additional demands when other resources are stressed. The treasury should plan cash, collateral and operational capacity to maintain a hedge. A contract can reduce market risk while increasing the importance of short-term funding and timely settlement controls.

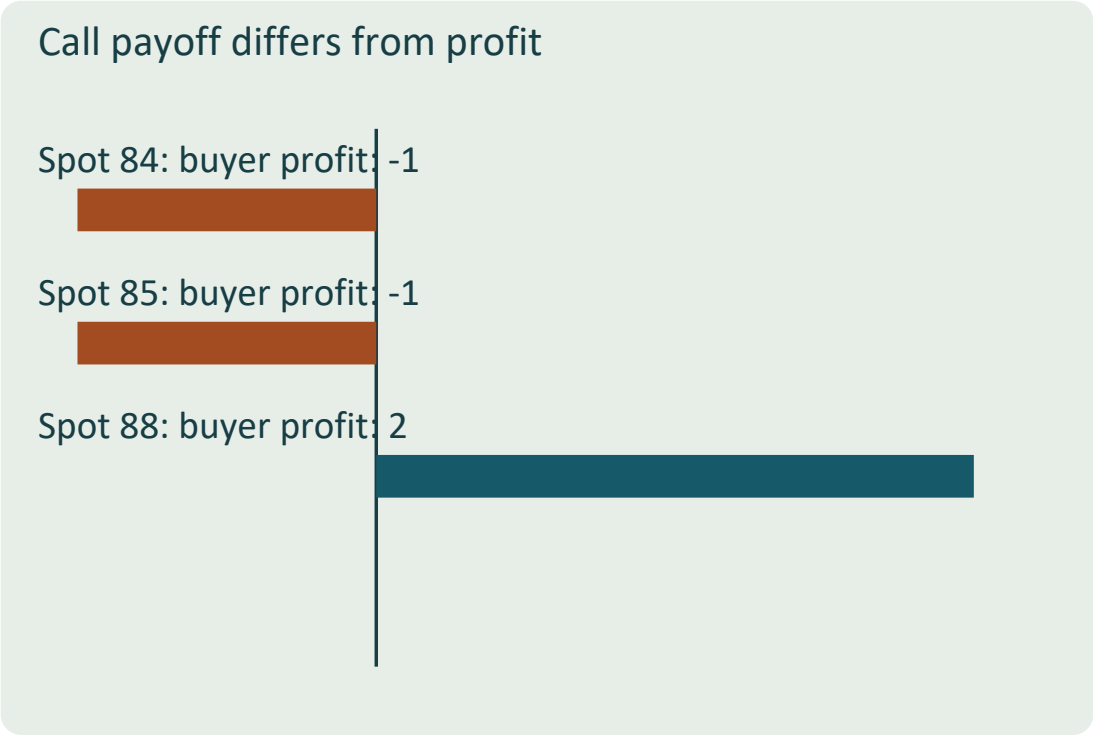
Separate option rights from obligations

A call gives its holder the contractual right to buy or receive the specified economic payoff under its terms; a put gives the corresponding sell-side right or payoff. The buyer pays a premium for the option. The writer receives premium and assumes the contract's obligation if exercised or settled as specified. Exercise style, settlement and underlying terms matter. The simple expiry formulas teach the economic direction and should not be treated as a full description of every listed or OTC option.

At expiry, a long call's per-unit intrinsic payoff is the greater of spot minus strike and zero. A long put's payoff is the greater of strike minus spot and zero. Buyer profit subtracts the premium and other included costs. With strike INR85, premium INR1 and spot INR88, a call's payoff is INR3 and simplified profit INR2 per unit. At spot INR84, payoff is zero and profit is minus INR1. The premium changes profit, not the intrinsic-payoff

formula.

A put with strike INR85 and premium INR1 has payoff INR3 and profit INR2 at spot INR82. At spot INR88, the put expires without intrinsic value and the buyer loses the premium in the simplified case. For a writer, economic signs reverse before additional costs and contractual details. The buyer's limited premium loss should not be incorrectly assigned to an uncovered writer. A call writer can face large losses when the underlying rises substantially, so position direction is essential to interpreting risk.



Per unit; call strike 85, premium 1. Payoff=max(spot−85,0); profit subtracts premium. [('Spot 84: buyer profit', -1), ('Spot 85: buyer profit', -1), ('Spot 88: buyer profit', 2)]

Use options to match business flexibility

An importer buying a suitable currency call can protect against an adverse rise while retaining the benefit of a favourable move, at the cost of premium. A forward instead fixes a contractual exchange and generally lacks the same one-sided choice. Neither is always preferable. The comparison depends on certainty of the underlying, premium, budget, market access and objectives. A premium-free structure can contain other obligations or sacrificed benefits; the absence of an upfront premium does not prove the absence of economic cost or risk.

For an illustrative dollar payment, compare a forward at INR85 with a call strike INR85 and premium INR1 per dollar, ignoring financing and other costs. If maturity spot is INR88, the call's simplified effective purchase cost is INR86 including premium, while the forward costs INR85. If spot is INR82, buying at spot plus premium costs INR83 under the option strategy, while the forward remains INR85. The option buys flexibility; its outcome should be assessed against that objective rather than only one realised scenario.

Option value before expiry depends on more than current intrinsic value. Time remaining, volatility, rates and other relevant variables can affect price. An out-of-the-money option can still have value before expiry because future outcomes remain uncertain. The chapter calculator does not price that time value; it computes expiry payoff and simplified profit from supplied inputs. This boundary prevents a student from using an expiry formula as if it were a fair-value model for a live option.

Understand interest-rate swap cash flows

An interest-rate swap exchanges defined interest cash flows on an agreed notional under the contract. A common structure exchanges fixed and floating interest in the same currency. The notional is generally a calculation reference in the plain example, not automatically an exchanged principal. Identify which participant pays fixed and receives floating, the reset and payment dates, benchmark, spread and year fraction. These details determine both hedge behaviour and settlement. Equal headline rates do not establish identical cash flows if conventions differ.

Suppose Aster pays floating loan interest at a benchmark plus 2%, and enters a swap paying fixed 6% while receiving the same benchmark on matching principal and dates. The benchmark terms cancel economically in the simplified combined position, leaving 8% before other costs. If the benchmark becomes 7%, the loan costs 9%, while the swap receives net 1%, producing the same 8%. If it becomes 4%, the loan costs 6% and the swap pays net 2%, again giving 8%.

The offset requires matching definitions and timing. A loan using one benchmark and a swap another can leave basis risk. Different reset dates, principal amortisation or day counts can also create mismatch. A swap may require collateral when market value becomes adverse, even while the combined future interest cost is stabilised. The hedge review should therefore examine economic effectiveness, counterparty credit and funding of interim obligations. A simple cancellation of symbols in a formula is a useful starting point, not proof that a real contract is perfectly matched.

Distinguish currency swaps

A currency swap exchanges cash flows in different currencies under agreed terms and can include principal exchanges. It can transform the currency pattern of funding or assets, but the exact structure matters. A cross-currency interest-rate swap is different from a short-dated foreign-exchange swap even though both involve two currencies. Draw the initial, periodic and final flows from one participant's perspective. This makes it easier to identify which principal must be available at maturity and which benchmark or exchange-rate exposures remain.

Assume an illustrative initial exchange of USD1 million for INR84 million, periodic interest on each amount and reversal of those principal amounts at maturity. The contract fixes the specified principal exchanges, while interest legs follow their own terms. If one leg floats, its benchmark exposure still needs analysis. Counterparty failure can leave replacement and settlement risks, and collateral terms can create cash demands. The initial exchange does not make the final obligations disappear from the maturity ladder merely because the amounts were matched at inception.

Currency-swap pricing can reflect funding conditions and basis as well as interest differentials. A simple comparison of two coupons can omit important costs. Evaluate net proceeds, all contractual payments, fees, collateral and the availability of required currencies. If the underlying borrowing is prepaid or restructured, reassess the swap rather than assume it will adjust automatically. Treasury should maintain a connected record of the financing and hedge so that a commercial change does not leave an unintended standalone derivative position.

Recognise credit derivatives and residual risk

Credit derivatives depend on credit risk of a reference obligation or index. A credit default swap exchanges premium for a defined response to a specified credit event. A total return swap exchanges an asset's defined total return against another payment leg, creating a different exposure pattern. The reference asset, counterparty and contract are distinct. Owning protection does not automatically make the underlying equivalent to a risk-free asset, and receiving a total return can create market and funding exposure as well as credit sensitivity.

The retrieved RBI Credit Derivatives Directions, 2026 were issued on 25 June 2026 and supersede the earlier 2022 directions; the official index indicated a later September update. This chapter therefore recognises the new framework and avoids describing the 2022 text as the current authority. Detailed participant permissions and later amendments require current consolidation review. The instructional examples explain cash-flow mechanisms without implying that every bank or customer may undertake every structure under every set of circumstances.

For a simple cash-settled protection illustration, notional INR10 crore and a supplied post-event recovery value of 40% imply a loss component of INR6 crore before premium and other contractual adjustments. Actual settlement depends on definitions and terms. Protection-provider default, maturity mismatch, reference mismatch and legal enforceability can weaken effectiveness. A hedge can also concentrate exposure to a provider linked to the same adverse scenario. Credit transfer changes who bears specified consequences; it does not remove the need for appraisal and monitoring.

Apply regulation and governance before execution

The RBI framework relevant to a derivative depends on product, participant, market and transaction purpose. Directions for market-makers, foreign exchange, interest rates and credit products have their own scope. A global description of an instrument is not a domestic permission rule. Establish the operative source and version, assess documentation and customer requirements, confirm limits and ensure valuation and settlement capability. Where current text is unavailable, identify the exact gap rather than fill it with an older remembered threshold or an internet summary.

Product approval should cover market, credit, legal, operational and liquidity effects, including stress. Staff need to understand payoff asymmetry, leverage and possible collateral demands. Independent valuation and confirmations support control after execution. Changes, cancellation and novation require authorised treatment and records. A hedge should have an objective and review triggers, while speculative activity needs its own permitted authority and limits. Calling a trade a hedge cannot justify it if the underlying exposure is absent or the structure creates a larger unrelated risk.

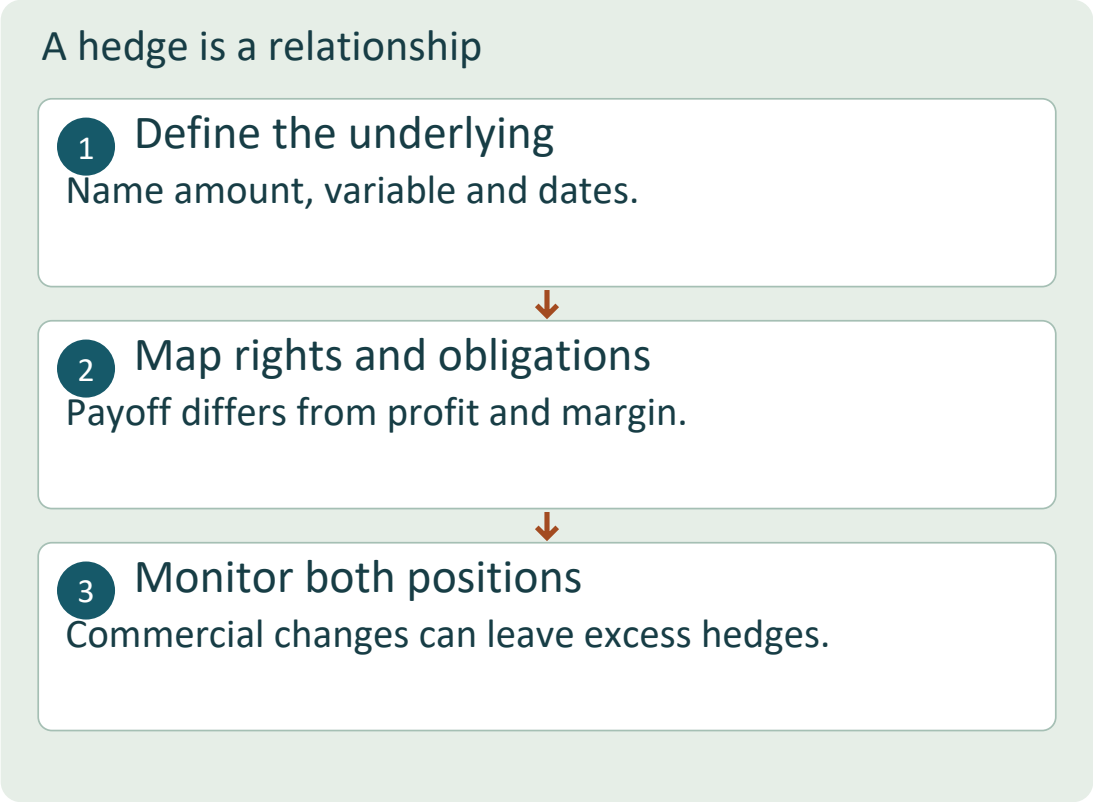
For revision, identify the underlying, buyer or seller, rights or obligations, dates and units. Calculate payoff separately from profit, and terminal economics separately from interim cash flows. Explain the remaining basis, counterparty and liquidity risks. The tools below illustrate forward payoff, option expiry outcomes, daily futures margin, swap settlement and credit-protection arithmetic. They are designed to expose the assumptions so that students can understand the mechanism and avoid mistaking a simple payoff formula for complete pricing or regulatory approval.

Review Aster's combined hedge proposal

Aster's dollar payable and floating-rate loan require separate analysis. For the dollar amount, compare a matching forward with an option using consistent quantity, date and premium treatment. For the loan, test whether a pay-fixed, receive-floating swap matches the actual benchmark and amortisation. Show combined cash flows under at least two market scenarios. A derivative gain should be considered with the underlying cost it offsets; otherwise a successful hedge can appear unprofitable simply because only one side of the relationship is reported.

Next test a delay or cancellation of the supplier payment and a reduction in loan principal. These commercial changes can leave excess hedge amounts. Identify who informs treasury, who can amend the contracts and what costs or exposures may result. Include margin resources and counterparty limits. An elegant initial structure can become unsuitable if business changes are not communicated promptly. Effective hedging therefore requires a continuing information process between the customer business, treasury, risk and operations.

Finally, document the decision and verify execution. Capture the exact terms, obtain independent confirmation, reconcile settlements and monitor the objective. If a model is used for valuation, record its assumptions and limitations. Review the applicable source dates before publishing a permission statement or executing a real transaction. The practical lesson is that derivatives are tools for changing cash-flow and risk patterns: their value depends on matching, governance and the ability to perform the obligations throughout the contract, not merely on obtaining an attractive initial quote.



Name amount, variable and dates. Payoff differs from profit and margin. Commercial changes can leave excess hedges.

Practice with explanations

01. A derivative should first be assessed against what?

A. Only its product name	B. The underlying objective, amount, dates and driver
C. Only the dealer's expected profit	D. Only zero initial value

Answer B. The same instrument can hedge or create risk depending on its relationship to the exposure. Product labels, initial value and forecasts do not establish suitability or the obligations throughout its life.

02. A currency forward automatically fixes a loan's floating benchmark?

A. Yes, if notionals match	B. Only if the supplier is foreign
C. Yes, for every loan	D. No, currency and rate exposures are distinct

Answer D. A currency exchange contract does not automatically alter interest-rate reset terms. Equal amounts or foreign counterparties do not create a rate hedge; each objective needs a matching economic structure.

03. OTC contracts commonly offer what compared with standardised contracts?

A. No need for valuation	B. Automatic elimination of credit risk
C. Greater tailoring with documentation and counterparty considerations	D. Guaranteed market liquidity

Answer C. Custom terms can improve matching but require controls. They do not guarantee credit safety or exit liquidity, and valuation remains necessary. Standardisation also has benefits and may leave different basis or maturity mismatches.

04. Central clearing removes every market loss?

A. Yes, if initial margin is small	B. No, price and margin exposure remain
C. Yes, because all trades are profitable	D. Yes, by definition

Answer B. Clearing changes counterparty arrangements, not the underlying price direction. Initial margin is not a maximum-loss certificate; participants still need resources for adverse movements and operational performance under the clearing rules.

05. Economic offset automatically proves legal netting rights?

A. Yes, without a contract	B. Yes, across all entities
C. No, enforceability and documentation matter	D. Yes, whenever amounts match

Answer C. Economic similarity does not create enforceable netting. Entity, contract and legal conditions matter, particularly in default. Matching numbers alone cannot justify recognised offsets in a credit or regulatory assessment.

06. Buying USD1 million forward at 85 when maturity spot is 87 creates simple relative benefit of?

A. INR2 million	B. Minus INR2 million
C. INR85 million profit	D. INR87 million

Answer A. The price difference is two rupees times one million dollars. Principal considerations are not profit, and a negative result would describe the opposite movement or direction. Other costs are excluded from this illustration.

07. The same forward at maturity spot 83 is best interpreted how?

A. Proof the hedge objective necessarily failed	B. An adverse derivative comparison within a hedge that fixed cost
C. A guaranteed INR2 million gain	D. No contractual obligation remains

Answer B. The forward is less favourable than new spot but delivered agreed certainty. Judging only its standalone outcome ignores the underlying payable. Contractual obligations persist unless changed under authorised terms.

08. Cancellation of the underlying payment requires what?

A. Reassessment of the remaining forward	B. Assumption of automatic cancellation
C. Permanent hedge status without review	D. Deletion from every record

Answer A. The derivative may remain binding after commercial exposure changes. Reassessment and controlled action prevent unintended speculation; automatic cancellation or erased records cannot be assumed and would weaken oversight.

09. A futures position moves from 100 to 98 on 1,000 long units. Simple daily result is?

A. Minus 2,000 currency units	B. Minus 100,000
C. Plus 2,000	D. Zero until final expiry in every system

Answer A. The long position loses two per unit, totalling two thousand. Principal-like amounts and reversed signs are wrong; daily margin arrangements can create cash flows before final expiry rather than deferring every effect.

10. The next move from 98 to 101 on those units produces what?

A. Minus 3,000	B. No cash consequence necessarily
C. Plus 1,000 for that day	D. Plus 3,000 currency units

Answer D. The daily change is three times one thousand. One thousand is the cumulative price difference from entry, not this interval. A profitable final outcome can still require funding for the earlier loss.

11. Initial margin is generally what in the teaching explanation?

A. The full asset purchase price	B. A guarantee of limited total loss
C. Collateral supporting obligations	D. Always an irreversible fee

Answer C. Margin supports performance and is distinct from full notional or a consumed fee. Adverse movements can require more resources, so its initial size does not establish the maximum possible loss.

12. Long-call expiry payoff is what per unit?

A. max(strike minus spot, zero)	B. Always premium minus strike
C. Always spot minus strike even if negative	D. max(spot minus strike, zero)

Answer D. The call buyer has a right, so intrinsic payoff is floored at zero. The reversed expression is put payoff; premium affects profit, and compulsory negative exercise would misdescribe the option right.

13. Call strike 85, spot 88 and premium 1 give buyer profit of?

A. 4 per unit	B. 2 per unit
C. 3 per unit	D. Minus 1 per unit

Answer B. Intrinsic payoff is three and subtracting premium leaves two. Three omits cost, minus one applies an unexercised case, and four adds premium instead of recognising the buyer's expenditure.

14. Call strike 85, spot 84 and premium 1 give buyer profit of?

A. Minus 2 per unit	B. Zero profit
C. Plus 1 per unit	D. Minus 1 per unit

Answer D. The option has zero intrinsic payoff but the buyer paid one. Zero confuses payoff with profit; compulsory negative exercise or reversing the premium sign produces the other errors.

15. Put strike 85, spot 82 and premium 1 give buyer profit of?

A. 2 per unit	B. 3 per unit
C. 1 per unit	D. Minus 2 per unit

Answer A. Put payoff is 85-82=3, less premium one gives two. The alternatives reverse direction, omit premium or treat premium itself as the net economic result. The result is per unit before any quantity multiplication.

16. A call writer automatically has the buyer's premium-limited loss?

A. No, writer obligations can create much larger losses	B. Yes, if premium was received
C. Yes, in every structure	D. Yes, because exercise is optional for the writer

Answer A. The buyer chooses under the option terms while the writer bears the corresponding obligation. Receiving premium does not cap adverse exposure; applying the buyer's loss profile to an uncovered writer is a serious direction error.

17. Before expiry, an out-of-the-money option can still have value because?

A. Premium is always refundable	B. Intrinsic payoff must already be positive
C. All options must finish profitable	D. Future uncertainty can create time value

Answer D. Expiry intrinsic value and current price differ. Future outcomes can matter even with zero current intrinsic value; refundability or guaranteed profit is not implied, and positive intrinsic value is not required before expiry.

18. An expiry-payoff calculator can be used as a complete live option pricer?

A. Only when the strike is positive	B. Yes, at all maturities
C. Yes, if premium is entered	D. No, it omits time-value determinants

Answer D. Supplying premium does not model how it is determined. Time, volatility, rates and terms can affect live value; the expiry formula has a narrower purpose regardless of a positive strike.

19. Loan pays benchmark+2%; swap pays fixed 6% and receives the matching benchmark. Combined cost is?

A. 6%	B. 2%
C. Benchmark+8%	D. 8% before other costs

Answer D. The matching benchmark cancels: benchmark+2+6-benchmark=8. The alternatives omit a leg or fail to recognise the offset. Matching dates, amounts and definitions are essential to this simplified result.

20. If that benchmark becomes 7%, the swap's net receive leg is what?

A. Minus 1% received	B. 1% on the matched notional
C. 7% net	D. 6% net

Answer B. Receive seven and pay six produces net receipt one. Gross legs are not the net amount, and the negative sign reverses the participant perspective. Other conventions and costs are excluded.

21. Different loan and swap benchmarks can leave what?

A. Guaranteed perfect cancellation	B. No interest payments
C. Automatic equity conversion	D. Basis risk

Answer D. Benchmarks may move differently, preventing the symbolic cancellation used in the matched example. This leaves basis exposure rather than eliminating payments or changing debt into ownership.

22. A plain same-currency interest swap notional is generally what in the example?

A. The premium of a call	B. Always realised loss
C. A reference for interest calculations	D. Always exchanged principal

Answer C. The notional determines interest amounts without necessarily being exchanged. Currency swaps may have principal exchanges, but that should not be imported into every plain interest swap or confused with option premium.

23. A currency swap may include what?

A. Only a one-currency coupon	B. Guaranteed elimination of counterparty risk
C. No maturity obligations	D. Principal exchanges and interest legs in different currencies

Answer D. The actual currency-swap schedule can include initial and final principal plus interest. Those flows create continuing obligations; multiple currencies and provider performance still need management rather than assumptions of complete safety.

24. Notional credit protection 10 crore and supplied recovery 40% imply simple loss component of?

A. INR0.4 crore	B. INR10 crore automatically
C. INR6 crore	D. INR4 crore

Answer C. The loss fraction is sixty percent, giving six crore. Four is recovery, ten ignores it, and 0.4 mis-scales the percentage. Actual contractual settlement and premium effects require separate treatment.

25. The retrieved 2026 RBI credit-derivative direction means the 2022 direction should be described how?

A. As superseded historical material for this framework	B. As automatically the complete current authority
C. As identical without review	D. As unrelated to source dating

Answer A. The retrieved 2026 instrument supersedes the earlier framework. Historical text can explain context, but current permissions require the operative version and later amendments rather than assuming unchanged authority.

C06 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 A derivative's value or cash flows depend on an underlying variable such as an exchange rate, interest rate, security price or credit event.	**15** A put with strike INR85 and premium INR1 has payoff INR3 and profit INR2 at spot INR82.
02 Fictional Meridian Bank supports Aster Engineering, which expects to pay USD1 million in three months and has a floating-rate loan.	**16** An importer buying a suitable currency call can protect against an adverse rise while retaining the benefit of a favourable move, at the cost of premium.
03 The chapter covers forwards, futures, options, swaps, OTC and exchange-traded structures, and the role of RBI rules.	**17** For an illustrative dollar payment, compare a forward at INR85 with a call strike INR85 and premium INR1 per dollar, ignoring financing and other costs.
04 An over-the-counter contract is agreed between counterparties, often allowing terms tailored to the exposure.	**18** Option value before expiry depends on more than current intrinsic value.
05 Central clearing interposes a central counterparty under its rules and reduces particular bilateral exposures.	**19** An interest-rate swap exchanges defined interest cash flows on an agreed notional under the contract.
06 OTC documentation should establish payments, netting, collateral, events of default, termination and dispute processes as applicable.	**20** Suppose Aster pays floating loan interest at a benchmark plus 2%, and enters a swap paying fixed 6% while receiving the same benchmark on matching principal and dates.
07 A forward commits the parties to the agreed exchange or settlement at a future date under the contract.	**21** The offset requires matching definitions and timing.
08 If Aster agrees to buy USD1 million at INR85 per USD, its contractual rupee amount is INR85 million.	**22** A currency swap exchanges cash flows in different currencies under agreed terms and can include principal exchanges.
09 The hedge can become imperfect if the supplier payment is cancelled, delayed or reduced.	**23** Assume an illustrative initial exchange of USD1 million for INR84 million, periodic interest on each amount and reversal of those principal amounts at maturity.
10 Futures are standardised contracts with specified terms and clearing arrangements.	**24** Currency-swap pricing can reflect funding conditions and basis as well as interest differentials.
11 Daily marking to market creates cash flows before the hedge ends.	**25** Credit derivatives depend on credit risk of a reference obligation or index.
12 Initial margin is collateral supporting the position, not the full economic purchase price and not automatically a fee consumed on entry.	**26** The RBI framework relevant to a derivative depends on product, participant, market and transaction purpose.
13 A call gives its holder the contractual right to buy or receive the specified economic payoff under its terms; a put gives the corresponding sell-side right or payoff.	**27** Product approval should cover market, credit, legal, operational and liquidity effects, including stress.
14 At expiry, a long call's per-unit intrinsic payoff is the greater of spot minus strike and zero.	**28** For revision, identify the underlying, buyer or seller, rights or obligations, dates and units.

C07 Treasury and Asset-Liability Management

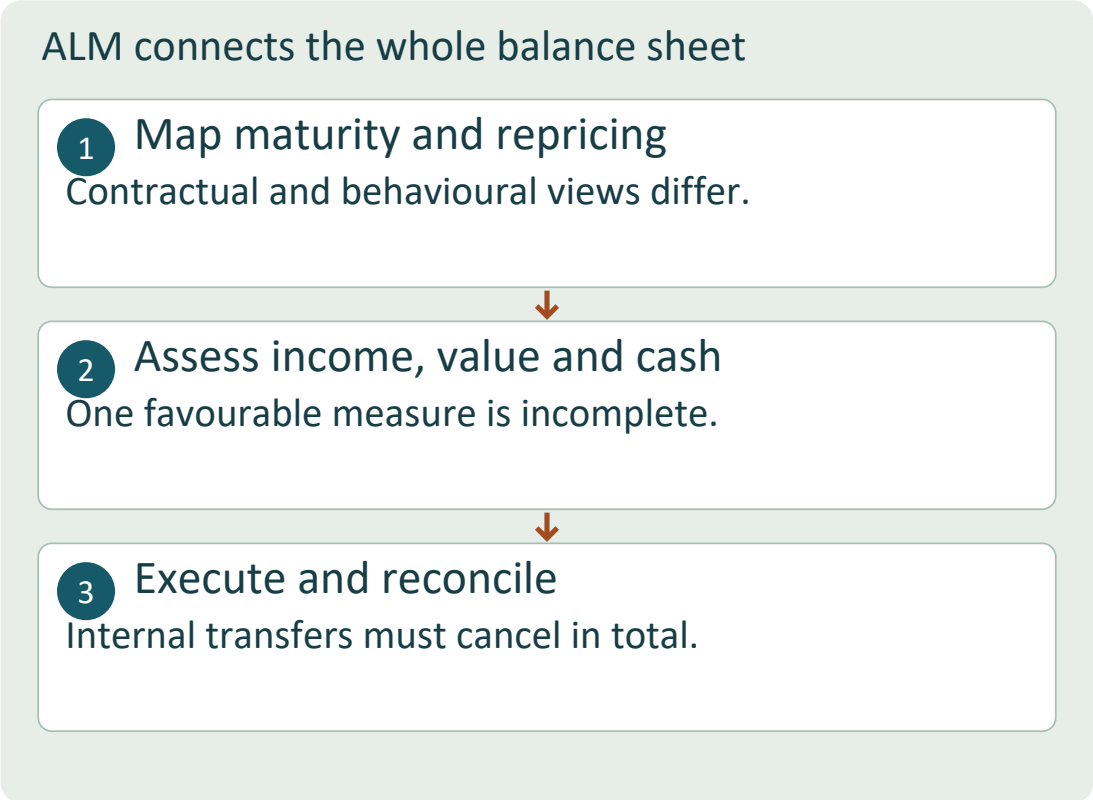
Practice / Quick Revision

View the bank as a connected balance sheet

Asset-liability management, or ALM, coordinates the structure of assets, liabilities and relevant off-balance-sheet positions so that the bank can pursue returns within risk and resource constraints. It considers timing, currency, repricing, optionality and funding stability. Treasury contributes market access and execution, but ALM is a wider governance responsibility involving business, finance, risk and operations. A dealer cannot alone correct a business model that continually originates long-term assets without durable funding or an agreed appetite for the resulting mismatch.

Fictional Meridian Bank has five-year fixed-rate loans, annually repricing deposits and customer commitments. It also holds liquid securities and uses swaps. Each business decision changes more than one measure. New loans can earn margin while increasing funding needs and interest-rate sensitivity; a hedge can reduce repricing risk while creating collateral demands. ALM connects these effects. A report that examines each product independently can miss the combined pressure on earnings, economic value and cash when conditions change together.

This chapter explains liquidity and interest-rate risk, treasury's role, derivative use, credit risk, credit derivatives, transfer pricing and policy. It applies the product mechanics from earlier chapters to the whole bank. Numerical exercises use deliberately simple models with stated assumptions. They do not implement a complete regulatory ALM return or determine every behavioural cash flow. The student should understand both the calculation and the decision it supports, including the constraints that can make an apparent offset unavailable in practice.



Contractual and behavioural views differ. One favourable measure is incomplete. Internal transfers must cancel in total.

Separate contractual maturity from repricing

Contractual maturity identifies when principal is due, while repricing identifies when an interest rate resets or can change. A five-year floating-rate loan might reprice every three months. A one-year fixed-rate deposit may not reprice until maturity. Grouping both only by final maturity can therefore misrepresent earnings sensitivity. A useful ALM record includes both schedules and any relevant customer options. The same exposure can belong to different buckets in a cash-flow ladder and a repricing analysis without either report being wrong.

Behavioural assumptions add another layer. Deposits without a fixed contractual maturity may show persistence, and borrowers may prepay. These estimates need evidence and stress testing rather than automatic favourable treatment. A change in rates can alter behaviour, making historical averages less reliable. Preserve contractual and behavioural views so that management can see the dependence on assumptions. A stable-looking gap produced by optimistic renewal estimates is not equivalent to a position supported by contractually committed funding.

For Meridian, fixed-rate loans funded by annually resetting deposits create a potential margin squeeze when funding rates rise. A floating-rate asset may reprice sooner, but its benchmark could differ from the liability benchmark. That leaves basis risk. The bank should identify the mechanism rather than assume that all floating rates move together. Matching dates and amounts can reduce one mismatch while leaving benchmark, option or liquidity exposure that requires another measure or a specific stress scenario.

Build a repricing-gap example

A simple repricing gap is rate-sensitive assets minus rate-sensitive liabilities within a defined bucket. If assets repricing in the next year are INR500 crore and liabilities INR650 crore, the gap is minus INR150 crore. Under a simplified uniform one-percentage-point rate rise, the full-year change in net interest income is approximately gap times 0.01, or minus INR1.5 crore. This assumes parallel and immediate repricing for the stated period, unchanged balances and no basis or optionality effects.

If rates instead fall one percentage point under the same assumptions, the sign reverses and estimated income rises by INR1.5 crore. That does not make a negative gap inherently desirable or undesirable in every setting. The outcome depends on movements and the bank's objectives. A gap measure should be compared with appetite and stressed under alternative conditions rather than used as a forecast that one particular rate path will occur. Management should understand the sensitivity, not merely bet on a preferred direction.

Real timing changes the result. An asset resetting near year-end contributes much less to that year's income response than one resetting immediately. Different product rates can move by different amounts, and some may have floors or caps. More detailed models use dated cash flows, behavioural assumptions and product-specific pass-through. The simple calculator is therefore a teaching approximation, not a complete net-interest-income forecast. It makes the sign relationship visible while the chapter explains why actual earnings need richer analysis.

Distinguish earnings from economic value

The earnings perspective examines income over a defined planning horizon. The economic-value perspective examines the present value of future cash flows and how it changes with rates. These views can give different signals because they look at different horizons and cash-flow effects. A bank can preserve next year's margin while retaining substantial long-term value sensitivity. Conversely, a change that improves long-term matching may have an immediate earnings cost. ALM should show the trade-off rather than select only the measure that looks favourable.

A simplified duration-gap illustration uses asset value, liability value and their modified durations. Dollar or rupee duration is value multiplied by modified duration. If assets are INR1,000 crore with duration four and liabilities INR900 crore with duration two, net value sensitivity is 4,000 minus 1,800, or INR2,200 crore-years.

A small one-percentage-point parallel yield rise implies an approximate economic-value change of minus INR22 crore under the stated linear assumptions. This is not a full regulatory economic-value-of-equity model.

The approximation ignores convexity, non-parallel shifts, behavioural changes and other cash-flow complications. Values and durations must be measured consistently. Do not subtract duration years alone when asset and liability amounts differ. A liability's value response can offset an asset response, but actual liquidity obligations remain. A favourable economic-value offset does not provide cash to meet tomorrow's deposit withdrawal. Earnings, value and liquidity views complement one another and should be reconciled through the same underlying position data.

Connect liquidity strategy with balance-sheet growth

Liquidity ALM examines the timing and stability of resources relative to obligations, including contingent demands. A loan-growth plan should identify funding tenor, concentration, currency and stress capacity. Relying on repeatedly renewed short-term wholesale money can make a profitable loan book vulnerable to a change in confidence. Treasury can execute funding transactions, but the underlying growth strategy needs approval within appetite. The bank should not assume that market access will expand automatically whenever the business needs more resources.

A maturity ladder starts with usable opening resources and carries net inflows and outflows through successive buckets. If opening cash is INR40 crore and bucket gaps are minus INR15 crore, minus INR10 crore and minus INR25 crore, projected balances are INR25 crore, INR15 crore and minus INR10 crore. The last shortfall needs action before it occurs. Positive later receipts do not cure an earlier payment failure. Separate currencies and entities where transfer or conversion constraints can prevent an aggregate surplus from being used.

Stress scenarios should combine deposit outflows, commitment drawings, delayed receipts, collateral calls and reduced market liquidity where economically relevant. Management actions need realistic timing and capacity. A proposal to sell securities assumes availability, a price and operational execution. A proposed borrowing assumes access and willingness by the provider. Report the position before and after actions so the committee can see how much resilience depends on an untested or uncertain response. A plan becomes credible through evidence, not merely through listing possible sources.

Use treasury execution within ALM authority

Treasury translates approved balance-sheet decisions into funding, investment and hedging transactions. It can adjust maturity, currency and market sensitivity, provide pricing information and report changes in market access. The asset-liability committee should define objectives and constraints, while independent risk challenges assumptions and monitors outcomes. Execution authority is not permission to redesign the bank's risk appetite informally. A dealer responding to today's market should remain within the approved plan and escalate when conditions make that plan impractical or materially riskier.

For Meridian's fixed-rate assets and floating funding, a suitable pay-fixed, receive-floating swap can offset some funding-rate variability under matching assumptions. The bank pays floating on deposits and receives floating on the swap, leaving a fixed payment component. The actual hedge depends on benchmarks, amounts, dates and customer behaviour. Deposit balances can change while the swap notional remains fixed. The committee should therefore assess the combined position over time rather than assume that one initial matching calculation establishes a permanent hedge.

Treasury also feeds information back into strategy. Widening funding spreads, thinner market depth or larger collateral demands can indicate that planned growth or hedge assumptions need revision. Reports should explain these changes promptly. Waiting for a scheduled annual policy review can be too slow. A useful governance process defines escalation triggers and makes clear who can reduce exposure, change funding tenor or invoke a contingency plan when market conditions move beyond the assumptions underpinning the

approved balance sheet.

Evaluate derivative effects across risks

Derivatives can alter interest-rate, currency and credit exposure without requiring the same transaction as selling the underlying asset. This can provide flexibility, but it does not remove all costs or obligations. A swap can reduce rate sensitivity while adding counterparty exposure. A futures hedge can create daily margin cash flows. An option can provide asymmetric protection at a premium. ALM should assess the combined economic and liquidity effects, including the institution's ability to maintain the hedge through an adverse market path.

Hedge effectiveness depends on matching. A loan linked to one benchmark and a swap linked to another can retain basis risk even if reset dates match. A prepaying loan can leave an excess hedge. A foreign-currency receipt forecast may fail to occur. The bank needs information from business units and controlled amendments when underlying exposures change. A hedge register should identify purpose, amount, horizon, instruments, review triggers and responsible staff. The record should support continuing decisions rather than merely document the original approval.

The accounting and regulatory treatment of a hedge can differ from its economic effect and requires the applicable rules. Do not assume that economic offset automatically establishes hedge-accounting eligibility, recognised netting or capital relief. The educational tools show simple cash-flow or sensitivity relationships only. For an actual transaction, legal enforceability, documentation, valuation, reporting and institution-specific requirements must also be established. Keeping these distinctions explicit prevents a useful teaching example from being mistaken for a complete implementation instruction.

Bring credit risk into balance-sheet planning

Credit quality affects both income and liquidity. Expected borrower receipts can be delayed or lost, while deteriorating exposures may require provisions, capital or management attention. A portfolio concentrated in one sector can experience simultaneous weaker cash inflows and falling collateral values. ALM should therefore connect credit stress with funding and earnings assumptions rather than assume that all scheduled loan receipts remain certain during an adverse economic scenario. The same downturn can affect borrowers, depositors and market access together.

Credit derivatives can transfer specified exposure under their terms, but protection-provider performance and matching remain important. A credit default swap is not the same as selling the loan or obtaining cash today. Premium payments affect earnings, and a claim depends on the defined event and settlement provisions. A total return swap creates another pattern of asset-return and financing exposure. The 2026 RBI credit-derivative framework superseded the older 2022 directions; detailed current permissions and later amendments require the relevant operative text.

For a simple stress exercise, assume INR100 crore exposure, 4% default probability and 50% loss given default. Expected loss is INR2 crore under compatible definitions and horizon. Increasing PD to 8% doubles that estimate with other inputs fixed. This average does not describe the exact cash loss in the next period or a complete accounting provision. ALM should use suitable credit information to challenge income and receipt forecasts, while retaining the distinction between expected cost, adverse variation and actual payment timing.

Explain matched-maturity transfer pricing

Funds transfer pricing allocates an internal cost or benefit for funding and liquidity so that business decisions reflect the resources they consume or supply. A matched-maturity approach links the internal rate to relevant tenor and characteristics rather than applying one overnight rate to every product. The objective is clearer incentives and performance attribution. The method should be approved, explainable and reconciled. An opaque allocation that changes opportunistically can distort decisions and create disputes instead of improving balance-sheet discipline.

Suppose a one-year loan of INR100 crore earns 9% and is charged an illustrative internal matched rate of 6%. Before credit and operating costs, the lending business contribution is INR3 crore. If the deposit business pays 4% and receives an internal credit of 5%, its contribution is INR1 crore on an assumed matched amount. Treasury's spread between the 6% asset charge and 5% funding credit is INR1 crore. Total contribution is INR5 crore, matching external 9% income minus 4% funding cost under the simplified equal-balance assumptions.

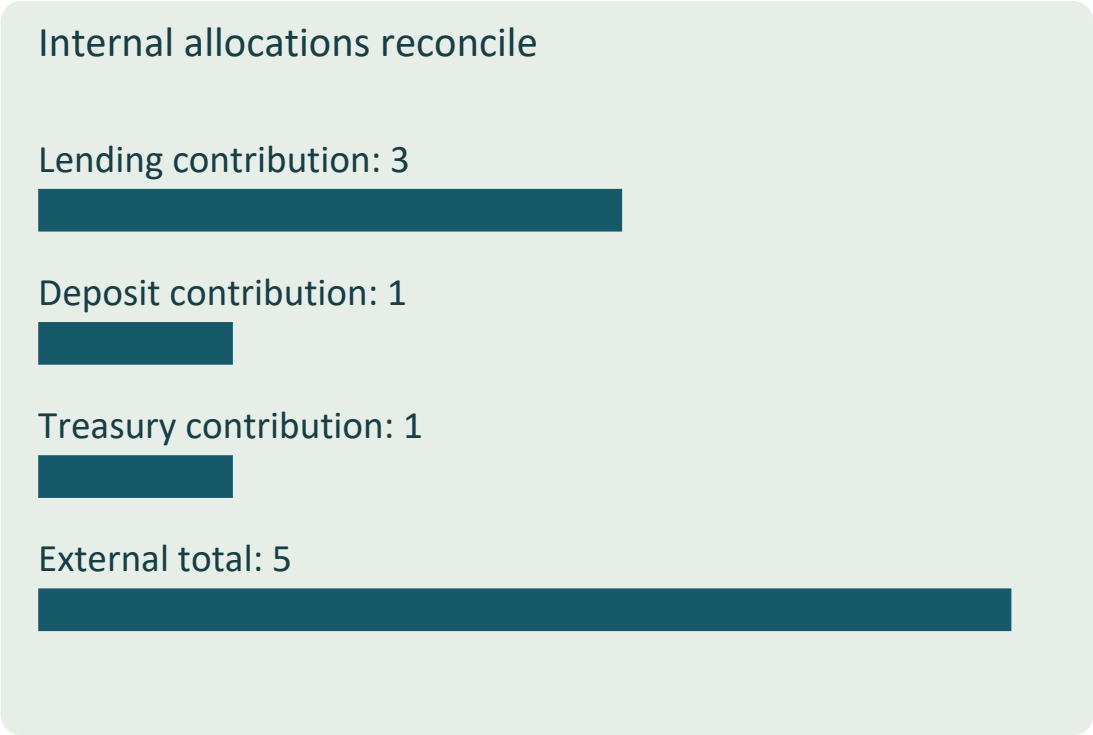
This reconciliation prevents double counting. The internal payments cancel at the consolidated level; they allocate the external result rather than create new money. Additional liquidity, option or credit costs should be included consistently and assigned by policy. A business line should not appear profitable solely because treasury absorbs its maturity mismatch for free. Conversely, treasury should not claim a result created by an unexplained internal-rate change as though it came entirely from superior market execution. Transparent attribution supports fair evaluation and better pricing.

Set policy, scenarios and reporting together

An ALM policy should define objectives, governance, measures, limits, assumptions, stress tests and escalation. It should address material currencies and entities, model changes and contingency arrangements. Business plans need to be tested against these boundaries before growth is committed. Committee reports should connect movements to causes and decisions, including forecast-versus-actual performance. A large collection of ratios without explanation can obscure the issue rather than support action, particularly where different measures use different horizons or definitions.

Model governance covers conceptual suitability, data, implementation and use. Behavioural assumptions should have owners and evidence, with sensitivity analysis where uncertainty is material. Independent review should challenge favourable outcomes as well as adverse ones. A small reported gap may reflect a real hedge, an optimistic assumption or missing data. Reports should preserve important local shortages and concentrations even when the consolidated position looks comfortable. Aggregation is useful only when it does not erase the constraints that determine actual resilience.

For revision, distinguish maturity from repricing, earnings from economic value and economic offset from usable cash. Explain treasury's execution role within wider ALM governance. Use derivatives and credit information as part of an integrated assessment, and reconcile transfer-pricing contributions to the external total. The calculators below illustrate repricing sensitivity, duration-based value change, cash ladders, hedge transformation and internal attribution. They expose assumptions so students can understand which conclusion is supported and which requires a more complete model or verified regulatory treatment.



INR crore on common balance 100. External 9% minus 4% = 5%; internal charges cancel. [('Lending contribution', 3), ('Deposit contribution', 1), ('Treasury contribution', 1), ('External total', 5)]

Review Meridian's integrated proposal

Meridian wants to grow fixed-rate lending by INR100 crore. The lending team shows an attractive coupon, but ALM should assess funding tenor, repricing, credit cost, capital and cash needs. A matched internal rate makes the resource cost visible. If the proposed funding reprices sooner, quantify the earnings sensitivity and consider whether a hedge or more stable funding fits appetite. Do not choose the cheapest initial source without assessing the consequences of a rate rise or failed renewal during the asset's life.

Next test a combined scenario: deposit costs rise, some borrowers delay payment and derivative collateral increases. These effects can reduce income and usable cash together. Show the result before actions and identify feasible responses with authority and timing. A security sale may raise funds but realise a loss; a hedge can protect future margin but demand cash now. The committee needs the full trade-off, including residual exposure and dependencies, rather than separate recommendations that each assume another department will provide unlimited resources.

Finally, approve a coherent plan and verify execution. Treasury records funding and hedges, business units report changes in the underlying exposures, independent risk monitors limits and finance reconciles performance. Review assumptions when actual behaviour differs. This feedback loop is the practical meaning of ALM: the bank's balance sheet is managed as a connected set of promises, resources and sensitivities. Sustainable return follows from understanding and controlling those relationships, supported by transparent calculations and accountable decisions throughout the planning horizon.

Practice with explanations

01. ALM concerns what scope?

A. Only dealers' personal forecasts	B. Only last month's realised profit
C. Only bond coupons	D. Connected assets, liabilities and relevant off-balance-sheet positions

Answer D. ALM coordinates the balance sheet and its timing, sensitivities and resources. Individual forecasts or one income component cannot capture the integrated obligations and exposures needed for governance and planning.

02. Treasury's role within ALM is best described as what?

A. Market execution and information within wider governance	B. Sole authority to change risk appetite
C. Replacement of all business decisions	D. Only bookkeeping after maturity

Answer A. Treasury executes and informs approved strategy, while board, management and other functions retain roles. It does not independently redefine appetite or replace the broader planning and challenge process.

03. A five-year floating-rate loan resetting quarterly has what distinction?

A. Fixed coupon for five years	B. No interest-rate exposure
C. Quarterly principal maturity necessarily	D. Long principal maturity but short repricing interval

Answer D. Final maturity and rate reset are different schedules. Quarterly repricing does not require principal repayment then, nor does it make the loan fixed or remove benchmark and timing exposure.

04. Why preserve contractual and behavioural views?

A. Behavioural assumptions are certain	B. Estimates can differ from legal dates and change under stress
C. All renewals are guaranteed	D. Contracts never matter

Answer B. Both views answer useful questions. Behaviour requires evidence and stress; contracts remain relevant obligations. Treating estimated renewals as guarantees can conceal a funding or repricing vulnerability.

05. Rate-sensitive assets 500 and liabilities 650 crore give gap of?

A. INR1,150 crore	B. Plus INR150 crore
C. Minus INR150 crore	D. Minus INR650 crore

Answer C. Gap is assets minus liabilities, 500-650=-150. The sum is not net sensitivity, selecting liabilities omits assets, and reversing subtraction changes the direction of the estimated rate effect.

06. With that gap and a uniform 1 percentage-point rise, simple annual NII change is?

A. Minus INR1.5 crore	B. Zero
C. Plus INR1.5 crore	D. Minus INR150 crore

Answer A. Multiply -150 by 0.01. The sign reflects greater repricing liabilities; one hundred fifty omits percentage conversion and zero ignores the supplied mismatch. Timing and other assumptions limit this simple estimate.

07. A one-point fall under the same simple assumptions gives what?

A. Minus INR1.5 crore	B. Plus INR1.5 crore
C. No possible estimate	D. Plus INR150 crore

Answer B. The negative gap times a negative rate change is positive. The result is conditional sensitivity, not a forecast; sign reversal or missing decimal conversion creates the other numeric errors.

08. Why can bucket totals overstate annual earnings response?

A. All rates reset immediately by law	B. Every product has identical pass-through
C. Some rates reset late in the horizon	D. Optionality never matters

Answer C. The time earning the new rate varies. Immediate parallel resets are simplifying assumptions; different pass-through and options can alter results, so a detailed forecast needs more than a single aggregate gap.

09. Earnings and economic-value perspectives differ because?

A. They examine different horizons and cash-flow effects	B. Economic value is simply today's cash balance
C. Only earnings uses any cash flow	D. They must always give identical signals

Answer A. Near-term income and present value of future flows are distinct. Both use cash-flow reasoning, and value is not usable cash; different signals can be informative rather than arithmetic inconsistency.

10. Assets 1,000 duration 4; liabilities 900 duration 2. Net rupee duration is?

A. 2,200 crore-years	B. 100 crore-years
C. 2 years	D. 5,800 crore-years

Answer A. Value-weighted sensitivities are 4,000 and 1,800, leaving 2,200. Subtracting years ignores unequal amounts; adding ignores the liability offset and the balance-sheet difference alone is not duration sensitivity.

11. A 1 percentage-point rise applied to that sensitivity gives approximate value change of?

A. Minus INR2,200 crore	B. Minus INR2 crore
C. Minus INR22 crore	D. Plus INR22 crore

Answer C. The linear approximation is -2,200×0.01=-22. The other choices reverse direction, omit decimal conversion or subtract unweighted duration years. This is an illustrative parallel-shift model, not a complete regulatory calculation.

12. A favourable asset-liability value offset supplies what immediate cash?

A. None automatically	B. The full offset amount instantly
C. Unlimited settlement funding	D. Permanent deposits

Answer A. Valuation offset is an economic relationship, not a cash transfer. Actual payments still need available resources; it cannot be treated as instant funding, unlimited liquidity or a new liability balance.

13. Opening cash 40 and gaps -15, -10, -25 crore yield final cash of?

A. Minus INR10 crore	B. Minus INR50 crore
C. INR15 crore	D. INR40 crore

Answer A. Carry the balance through: 40-15-10-25=-10. Fifteen is an intermediate balance, forty ignores flows, and minus fifty is cumulative gaps without the opening resource. Opening cash is included once, with each closing balance carried forward.

14. A later receipt cures an earlier missed payment automatically?

A. Yes, if the monthly total is positive	B. Yes, if assets exceed liabilities
C. No, payment timing remains critical	D. Only annual totals matter

Answer C. Resources arriving later cannot retrospectively settle an earlier obligation on time. Positive monthly totals or net worth do not remove intraday or maturity constraints, so the ladder must preserve relevant dates.

15. Fixed-rate assets with floating funding may use which illustrative rate hedge?

A. Ignore benchmark definitions	B. Pay fixed and receive matching floating
C. Receive fixed and pay additional floating always	D. Buy unrelated equity

Answer B. Receiving floating can offset the funding leg while paying fixed, subject to matching. Adding floating payments worsens that exposure, unrelated equity is not the stated hedge, and benchmark differences can leave basis risk.

16. Deposit balances fall but the swap remains unchanged. What may result?

A. Excess hedge exposure requiring review	B. Automatic perfect matching
C. Automatic swap cancellation	D. No governance relevance

Answer A. The underlying amount changed while the derivative did not. Reassess the combined position and authorised response; neither perfect matching nor cancellation follows automatically, and the change is material to hedge governance.

17. An economically effective hedge automatically qualifies for hedge accounting?

A. Yes, without documents	B. Yes, if called a hedge
C. No, applicable accounting criteria require separate assessment	D. Yes, whenever profit rises

Answer C. Economic purpose and accounting recognition are different tests. Documentation and governing criteria matter; labels or favourable profit do not establish eligibility or recognised treatment for every instrument and relationship.

18. Why combine credit stress with liquidity forecasting?

A. Expected loss is always today's cash outflow	B. Loan payments are certain in every scenario
C. Borrower receipts may weaken as funding pressures rise	D. Credit affects only marketing

Answer C. A downturn can delay receipts and affect funding together. Scheduled payments are not universally certain, and expected loss is an average concept rather than necessarily an immediate cash amount, so integrated scenarios are needed.

19. Exposure 100 crore, PD 4% and LGD 50% imply simple expected loss of?

A. INR2 crore	B. INR50 crore
C. INR4 crore	D. INR0.2 crore

Answer A. Multiply 100×0.04×0.50=2. Four omits severity, fifty is conditional severity at full exposure, and 0.2 mis-scales the result. Inputs must use compatible horizons and definitions. The average is not a prediction of one exact realised loss.

20. Matched-maturity transfer pricing aims to reflect what?

A. Resource tenor and relevant liquidity characteristics	B. A method to hide business costs
C. Only today's overnight rate for everything	D. A new external income source

Answer A. Internal pricing allocates funding economics to decisions. Applying one short rate universally can distort incentives; internal transfers cancel in consolidation and should make costs clearer rather than manufacture income or conceal them.

21. Loan 100 crore earns 9%, internal charge 6%. Lending contribution before other costs is?

A. INR6 crore	B. INR9 crore
C. INR3 crore	D. INR15 crore

Answer C. External income minus internal charge is three. Nine is gross income, six is allocated cost and fifteen adds rather than subtracts. Credit and operating costs are expressly excluded from this teaching contribution.

22. Deposits 100 crore pay 4%, internal credit 5%. Deposit-business contribution is?

A. INR1 crore	B. INR4 crore
C. INR9 crore	D. INR5 crore

Answer A. Internal credit minus external cost gives one crore. The separate rate components and their sum are not the contribution. This assumes matching balances and periods and excludes other business costs.

23. Treasury receives 6% internally and credits funding at 5% on 100 crore. Its spread is?

A. Minus INR1 crore	B. INR11 crore
C. INR6 crore	D. INR1 crore

Answer D. The internal spread is one percent on one hundred crore. Adding rates, reversing perspective or retaining the gross charge misstates attribution. The result is an allocation within the bank, not additional external revenue.

24. Lending 3, deposit business 1 and treasury 1 crore reconcile to what external spread?

A. INR3 crore	B. INR10 crore
C. INR5 crore	D. INR1 crore

Answer C. The contributions sum to five, matching external 9% income less 4% funding cost on equal one-hundred-crore balances. Internal charges cancel, so counting them again would overstate consolidated income.

25. A combined stress report should show management actions how?

A. Without the pre-action position	B. With capacity, authority, timing and residual exposure
C. As unlimited cash immediately	D. Only as reassuring labels

Answer B. Feasible actions can improve resilience, but dependence must remain visible. Unlimited resources or hidden initial shortfalls obscure execution risk; labels alone do not establish an operationally credible response.

C07 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 Fictional Meridian Bank has five-year fixed-rate loans, annually repricing deposits and customer commitments.	**15** Treasury translates approved balance-sheet decisions into funding, investment and hedging transactions.
02 This chapter explains liquidity and interest-rate risk, treasury's role, derivative use, credit risk, credit derivatives, transfer pricing and policy.	**16** For Meridian's fixed-rate assets and floating funding, a suitable pay-fixed, receive-floating swap can offset some funding-rate variability under matching assumptions.
03 Contractual maturity identifies when principal is due, while repricing identifies when an interest rate resets or can change.	**17** Treasury also feeds information back into strategy.
04 Behavioural assumptions add another layer.	**18** Derivatives can alter interest-rate, currency and credit exposure without requiring the same transaction as selling the underlying asset.
05 For Meridian, fixed-rate loans funded by annually resetting deposits create a potential margin squeeze when funding rates rise.	**19** Hedge effectiveness depends on matching.
06 A simple repricing gap is rate-sensitive assets minus rate-sensitive liabilities within a defined bucket.	**20** The accounting and regulatory treatment of a hedge can differ from its economic effect and requires the applicable rules.
07 If rates instead fall one percentage point under the same assumptions, the sign reverses and estimated income rises by INR1.5 crore.	**21** Credit quality affects both income and liquidity.
08 Real timing changes the result.	**22** Credit derivatives can transfer specified exposure under their terms, but protection-provider performance and matching remain important.
09 The earnings perspective examines income over a defined planning horizon.	**23** For a simple stress exercise, assume INR100 crore exposure, 4% default probability and 50% loss given default.
10 A simplified duration-gap illustration uses asset value, liability value and their modified durations.	**24** Funds transfer pricing allocates an internal cost or benefit for funding and liquidity so that business decisions reflect the resources they consume or supply.
11 The approximation ignores convexity, non-parallel shifts, behavioural changes and other cash-flow complications.	**25** Suppose a one-year loan of INR100 crore earns 9% and is charged an illustrative internal matched rate of 6%.
12 Liquidity ALM examines the timing and stability of resources relative to obligations, including contingent demands.	**26** This reconciliation prevents double counting.
13 A maturity ladder starts with usable opening resources and carries net inflows and outflows through successive buckets.	**27** An ALM policy should define objectives, governance, measures, limits, assumptions, stress tests and escalation.
14 Stress scenarios should combine deposit outflows, commitment drawings, delayed receipts, collateral calls and reduced market liquidity where economically relevant.	**28** Model governance covers conceptual suitability, data, implementation and use.

D01 Components of Assets and Liabilities and Their Management

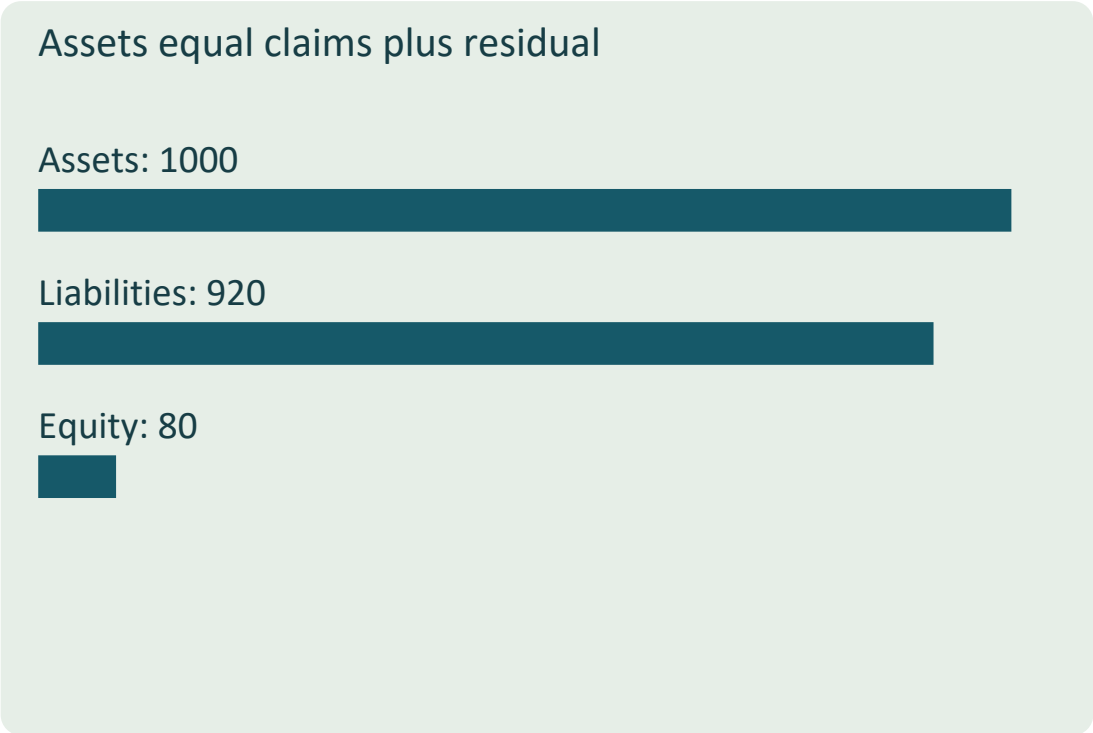
Practice / Quick Revision

Read the balance sheet as a set of promises

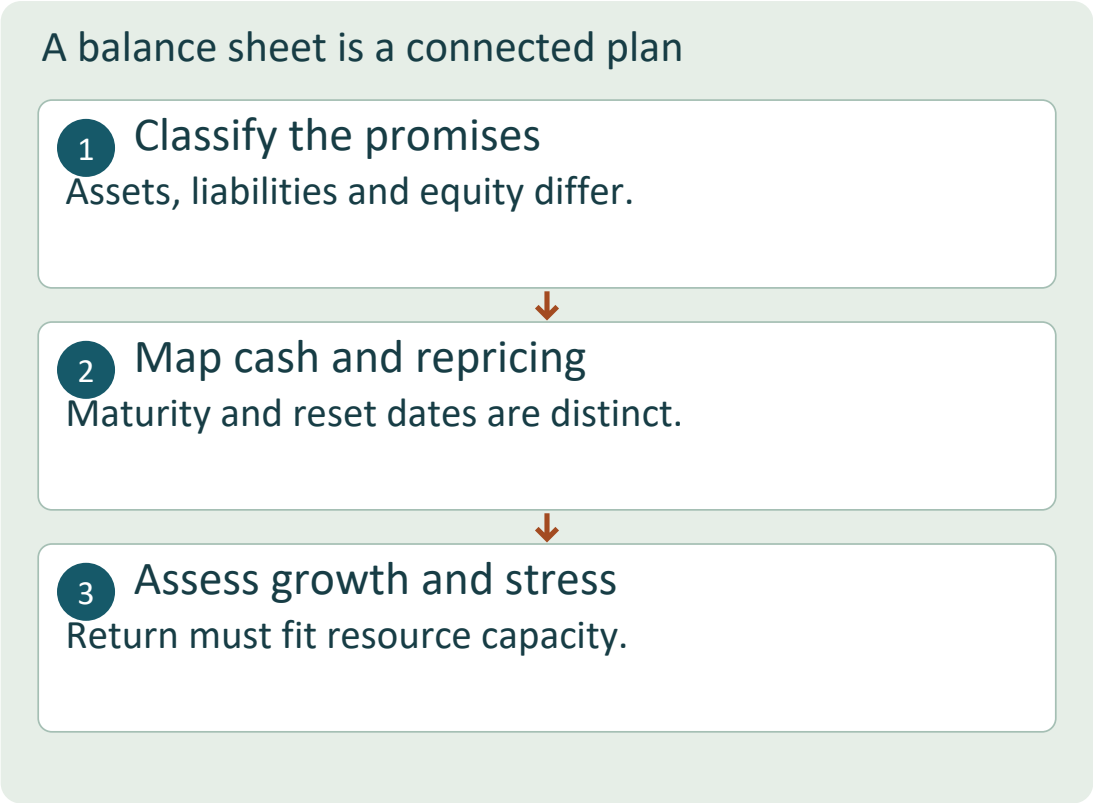
A bank's balance sheet records resources and claims at a particular date. Its management requires understanding the future payments, receipts and risks behind those recorded amounts. A loan is an asset because the bank has a claim on the borrower; a customer deposit is a liability because the bank owes the customer. Equity represents the residual interest after liabilities. These classifications describe different economic relationships, not simply whether an item seems desirable. A growing asset can increase income and risk at the same time.

Use fictional Meridian Bank throughout this module. It accepts deposits, extends loans, holds investments and provides commitments. A business team proposes rapid lending growth because projected interest income looks attractive. The balance-sheet manager asks how the assets will be funded, when liabilities can leave, which rates reset and how losses affect capital. These questions are connected. Reviewing the proposed loan only as a credit transaction would omit the institution-wide consequences that determine whether growth is sustainable.

The basic identity is assets equal liabilities plus equity. If assets are INR1,000 crore and liabilities INR920 crore, accounting equity is INR80 crore. The identity is a starting reconciliation rather than a complete risk assessment. Accounting equity is not automatically eligible regulatory capital, and asset value is not automatically usable cash. Management needs schedules, classifications and assumptions behind the total to understand what happens when rates, borrower performance or customer behaviour change.



INR crore. Accounting equity = 1,000 − 920 = 80; this is not automatically eligible capital or cash. [('Assets', 1000), ('Liabilities', 920), ('Equity', 80)]



Assets, liabilities and equity differ. Maturity and reset dates are distinct. Return must fit resource capacity.

Identify the main asset components

Cash and balances support payments and relevant requirements; loans generate contractual receipts subject to credit and timing risks; investments provide income and market exposures; and fixed or other assets support operations or represent other claims. The exact presentation follows the applicable reporting framework. A teaching classification should not be used to infer every regulatory treatment. Two assets shown under the same broad heading can have different maturities, currencies, liquidity, credit quality and valuation sensitivity.

For Meridian, assume INR100 crore cash and readily available balances, INR250 crore investments, INR600 crore loans and INR50 crore other assets. Total assets are INR1,000 crore. Loans represent 60% of assets and investments 25%. This composition does not establish liquidity strength: investments may be pledged, some loans may repay soon, and balances can include amounts with restrictions. The useful next step is to establish the cash-flow and availability characteristics of each component rather than rank them by accounting title alone.

Asset growth should be assessed against return after funding, operating costs, expected losses and resource use. An apparently high-yield loan can consume substantial capital or monitoring effort. An investment can earn a lower coupon but support liquidity under specified conditions. Management should distinguish the purpose of a holding from its gross income. The objective is an appropriate portfolio of functions and exposures, rather than maximising one asset category because its current yield is highest.

Identify liabilities and the role of equity

Deposits, market borrowings and other obligations fund assets but create claims that must be honoured according to their terms. Funding sources differ in maturity, cost, concentration and behavioural stability. A thousand small customer balances can behave differently from one large institutional deposit, although neither should be declared permanently stable without evidence. The balance-sheet manager examines the economic drivers of withdrawals and renewals alongside contractual terms. Funding quantity alone does not reveal how reliably it supports the asset portfolio.

Suppose Meridian has INR700 crore deposits, INR180 crore borrowings, INR40 crore other liabilities and INR80 crore equity. The total reconciles to INR1,000 crore assets. Deposits are 70% of assets, but that percentage does not show whether they are concentrated or repricing rapidly. Borrowings can include different tenors and collateral obligations. Other liabilities may have operational settlement dates. A credible funding assessment preserves these distinctions instead of treating the liability side as a single average-cost number.

Equity absorbs losses and supports the bank's risk-bearing capacity, but it is not a segregated cash account. Raising equity can bring cash initially; later the funds may be deployed in assets. A bank can retain positive equity while facing an immediate cash shortfall, or have cash while eligible capital becomes inadequate. Capital and liquidity plans therefore need separate measures and a common set of assumptions. Neither should be used as a substitute for understanding the other.

Bring off-balance-sheet activities into the picture

Guarantees, commitments and derivatives can create material obligations even when their accounting presentation differs from a conventional funded loan. A commitment may be drawn just when a customer's cash position weakens. A guarantee can be invoked. A derivative can create replacement exposure or collateral demands as markets move. Balance-sheet management should identify these triggers, quantities, dates and counterparties, then connect them to funding, capital and risk planning. Ignoring a position because it is not currently a loan balance understates potential needs.

Assume Meridian has INR100 crore of undrawn commitments and uses an explicitly supplied 30% stressed drawdown assumption. The illustrative additional cash demand is INR30 crore. This is a liquidity scenario, not automatically the credit-conversion factor required for capital. The same facility can have different measures for accounting, credit risk and liquidity. State the purpose and method before applying a percentage. A number that is valid for one question can be misleading if silently transferred to another framework.

Aggregation needs consistent identifiers. A borrower can have loans, guarantees and derivatives across departments, all dependent on related cash generation. Connect them at the relevant counterparty or group level without counting the same loss twice. A loan already included as a funded balance should not be added again merely because its original commitment appears in another system. Reconciliation and clear definitions make the institution-wide view reliable enough to support decisions about limits and future resources.

Distinguish maturity, repricing and behaviour

Maturity concerns when principal is due; repricing concerns when an interest rate changes. A five-year floating-rate loan can reprice quarterly. A one-year fixed-rate deposit can have no ordinary reset until maturity. A liquidity ladder and a repricing-gap report can therefore place the same instrument in different buckets for valid reasons. The manager should understand the question each report answers, rather than insist that every schedule must look identical because it describes the same balance sheet.

Behavioural estimates address features such as deposit persistence, loan prepayment or optional withdrawal. These estimates need data, ownership and stress testing. A contractual renewal possibility is not a guaranteed future deposit. A borrower may prepay when refinancing is attractive, altering the expected duration of an asset. Rates and confidence can change behaviour, so estimates from quiet periods should not be treated as permanent truths. Preserve a contractual view and show how important results depend on behavioural assumptions.

For Meridian, fixed-rate loans funded by annually repricing deposits can create margin pressure when deposit costs rise. The loans may remain fully performing, yet net interest income falls. Matching final maturities alone would not reveal that mechanism. Conversely, matched repricing dates do not guarantee cash availability at principal maturity. The manager needs both perspectives and should identify residual basis or option exposure where rates or customer choices do not follow the simplifying model.

Understand asset-liability management as coordination

Asset-liability management, or ALM, coordinates the institution's structure, resources and sensitivities in pursuit of sustainable objectives. It connects liquidity, interest-rate exposure, funding, capital and profitability. Treasury provides execution and market information, while business units, finance, risk and operations supply essential data and decisions. ALM is therefore broader than a dealing-room function. A bank cannot solve a persistent structural funding problem solely by asking dealers to obtain another overnight borrowing every afternoon.

The board sets direction and appetite; senior management implements policy; an asset-liability committee commonly coordinates relevant decisions. The exact structure should fit the institution, but authority and ownership must be clear. A committee discussion needs an actionable decision, responsible owner and review date. Independent risk challenges assumptions and monitors limits, while assurance assesses whether the framework operates. Creating more meetings does not improve management if no one can identify who must act when a warning threshold is reached.

Coordination also means reconciling objectives. A lending team may prefer fixed-rate pricing to attract customers, deposit teams may need competitive rates to retain funds, and treasury may face expensive hedging. The ALM process makes the combined effect visible and tests alternatives. The best institution-wide choice may differ from the apparently best result for one desk. Internal pricing and transparent performance attribution can help align incentives without pretending that internal transfers create additional external profit.

Measure earnings without losing the balance-sheet context

Net interest income is interest income less interest expense over a defined period. Net interest margin relates a defined net interest amount to a specified earning-asset base, commonly an average balance. Definitions must be consistent. If annual interest income is INR85 crore, interest expense INR45 crore and average earning assets INR800 crore, the teaching NIM is 40 divided by 800, or 5%. Dividing by total year-end assets would answer a different question and can distort comparison when the balance sheet grows.

NIM does not equal net profit. Operating expenses, fees, trading results, provisions, taxes and other items can materially change the outcome. A bank can report a strong margin while taking concentrated credit risk or relying on unstable funding. Another bank can have a lower margin but more stable resources and lower losses. Performance analysis should connect income to the risks and resources required to earn it. Comparing isolated margins without business-model context can reward exposure that has not yet produced its losses.

Growth can also improve or worsen ratios through denominator effects. A larger average asset base with unchanged net interest income reduces NIM. Selling low-yield assets might raise the ratio while reducing total contribution or liquidity protection. The manager should therefore examine amounts, ratios and purpose together. A ratio is a useful summary of a defined relationship, not an objective to maximise without regard to the operational and risk consequences of the actions used to change it.

Build a coherent planning case

Suppose Meridian adds INR100 crore of loans financed by INR100 crore new deposits. Assets and liabilities both increase, leaving accounting equity unchanged initially. If the loans earn an assumed 9% and deposits cost 5%, annual gross interest contribution is INR4 crore before other effects. That attractive spread is incomplete. Add operating cost, expected loss, capital consumption, reserve and liquidity implications, and the timing of cash receipts and payments. The proposal should show all material incremental effects under a common period and unit.

If operating cost is INR1 crore and expected loss INR1.5 crore, contribution falls to INR1.5 crore before tax and any further adjustments. An allocated capital requirement would introduce another performance consideration. A pricing decision should not assume that increasing the coupon always solves poor economics,

because a higher debt burden can weaken repayment. Alternatives may include changing structure, reducing size, improving risk selection or declining the activity where the residual exposure is inconsistent with appetite.

Stress the plan coherently. Deposit costs may rise while borrower receipts weaken and collateral values fall. These effects can occur together rather than as independent isolated shocks. Show results before management actions and after feasible responses with realistic timing. A planned asset sale needs availability and a stressed price; a proposed funding source needs access and capacity. The committee should understand how much of the plan's apparent resilience depends on assumptions that have never been operationally tested.

Preserve data quality and internal controls

An integrated balance-sheet view depends on complete, timely and reconciled records. Key fields include counterparty, currency, principal, rates, reset and maturity dates, options, collateral and settlement status. Data errors can change reported gaps and limits even when formulas are correct. A missing trade can make a risk estimate fall; a wrong reset date can make a mismatch disappear. Independent review should challenge unusually favourable changes as well as obvious adverse movements, particularly when growth or profit incentives are strong.

Assign ownership to assumptions and data corrections. A model change that reduces measured risk should be documented, tested and approved before it creates headroom for new business. Preserve earlier versions so trends remain interpretable. Forecast-versus-actual reviews reveal missing flows and systematic optimism, but they need follow-up. Repeated errors should lead to process improvements rather than endless manual adjustments that leave the original weakness unchanged and dependent on one experienced employee's memory.

Reports should identify exceptions, uncertainty and required decisions. A consolidated total can hide a shortage in one currency or entity where resources cannot be transferred quickly. Aggregation should improve visibility without erasing constraints. Clear definitions also prevent double counting: the same asset cannot be assumed freely available for several unrelated funding actions. Reliable reporting is therefore an operational control, not merely presentation. It determines whether decision makers can connect a proposed action to resources the bank can actually use.

Review the balance sheet through several lenses

A complete review considers solvency, liquidity, earnings, economic value and concentration. Solvency concerns the relationship between resources and claims under relevant valuation and capital concepts. Liquidity concerns payment capacity. Earnings concern period performance, while economic value concerns the present value of future flows. Concentration identifies dependence on common drivers. A favourable result in one lens does not prove strength in all the others. The measures are complementary because they describe different ways a balance-sheet strategy can succeed or fail.

For Meridian, a fixed-rate portfolio can support current income while exposing long-term value to rising yields. A large cash buffer can support payments while reducing current yield. More capital can strengthen loss absorption but carry an opportunity cost. The manager's task is to make these trade-offs explicit within appetite, rather than search for a single ratio that declares the bank safe. Decisions should identify the objective, assumptions, residual exposure and conditions that would require revision.

For revision, start with the identity, classify the claims, map cash and repricing, include contingent obligations and assess the resource effects of growth. Then calculate the appropriate performance measure and stress the plan. Distinguish accounting equity from eligible capital, asset value from cash and internal allocation from external income. These foundations prepare you for the remaining chapters, which examine capital, credit classification, liquidity, interest-rate exposure and risk-adjusted planning in greater detail while retaining the

whole-bank perspective.

Present a decision-ready recommendation

Meridian's proposed growth should be presented as a balanced recommendation rather than a sales target. Show the starting balance sheet, incremental assets and funding, expected contribution and resource needs. Identify which assumptions are confirmed and which are estimates. If the new deposits are concentrated in one customer or reset sooner than the loans, explain the consequence. A proposal can reconcile arithmetically while remaining commercially fragile, so the identity alone should not be used as evidence that the strategy is sustainable.

Compare feasible alternatives under the same assumptions. More durable funding may cost more but reduce rollover pressure; a different asset structure may lower yield but improve repricing or liquidity. A derivative can change sensitivity while creating collateral needs. Record the trade-offs and authority for the selected option. The recommendation should also state monitoring indicators and escalation triggers, so approval is followed by an operational process that detects when the original conditions no longer hold.

After implementation, reconcile actual balances and cash flows to the plan. Investigate differences in funding cost, credit performance and customer behaviour. Update assumptions with evidence rather than hindsight designed to justify the decision. This feedback closes the management cycle. The practical meaning of balance-sheet management is continuing coordination of promises, resources and risk: the bank aims to earn a sustainable return while retaining the capacity to absorb losses and honour obligations through ordinary and adverse conditions.

Practice with explanations

01. Why read a bank balance sheet as promises rather than totals alone?

A. Every liability is a loss	B. Future cash flows and conditions determine risk and availability
C. Equity is always a segregated deposit	D. Every asset is immediate cash

Answer B. Totals require interpretation through dates, rights and obligations. Assets need not be usable cash, liabilities are funding claims rather than automatic losses, and equity does not identify a separate cash account.

02. Assets 1,000 crore and liabilities 920 crore imply accounting equity of?

A. INR1,920 crore	B. Minus INR80 crore
C. INR80 crore	D. INR920 crore

Answer C. The identity gives assets minus liabilities, or eighty crore. Adding claims, reversing the subtraction or selecting liabilities does not calculate the residual; regulatory eligibility remains a separate assessment after this accounting reconciliation.

03. Loans 600 crore within assets 1,000 crore represent what share?

A. 60%	B. 6%
C. 40%	D. 166.67%

Answer A. Divide loans by total assets and multiply by one hundred. Forty is the remaining share, the reciprocal answers a different question, and six introduces a decimal error in the stated composition calculation.

04. Investments labelled 250 crore automatically establish what usable liquidity?

A. No amount without availability and timing analysis	B. Unlimited borrowing capacity
C. Exactly 250 crore immediately	D. Zero because investments never trade

Answer A. Eligibility, encumbrance and execution determine usability. The label alone proves neither immediate full cash nor zero liquidity, and valuable securities cannot support unlimited independent funding without contractual and operational conditions.

05. Which liability feature matters beyond its current cost?

A. A guarantee it never leaves	B. Only its account colour
C. Only its marketing name	D. Maturity, concentration and renewal behaviour

Answer D. Funding reliability depends on contractual and behavioural characteristics. Branding and presentation do not determine withdrawals, and no general guarantee of permanent renewal follows merely because the balance is currently inexpensive.

06. A new short-term deposit directly creates what?

A. A permanent equity contribution	B. No future obligation
C. Cash and a repayment liability	D. CET1 automatically

Answer C. A deposit normally supplies funds while creating a claim on the bank. It is not automatically common equity or permanent capital, and its maturity and behaviour belong in future funding analysis.

07. A 100 crore commitment with supplied 30% stressed drawdown creates what illustrative cash need?

A. INR3 crore	B. INR100 crore necessarily
C. INR30 crore	D. INR70 crore

Answer C. The scenario uses 100×0.30=30 crore. The residual undrawn amount is seventy, while three mis-scales the assumption. Full drawing is another scenario, and this liquidity factor is not automatically a capital CCF.

08. A liquidity drawdown factor can automatically replace a regulatory CCF?

A. Yes, for every guarantee	B. Only when the result is favourable
C. Yes, because both are percentages	D. No, purpose and governing methodology differ

Answer D. Different measures answer different questions and may use distinct classifications. Percentage notation does not establish equivalence, and a favourable result or product label cannot authorise substituting one framework's factor for another.

09. Why connect borrower identifiers across products?

A. To remove credit review	B. To aggregate related claims without omissions or duplication
C. To guarantee all repayments	D. Only to shorten reports

Answer B. Consistent identifiers support complete exposure and reconciliation. They cannot eliminate economic risk or replace appraisal, and their value is more than formatting: related obligations may share the same repayment source and stress driver.

10. A five-year loan resetting quarterly illustrates what distinction?

A. Principal maturity differs from repricing interval	B. The rate is fixed for five years
C. Principal necessarily repays quarterly	D. No rate sensitivity exists

Answer A. Quarterly reset concerns interest terms, not necessarily principal repayment. The loan is not therefore fixed or riskless; liquidity and repricing schedules can validly place the same exposure in different time buckets.

11. A behavioural deposit estimate should be treated how?

A. As evidence-based and stress-tested, not guaranteed renewal	B. As unaffected by rates or confidence
C. As a substitute for all contractual records	D. As certain permanent funding

Answer A. Behaviour can change with competition, rates and confidence. Estimates need ownership and challenge; contractual information remains relevant, and assuming permanent stability can conceal the funding dependence the model should make visible.

12. Fixed-rate loans funded by faster-repricing liabilities can suffer what?

A. Guaranteed wider margins	B. Only borrower-default losses
C. Margin pressure when funding rates rise	D. No effect until loans mature

Answer C. Funding expense can change before asset income even when borrowers pay. The mechanism is repricing mismatch, not necessarily default, and the consequence can occur well before final principal maturity.

13. ALM is best understood as what?

A. Only daily bond dealing	B. Coordination of balance-sheet resources and sensitivities
C. Only annual accounting formatting	D. Only loan collection

Answer B. ALM connects liquidity, funding, rates, capital and profitability across functions. Dealing, collections and financial presentation contribute information but individually do not encompass the governance and trade-offs of whole-bank management.

14. A committee decision needs what to become operational?

A. Only meeting frequency	B. Owner, authority, conditions and follow-up
C. Only unanimous optimism	D. No written action if discussed

Answer B. Discussion alone does not implement a response. Accountable actions and review create a usable process; frequent meetings or favourable sentiment cannot establish execution, and undocumented decisions weaken both responsibility and later verification.

15. Interest income 85 and interest expense 45 crore give NII of?

A. INR45 crore	B. INR85 crore
C. INR130 crore	D. INR40 crore

Answer D. Net interest income subtracts expense from income: 85-45=40. The sum and separate components do not measure the net amount. Other income and costs still need consideration before deriving total accounting profit.

16. NII 40 crore against average earning assets 800 crore gives the supplied NIM of?

A. 0.5%	B. 4% using another denominator
C. 20%	D. 5%

Answer D. The stated margin is 40/800×100=5%. Using total assets would change the requested denominator, while inversion and scaling errors produce other values. Average and year-end balances should not be silently interchanged.

17. Why does NIM not equal final profit?

A. Operating costs, credit charges and other items remain	B. Interest expense was never deducted
C. Taxes cannot affect a bank	D. NIM is always a cash balance

Answer A. NIM summarises a defined interest relationship. It does include the stated interest expense but omits other profit components; it is not cash, and taxes or provisions can materially alter final results.

18. A higher ratio after selling low-yield assets proves what about overall strategy?

A. Nothing without income, liquidity and risk trade-offs	B. Guaranteed higher total contribution
C. No opportunity cost	D. Guaranteed better payment capacity

Answer A. A ratio can improve while amounts or resilience worsen. Selling may reduce income or a buffer, so the action needs whole-bank analysis rather than an assumption that every denominator change creates value.

19. Adding 100 crore loans financed by 100 crore deposits initially changes equity by what under the simple case?

A. Zero	B. Plus INR200 crore
C. Plus INR100 crore	D. Minus INR100 crore

Answer A. Assets and liabilities rise equally, leaving the accounting residual unchanged before earnings and adjustments. Deposits are not equity, and adding both sides does not create two hundred crore of loss-absorbing capital.

20. New loans 100 crore at 9%, deposits at 5% give gross annual spread contribution of?

A. INR5 crore	B. INR9 crore
C. INR4 crore	D. INR14 crore

Answer C. Income nine less funding five gives four before other costs. The separate components and their sum are not net contribution; the teaching assumption holds equal balances and a full year constant.

21. Deduct operating cost 1 and expected loss 1.5 crore from that 4 crore. Remaining contribution is?

A. INR2.5 crore	B. INR1.5 crore
C. INR6.5 crore	D. INR3 crore

Answer B. Subtract both costs once: 4-1-1.5=1.5. The alternatives omit a component or add costs. Capital cost and tax may still matter depending on the defined performance measure and decision objective.

22. An integrated stress should consider what?

A. Unlimited asset sales at old marks	B. No contingent obligations
C. Only independent favourable shocks	D. Linked funding, credit and market effects

Answer D. Common events can weaken several resources simultaneously. Favourable independent assumptions, unchanged execution prices and omitted commitments can materially understate vulnerability and the resources required to sustain the proposed balance-sheet plan.

23. A model change lowers reported risk. What should precede new business using that headroom?

A. No review if profit is positive	B. Independent testing and approval
C. Immediate limit expansion	D. Deletion of old assumptions

Answer B. Changed measurement can create artificial headroom. Validation, records and authority are necessary; erasing history or relying on profit does not establish that the model now represents the actual exposure more accurately.

24. A consolidated surplus can conceal what?

A. Automatic settlement in all currencies	B. No local obligations
C. Guaranteed cash everywhere	D. A currency or entity shortage with transfer constraints

Answer D. Resources may not be freely convertible or transferable in time. Consolidation does not erase local obligations or deliver the required currency, so relevant constraints must remain visible alongside the aggregate position.

25. The strongest balance-sheet recommendation includes what?

A. Only the highest coupon	B. Only a favourable closing ratio
C. Only a lending growth target	D. Expected return, resource needs, stress and monitoring triggers

Answer D. A decision-ready plan connects economics with capacity and follow-up. Volume, coupon or one ratio alone omits material costs, timing and adverse conditions, preventing management from assessing whether the strategy is sustainable.

D01 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 A bank's balance sheet records resources and claims at a particular date.	**15** Asset-liability management, or ALM, coordinates the institution's structure, resources and sensitivities in pursuit of sustainable objectives.
02 Use fictional Meridian Bank throughout this module.	**16** The board sets direction and appetite; senior management implements policy; an asset-liability committee commonly coordinates relevant decisions.
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04 For Meridian, assume INR100 crore cash and readily available balances, INR250 crore investments, INR600 crore loans and INR50 crore other assets.	**18** Net interest income is interest income less interest expense over a defined period.
05 Asset growth should be assessed against return after funding, operating costs, expected losses and resource use.	**19** NIM does not equal net profit.
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10 Assume Meridian has INR100 crore of undrawn commitments and uses an explicitly supplied 30% stressed drawdown assumption.	**24** An integrated balance-sheet view depends on complete, timely and reconciled records.
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13 Behavioural estimates address features such as deposit persistence, loan prepayment or optional withdrawal.	**27** A complete review considers solvency, liquidity, earnings, economic value and concentration.
14 For Meridian, fixed-rate loans funded by annually repricing deposits can create margin pressure when deposit costs rise.	**28** For Meridian, a fixed-rate portfolio can support current income while exposing long-term value to rising yields.

D02 Capital Adequacy and Basel Norms

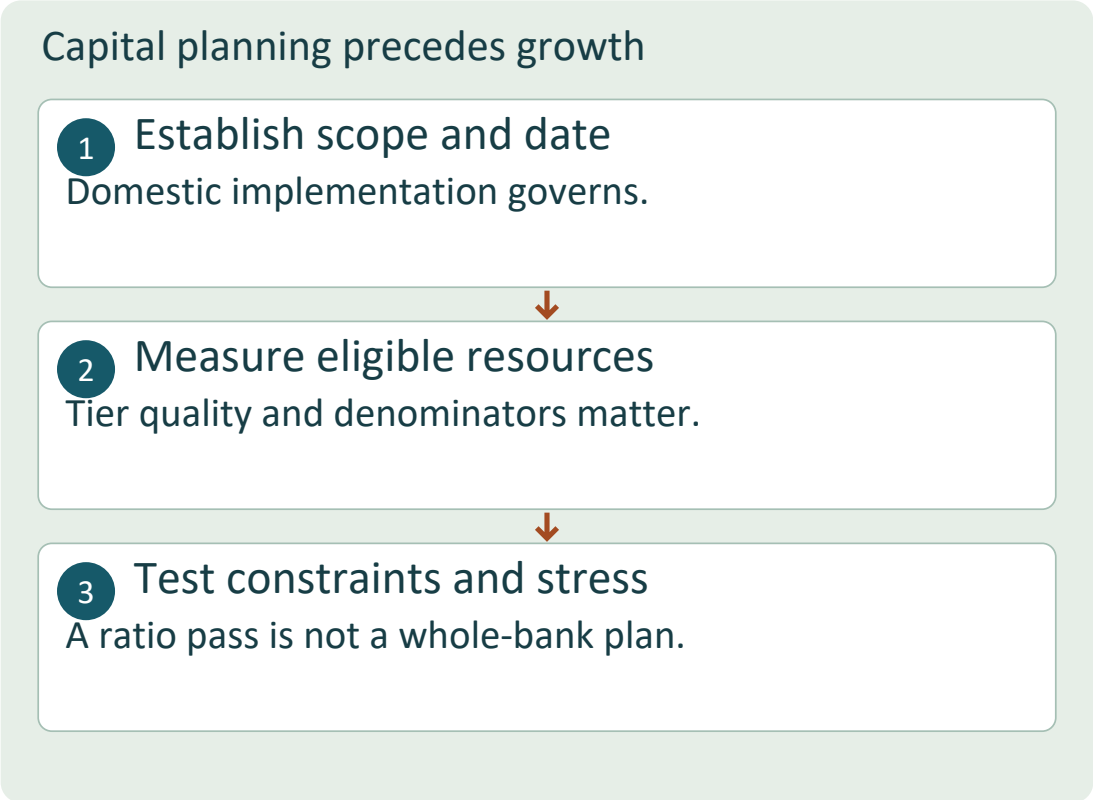
Practice / Quick Revision

Understand why capital is a constraint on growth

Capital supports a bank's ability to absorb losses and continue meeting obligations. It also influences how much risk the institution can take while pursuing its strategy. A loan-growth plan that looks profitable can be infeasible if eligible capital does not support the resulting exposures. Capital planning therefore belongs inside business planning, rather than being a ratio calculated only after transactions have been booked. The relevant question is how the bank's resources and requirements change together under ordinary and adverse conditions.

Use fictional Meridian Bank, which wants to expand lending while maintaining distributions to shareholders. Management expects retained profit to support the expansion, but credit losses and valuation changes could reduce that profit. The capital assessment should include starting eligible resources, new risk-weighted assets, planned earnings, deductions, distributions and stress. It should also identify the quality of capital required. A comfortable total amount does not automatically satisfy a separate Common Equity Tier 1 constraint or a leverage requirement.

This chapter covers scope, minimum requirements, supervisory review and market discipline, together with practical capital planning. It distinguishes international Basel standards from domestic implementation. The retrieved RBI commercial-bank consolidation displayed July 2026, while the official index showed a later October update. The numeric rule card is therefore explicitly tied to retrieved text, with later consolidation review recorded. The calculators use supplied requirements and do not classify a real bank, assign every legal weight or certify comprehensive current compliance.



Domestic implementation governs. Tier quality and denominators matter. A ratio pass is not a whole-bank plan.

Separate accounting equity, regulatory and economic capital

Accounting equity is the residual in the financial statements under the applicable accounting framework. Regulatory capital is the amount recognised after eligibility conditions and prescribed adjustments. Economic capital is an internal estimate of resources needed for unexpected loss under selected assumptions. The concepts can overlap but have different purposes. A balance-sheet equity total should not be copied directly into a regulatory numerator without checking eligibility and deductions. An internal model result should not be treated as the legal minimum merely because it is more detailed.

Common Equity Tier 1, Additional Tier 1 and Tier 2 have different loss-absorption characteristics and conditions. Names alone do not establish recognition: an instrument marketed as capital still needs to meet the governing criteria. Adjustments can reduce the recognised amount, and consolidation can affect the perimeter. In a teaching case, use supplied eligible amounts unless the question asks for specific adjustments. This keeps the arithmetic transparent while preserving the distinction between calculating a ratio and establishing the correct inputs.

Capital is also different from liquidity. Issuing eligible equity can bring cash initially, but deploying the proceeds changes cash availability without necessarily removing capital recognition. Borrowing cash can improve payment capacity while adding a liability rather than CET1. A remedy must address the problem identified. If Meridian lacks eligible common equity, a new short-term deposit does not automatically solve the shortage. If it lacks cash this afternoon, a long-term asset with positive value does not automatically settle the payment.

Establish the scope and implementation date

The Basel framework supplies international standards, while domestic authorities determine applicable implementation, scope and effective dates. Global minima and domestic requirements can differ without contradiction. Identify the institution category, consolidation level, transaction date and relevant rules before selecting percentages or approaches. Requirements for one category of commercial bank should not be assumed identical for every institution called a bank. A case answer should explicitly use the jurisdiction and assumptions supplied rather than mix figures from different frameworks.

The retrieved RBI capital text applies to its defined commercial-bank category and excludes Small Finance Banks, Payments Banks and Local Area Banks from that definition. Its basic ratios are CET1 5.5%, Tier 1 7% and total capital 9% of RWA, plus a 2.5% CET1 conservation buffer. Additional applicable requirements can alter the effective constraint. These are a compact dated reference card, not a claim that the same combination is the complete requirement for every institution and future date.

Publication is not necessarily commencement. The official index also identifies credit-risk instructions with an April 2027 effective date. A rule published in 2026 can matter for preparation without already replacing the operative approach in a November case. Record both dates and distinguish the examination's prescribed cutoff from current operational application. Where later consolidated text cannot be retrieved, preserve the specific gap and avoid presenting a general link as proof that every detailed prescription has been verified.

Build risk-weighted assets in stages

Risk-weighted assets translate exposures into a defined measure under the applicable methodology. In a simple credit illustration, INR200 crore at an assumed 50% risk weight produces INR100 crore RWA. Another INR100 crore at an assumed 100% weight adds INR100 crore. Combined credit RWA is INR200 crore. The weights are supplied teaching assumptions; actual treatment depends on classification, recognised protection and governing rules. The interest rate charged is not itself a regulatory risk weight.

Off-balance-sheet items may require conversion before weighting. An undrawn INR80 crore commitment with supplied 40% credit-conversion factor gives INR32 crore credit equivalent. At a supplied 75% weight, RWA is INR24 crore. Applying an assumed 9% capital rate then gives INR2.16 crore. Keep these stages separate:

conversion, risk weighting and capital application answer different questions. Applying the capital rate twice or treating the percentage as a monetary amount creates an incorrect result even if the final number looks plausible.

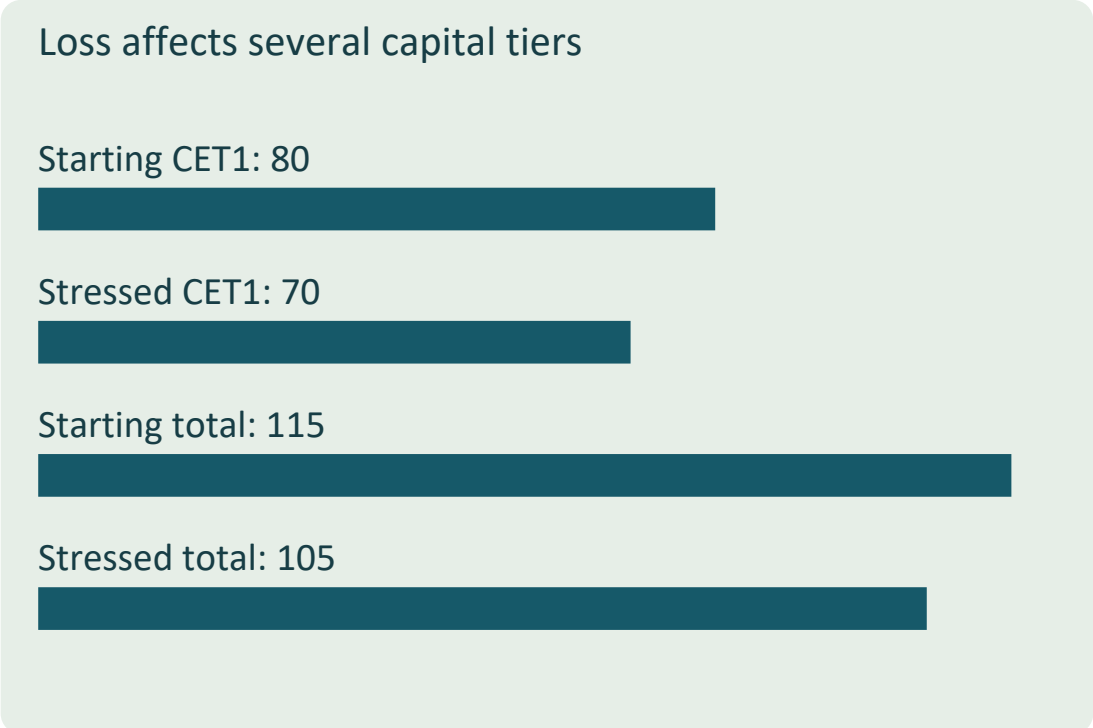
Total RWA can include credit, market and operational components according to prescribed methods. Where a framework converts a capital charge into notional RWA, use its stated factor. Do not replace a prescribed conversion with the reciprocal of a domestic minimum simply because that seems intuitive. A bank's internal stress measure may use another aggregation method altogether. Clear labels prevent the regulatory denominator, an economic-capital estimate and a trading limit from being treated as interchangeable representations of the same risk.

Calculate each capital ratio independently

Assume Meridian has eligible CET1 of INR80 crore, AT1 of INR15 crore and Tier 2 of INR20 crore against INR1,000 crore RWA. CET1 ratio is 8%, Tier 1 ratio is 9.5% and total capital ratio is 11.5%. Each numerator includes the relevant categories. A high total ratio does not automatically cure a shortage of the required higher-quality component. The bank should check the hierarchy rather than select whichever ratio provides the most reassuring result.

Now assume an INR10 crore loss reduces CET1, with other quantities unchanged for illustration. CET1 becomes INR70 crore, Tier 1 INR85 crore and total capital INR105 crore. Their ratios become 7%, 8.5% and 10.5%. The example isolates a numerator effect; real stress may also change RWA, deductions and other adjustments. A complete plan should model those effects consistently instead of assuming that a loss only affects profit while the capital calculation remains untouched.

Headroom is meaningful only against a clearly defined requirement. If an exercise supplies a total target of 12%, INR1,000 crore RWA requires INR120 crore and the starting INR115 crore total has an INR5 crore shortfall. That target can be a management assumption rather than the universal legal minimum. The calculator therefore asks for supplied thresholds and reports amounts, avoiding an unexplained green compliance badge. Users still need to establish which requirements apply and which capital quality must support them.



INR crore; loss 10 reduces CET1, with other categories held fixed. RWA changes need separate modelling. [('Starting CET1', 80), ('Stressed CET1', 70), ('Starting total', 115), ('Stressed total', 105)]

Understand buffers and leverage as complements

Buffers provide additional resilience above specified minima and can affect distributions when depleted. Conservation and countercyclical buffers have different purposes; institution-specific requirements can add another layer. A framework's maximum countercyclical buffer is not evidence that it is currently activated at that maximum. The applicable decision and exposure geography matter. Capital planning should use dated requirements and realistic distribution assumptions rather than assume that every amount above a basic minimum is freely available for dividends or unrestricted growth.

Leverage provides a complementary measure using Tier 1 capital against a defined exposure denominator rather than RWA. An institution with low risk weights can still have substantial total leverage. The retrieved domestic card specifies 4% for D-SIBs and 3.5% for other banks within scope. For supplied Tier 1 of INR95 crore and leverage exposure INR2,500 crore, the ratio is 3.8%. Which threshold applies depends on classification and date, not on which comparison makes the bank pass.

The leverage exposure measure is not automatically accounting total assets. Derivatives, securities financing and contingent items can require specific treatment. A risk-weighted ratio and leverage ratio can therefore give different signals without inconsistency. Reducing a risk weight while leaving exposure unchanged can improve one and not the other. Raising eligible Tier 1 can affect both, but the legal and economic characteristics of the funding matter. Tier 2 should not be inserted into a Tier 1 leverage numerator to create artificial headroom.

Link capital quality to distributions and stress

A capital plan should show retained earnings, planned distributions, new issuance, maturities, deductions and risk growth over a suitable horizon. Profit projections need challenge because the same adverse scenario can reduce earnings and increase required resources. A planned capital issue is not certain merely because management prefers it. Market access, investor demand, authority and timing can constrain execution. Show the position before actions and distinguish committed resources from possible measures whose success depends on favourable external conditions.

Assume starting eligible total capital INR115 crore, expected retained addition INR12 crore and an explicitly supplied loss stress of INR20 crore. Before other adjustments, projected capital is INR107 crore. If RWA grows from INR1,000 crore to INR1,100 crore, the simple projected ratio is approximately 9.7273%. Looking only at the expected retained addition would miss the combined loss and denominator effects. The model is deliberately simple, but it illustrates why growth, profit and stress must be assessed together.

Management can consider retaining more earnings, obtaining suitable capital, changing asset growth or reducing particular exposures. Each action has consequences. Selling assets may realise losses; issuing capital can be costly or dilute ownership; reducing lending affects customers and revenue. A good recommendation compares feasible alternatives and residual risks rather than treat a ratio target as a reason to choose any action that improves the number. The bank's objective is sustainable resilience and return, not a cosmetic reporting-date improvement.

Apply Pillar 2 through ICAAP

Pillar 1 establishes minimum calculations, but it cannot fully represent every institution-specific vulnerability. Pillar 2 links internal assessment and supervisory review. ICAAP should identify material risks, assess capital needs, connect business plans and resources, and examine stress. A document produced only for filing misses the management purpose. Its assumptions should influence actual growth, pricing, limits, distributions and contingency planning. The process should be proportionate to the bank's business while remaining credible and independently challenged.

Concentration, model uncertainty and other exposures can require attention beyond a simple standard formula. Meridian might have many loans whose borrowers depend on the same local industry, producing

correlated losses. A regulatory denominator that treats each exposure separately does not make the common driver disappear. Internal assessment should explain the vulnerability and response, supported by evidence and suitable scenarios. Do not simply add arbitrary capital percentages to appear conservative; the method and rationale should be understandable and reviewable.

Supervisory review examines the credibility of the bank's assessment and controls. Findings need accountable remediation, including root cause, owner, deadline and verification. Circulating a new policy is insufficient where the weakness was execution or unreliable data. Independent assurance should test that the correction operates. The board and management retain responsibility for sound decisions; supervision does not transfer ordinary business ownership to the regulator or guarantee that every approved transaction will succeed.

Use Pillar 3 to support informed assessment

Pillar 3 disclosure supports market discipline through relevant risk and capital information. It complements minimum rules and supervisory review rather than replacing either. Stakeholders need consistent definitions, scope and explanations of material changes. A ratio can improve because capital rose, exposures fell, a method changed or a data error was corrected. Disclosure should make important drivers understandable instead of presenting a percentage without context. Accuracy and comparability matter because users may make decisions based on the reported resilience.

Public information does not guarantee that every reader understands the risks correctly, and confidentiality can constrain detail under the governing framework. The bank should follow applicable disclosure requirements and maintain internal evidence supporting the published figures. Reconcile reported amounts to source systems and approved adjustments. A technically accurate table can still mislead if its perimeter or date differs from the accompanying narrative. The control process should review both numbers and explanation rather than treat disclosure as a formatting exercise.

For Meridian, explain how planned growth changes RWA and how retained earnings or distributions affect capital quality. If a transition arrangement changes reported ratios, distinguish the relevant treatment from an unadjusted view as required. Do not imply that a temporary measure permanently removes the underlying loss or resource need. Transparent explanation helps stakeholders evaluate the institution's position and creates discipline around the assumptions management uses to justify business expansion and distributions.

Avoid common capital-calculation traps

The most persuasive wrong answer often uses a correct figure in the wrong place. Accounting equity can be substituted for eligible capital, total assets for RWA, or total capital for Tier 1 in leverage. Write the numerator and denominator in words before inserting amounts. Check currency and unit consistency, and apply percentages once at the correct stage. A result with several decimal places is not more reliable if the definitions are wrong or the exposure has been counted twice.

Another trap is treating the required capital amount as cash that must sit unused. Capital is a loss-absorption and eligibility concept; liquidity concerns available payment resources. Conversely, a cash injection through borrowing does not automatically create CET1. Distinguishing these concepts helps select the correct remedy. In an examination case, calculate the requested measure using supplied assumptions. In a real assessment, establish eligibility, consolidation, deductions and applicable buffers before drawing a compliance conclusion from the arithmetic.

For revision, follow scope, eligible capital, exposure measurement, ratio calculation, requirements, stress and action. Explain the three pillars as a connected framework: baseline rules, institution-specific assessment and transparent disclosure. Preserve source and effective dates, especially where a future instruction has been published. The calculators below show tier ratios, supplied RWA, leverage, growth capacity and stressed capital. They teach the mechanism while keeping the legal classification and complete current-rule verification outside assumptions the tool cannot establish.

Decide how much growth is supportable

Suppose Meridian has INR115 crore eligible total capital and uses an assumed internal target of 12%. Holding capital constant, maximum RWA under that single target is approximately INR958.33 crore. If current RWA is INR900 crore, headroom is about INR58.33 crore. A new exposure with supplied 75% weight could use that headroom at a notional amount of approximately INR77.78 crore, before other constraints. This is not an automatic lending permission: higher-quality tiers, leverage, liquidity and concentration can bind earlier.

If management expects to retain earnings, test the timing and reliability of that addition before committing growth. Losses can arrive before the profit or issuance assumed to finance the expansion. Compare a base plan with adverse earnings and higher exposure requirements. Identify warning thresholds that allow action before a breach. A capital plan should provide options with credible execution time, rather than assume the bank can always raise common equity immediately after markets become concerned about its position.

The final recommendation should state the target, assumptions, supported growth and residual constraints. Assign monitoring responsibility and explain how material deviations will reach decision makers. After implementation, compare actual capital, RWA and earnings with the plan and investigate differences. This closes the capital-management cycle. Capital adequacy becomes a practical discipline when it shapes business choices before resources are exhausted, supported by correct arithmetic, credible stress and a clear distinction between dated rules and illustrative management targets.

Practice with explanations

01. Capital planning should enter business decisions when?

A. Only at annual report formatting	B. Only when cash is already exhausted
C. Only after every trade is booked	D. Before committing growth and distributions

Answer D. Advance planning tests whether resources support proposed exposures. Waiting until commitments or distress removes preventive options; financial presentation alone cannot establish eligible capital, credible issuance or the capacity to absorb adverse outcomes.

02. Accounting equity can be copied into regulatory capital automatically?

A. Only when the total ratio improves	B. No, eligibility and adjustments require assessment
C. Yes, if cash is high	D. Yes, for every bank

Answer B. Accounting and regulatory concepts differ. Cash and favourable ratios do not establish eligibility; prescribed deductions and capital quality must be applied rather than selecting a numerator that makes the result reassuring.

03. Economic capital is what?

A. Always the legal minimum	B. An internal unexpected-loss estimate under stated assumptions
C. Every deposit balance	D. The same as branch vault cash

Answer B. Economic capital uses internal horizon, confidence and modelling assumptions. Regulatory requirements and liquidity resources have different definitions, so neither deposits nor physical cash automatically equals the modelled loss-absorption estimate.

04. Which distinction must precede applying Basel percentages?

A. Only the preferred dealer	B. Whether the smallest percentage is available
C. Only the report font	D. International standard versus domestic scope and date

Answer D. Domestic implementation determines applicability and can differ from global minima. Presentation, personal preference and choosing a favourable figure do not establish the governing requirement for the institution and transaction date.

05. The retrieved basic domestic card lists minimum total capital at what, excluding added buffers?

A. 9% of RWA	B. 8% universally for India
C. 2.5% of deposits	D. 5.5% total capital

Answer A. The dated retrieved card uses nine percent total capital. Other figures relate to global history, conservation or CET1 rather than that total. Additional applicable requirements and later versions still require separate checking.

06. CET1 80, AT1 15 and Tier 2 20 crore give eligible Tier 1 of?

A. INR35 crore	B. INR95 crore
C. INR80 crore	D. INR115 crore

Answer B. Tier 1 combines CET1 and AT1, giving ninety-five. Total capital includes Tier 2, eighty omits AT1, and thirty-five combines the wrong categories rather than the higher-quality numerator requested.

07. Against RWA 1,000 crore, that CET1 ratio is?

A. 11.5%	B. 8%
C. 9.5%	D. 80%

Answer B. CET1 alone is eighty divided by one thousand, or eight percent. The higher ratios use Tier 1 or total capital, while eighty percent mis-scales the denominator and would overstate resilience.

08. The corresponding total capital ratio is?

A. 9.5%	B. 8%
C. 11.5%	D. 1.15%

Answer C. Total eligible capital is 115 crore, divided by 1,000 RWA. Tier 1 and CET1 use narrower numerators, while 1.15% introduces a decimal error rather than applying the defined total-capital measure.

09. Can surplus Tier 2 automatically cure a CET1 shortage?

A. Yes, all capital is identical	B. Only if the report is consolidated
C. Yes, if a committee prefers	D. No, quality constraints are separate

Answer D. Different tiers have different eligibility and loss absorption. A total surplus or governance preference cannot automatically replace required common equity, and consolidation does not abolish the applicable hierarchy of capital constraints.

10. Exposure 200 crore at supplied 50% weight gives what RWA?

A. INR400 crore	B. INR100 crore
C. INR50 crore	D. INR200 crore

Answer B. Multiply exposure by the weight once. Keeping the exposure ignores weighting, fifty confuses rate and amount, and division by the weight reverses the method. Actual legal classification is separate from this supplied arithmetic.

11. Undrawn 80 crore at supplied 40% CCF and 75% weight gives what RWA?

A. INR24 crore	B. INR60 crore
C. INR32 crore	D. INR80 crore

Answer A. Conversion gives thirty-two, then weighting gives twenty-four. The alternatives skip one or both stages. A capital percentage is applied after RWA is established, not substituted for either conversion or weighting.

12. RWA 24 crore at supplied capital rate 9% implies what amount?

A. INR24 crore	B. INR9 crore
C. INR0.216 crore	D. INR2.16 crore

Answer D. Apply 0.09 to twenty-four, producing 2.16. RWA itself is not capital, the smaller answer mis-scales it, and the percentage input cannot be treated directly as a monetary requirement.

13. Why not replace a prescribed RWA conversion with reciprocal 9%?

A. RWA and capital are identical	B. No source is needed for conversions
C. Any reciprocal is valid	D. The conversion and final minimum are separately defined steps

Answer D. A rule-defined conversion is not automatically derived from the domestic total minimum. Substitution changes the methodology without authority, and confusing RWA with capital can distort both the denominator and resulting requirement.

14. A loss of 10 crore reducing CET1 from 80 leaves total capital of what, other tiers unchanged?

A. INR70 crore	B. INR95 crore
C. INR115 crore	D. INR105 crore

Answer D. CET1 becomes seventy, so total is seventy plus fifteen plus twenty, or 105. Seventy is CET1 alone; unchanged total ignores loss, and ninety-five omits or misallocates a component.

15. A supplied 12% total target on 1,000 crore RWA requires what?

A. INR1,120 crore	B. INR120 crore
C. INR12 crore	D. INR115 crore

Answer B. Target amount is 1,000×0.12=120. One hundred fifteen is the example's available capital, twelve mis-scales the rate, and adding RWA to the requirement confuses exposure with capital resources.

16. With 115 crore available against that target, headroom is?

A. Plus INR5 crore	B. INR235 crore
C. INR120 crore	D. Minus INR5 crore

Answer D. Available minus required is 115-120=-5, a shortfall. Reversing the sign, reporting the target alone or adding resources and requirement does not measure the surplus available under the stated constraint.

17. The leverage numerator in the chapter's framework is what?

A. Expected annual profit	B. Tier 1 capital
C. Deposits	D. Total capital including Tier 2

Answer B. Leverage uses Tier 1 against its defined exposure measure. Tier 2, deposits and forecast income do not replace that numerator; eligibility and denominator adjustments still need the relevant governing methodology.

18. Tier 1 95 crore and leverage exposure 2,500 crore give what ratio?

A. 26.3158%	B. 9.5%
C. 38%	D. 3.8%

Answer D. Divide ninety-five by 2,500 and multiply by one hundred. Other answers mis-scale or use another denominator; applicability of a threshold remains a separate institution and date question after the ratio is calculated.

19. A lower risk weight with unchanged leverage exposure can do what?

A. Remove all borrowing obligations	B. Improve RWA ratio without improving leverage
C. Create CET1 cash	D. Automatically improve every measure

Answer B. The denominators measure different things. A weight change can reduce RWA while total leverage exposure remains, and it does not itself issue capital, deliver cash or discharge contractual liabilities.

20. A maximum countercyclical-buffer range proves what about today's activation?

A. Nothing without the dated applicable decision	B. The maximum always applies
C. The buffer never applies	D. Conservation requirements disappear

Answer A. Framework range and activated requirement differ. Decisions, dates and geography matter; neither permanent maximum nor permanent absence follows, and conservation is a distinct concept rather than cancelled by the countercyclical framework.

21. Starting 115 plus retained addition 12 minus stress loss 20 crore leaves what?

A. INR107 crore	B. INR147 crore
C. INR95 crore	D. INR127 crore

Answer A. The supplied projection is 115+12-20=107. One hundred twenty-seven omits loss, ninety-five omits retained addition, and 147 adds an adverse amount rather than recognising its reduction in resources.

22. That 107 crore against projected RWA 1,100 gives approximately what?

A. 11.5%	B. 9.7273%
C. 10.7%	D. 97.273%

Answer B. Use the projected numerator and denominator together: 107/1,100×100. Using old RWA or old capital mixes scenarios, while the largest answer mis-scales the ratio by a factor of ten.

23. How should a bank use severe stress-test losses in its internal capital assessment?

A. Assess how losses change its capital needs and document the response	B. Replace its capital assessment with the latest peer average
C. Use current profits as the sole measure of future capital needs	D. Exclude the scenario because it is unlikely

Answer A. Stress scenarios inform the bank's forward-looking capital needs and the actions it would take under adverse conditions.

24. Pillar 3 primarily supports what?

A. Automatic prevention of losses	B. Replacement of supervision
C. Unlimited dividends	D. Market discipline through relevant disclosure

Answer D. Disclosure helps stakeholders assess risk and capital. It neither guarantees safety nor replaces review or distribution rules, so its usefulness depends on accurate definitions, scope, reconciliation and explanation alongside the other pillars.

25. Capital 115 crore at supplied target 12% supports maximum RWA of approximately what, ignoring other constraints?

A. INR13.8 crore	B. INR1,380 crore
C. INR115 crore	D. INR958.33 crore

Answer D. Divide capital by the decimal target: 115/0.12=958.33. Multiplication gives a different amount, and capital alone is not exposure capacity. Higher-quality tiers, leverage and liquidity can constrain growth earlier.

D02 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 Capital supports a bank's ability to absorb losses and continue meeting obligations.	**15** Buffers provide additional resilience above specified minima and can affect distributions when depleted.
02 Use fictional Meridian Bank, which wants to expand lending while maintaining distributions to shareholders.	**16** Leverage provides a complementary measure using Tier 1 capital against a defined exposure denominator rather than RWA.
03 This chapter covers scope, minimum requirements, supervisory review and market discipline, together with practical capital planning.	**17** The leverage exposure measure is not automatically accounting total assets.
04 Accounting equity is the residual in the financial statements under the applicable accounting framework.	**18** A capital plan should show retained earnings, planned distributions, new issuance, maturities, deductions and risk growth over a suitable horizon.
05 Common Equity Tier 1, Additional Tier 1 and Tier 2 have different loss-absorption characteristics and conditions.	**19** Assume starting eligible total capital INR115 crore, expected retained addition INR12 crore and an explicitly supplied loss stress of INR20 crore.
06 Capital is also different from liquidity.	**20** Management can consider retaining more earnings, obtaining suitable capital, changing asset growth or reducing particular exposures.
07 The Basel framework supplies international standards, while domestic authorities determine applicable implementation, scope and effective dates.	**21** Pillar 1 establishes minimum calculations, but it cannot fully represent every institution-specific vulnerability.
08 Publication is not necessarily commencement.	**22** Concentration, model uncertainty and other exposures can require attention beyond a simple standard formula.
09 Risk-weighted assets translate exposures into a defined measure under the applicable methodology.	**23** Supervisory review examines the credibility of the bank's assessment and controls.
10 Off-balance-sheet items may require conversion before weighting.	**24** Pillar 3 disclosure supports market discipline through relevant risk and capital information.
11 Total RWA can include credit, market and operational components according to prescribed methods.	**25** Public information does not guarantee that every reader understands the risks correctly, and confidentiality can constrain detail under the governing framework.
12 Assume Meridian has eligible CET1 of INR80 crore, AT1 of INR15 crore and Tier 2 of INR20 crore against INR1,000 crore RWA.	**26** For Meridian, explain how planned growth changes RWA and how retained earnings or distributions affect capital quality.
13 Now assume an INR10 crore loss reduces CET1, with other quantities unchanged for illustration.	**27** The most persuasive wrong answer often uses a correct figure in the wrong place.
14 Headroom is meaningful only against a clearly defined requirement.	**28** Another trap is treating the required capital amount as cash that must sit unused.

D03 Asset Classification and Provisioning Norms

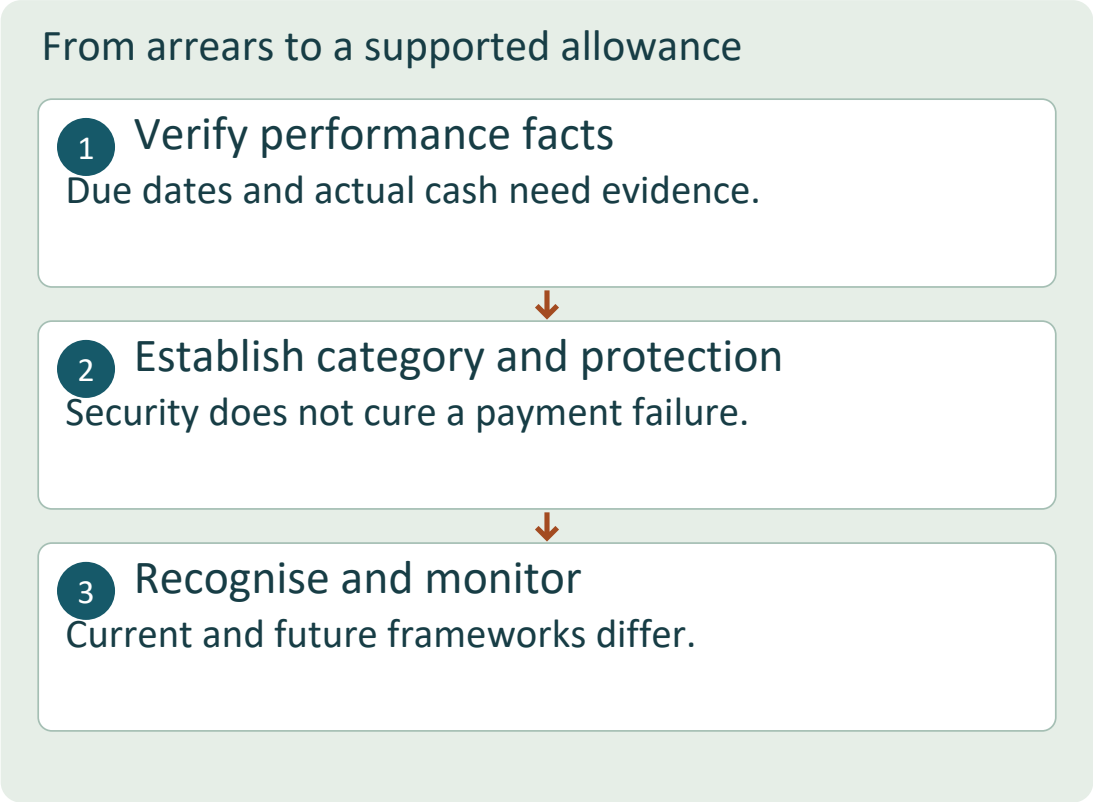
Practice / Quick Revision

Separate the borrower's promise from realised performance

A loan creates contractual receipts, but accounting and risk management must respond when those receipts become uncertain or overdue. Asset classification identifies the condition of the exposure under the applicable framework. Provisioning recognises a defined allowance or charge for potential loss. Income recognition determines when revenue may be reported. These are connected decisions with different purposes. A loan can have valuable collateral while failing a repayment test; expected recovery does not automatically mean that all contractual interest can continue to be treated as earned cash.

Use fictional Aster Components, a Meridian Bank borrower whose customers delay payment. The account has a term loan and a working-capital facility. Management believes the business will recover, but instalments are overdue and account credits weaken. The bank needs reliable dates, amounts, conduct and current evidence rather than an optimistic verbal assurance. It should distinguish supportable rehabilitation from postponing recognition merely to protect a reported profit or asset-quality ratio. Accurate recognition makes the problem visible while there is still time to act.

This chapter explains classification, income and provisioning through original cases. It distinguishes the retrieved existing RBI framework from the 2026 ECL direction's April 2027 transition. Retrieved older consolidations and later index dates are recorded separately. The numeric tools accept established categories and supplied rates; they do not classify a real borrower from a few inputs or implement every exception. Correct arithmetic is useful only after the relevant rule, date, facility facts and scope have been established.



Due dates and actual cash need evidence. Security does not cure a payment failure. Current and future frameworks differ.

Establish overdue information accurately

An overdue amount is linked to an obligation not paid when due under the relevant terms and rules. The bank needs a dependable repayment schedule, payment allocation and day-end process. A wrong due date can move a case across a classification boundary. Partial payments, holidays, amendments and authorised restructuring need controlled treatment rather than informal assumptions. Systems should preserve the original record and authorised changes so that another reviewer can reconstruct why a particular status was assigned on a particular date.

For a simple elapsed-days exercise, assume a payment due at the end of 1 June remains unpaid at the end of 2 June. The arithmetic interval is one elapsed calendar day. A classification question still requires the applicable rule's boundary and processing convention. The chapter's date tool reports elapsed days and a user-supplied threshold comparison; it does not declare that every product follows the same delinquency trigger. This is especially important where a rule uses “more than” a period rather than “at least” that period.

Early warning and formal classification also differ. A deteriorating borrower can deserve intervention before a formal non-performing trigger. Conversely, a reporting category should not be invented solely from a manager's concern where the framework requires specific facts. Record both the formal status and the risk assessment. This allows monitoring, customer engagement and escalation to begin promptly without confusing an internal warning with a legal or regulatory classification. Evidence should support each decision independently.

Understand the retrieved classification framework

The compact dated rule card from the retrieved commercial-bank text distinguishes term-loan overdue tests, overdraft or cash-credit conduct and eligible agricultural crop-season tests. The ordinary term-loan trigger includes principal or interest overdue for more than ninety days; CC/OD uses its defined out-of-order conditions. Substandard generally covers the initial non-performing period up to twelve months, followed by doubtful treatment, while identified loss can require direct loss classification. These are summaries with product-specific conditions and exceptions, not a universal clock for every exposure.

For Aster's term loan, knowing that an instalment is late is not enough to calculate a provision immediately. Establish the relevant due dates, unpaid amounts, borrower-level implications, category and special conditions. For the working-capital facility, examine sanctioned limit, drawing power, credits and interest coverage under the actual conduct test. A balance temporarily within the limit does not necessarily demonstrate healthy operation. The bank should not replace a conduct-based assessment with a snapshot selected because it looks favourable near the reporting date.

Collateral and expected recovery influence loss assessment, but they do not automatically prevent non-performing classification. A manager may reasonably expect recovery after selling property, yet the borrower can still fail the repayment or conduct requirements. Separate the reason for status from the estimate of recoverable value. This avoids a common mistake: treating good security as proof that the borrower is paying on time. A complete credit file should document both the performance evidence and the protection available if performance fails.

Distinguish categories from management actions

A standard exposure is not a guarantee of no future loss. It describes status under the applicable framework at the assessment date. Substandard and doubtful categories reflect increasing credit weakness and duration or recoverability concerns, while a loss asset may still have some salvage value. The labels are not instructions to abandon collection. The bank should continue appropriate recovery and customer-management action while recognising the exposure accurately. Classification and recovery strategy inform each other but do not need to use identical descriptive language.

A restructuring changes terms under an authorised process; it is not automatically proof that the asset should become standard. Upgradation depends on the applicable conditions and evidence of performance. A small payment shortly before year-end should be investigated where it appears designed only to improve reported status. Establish the source and sustainability of repayment and whether all relevant arrears or conditions have been satisfied. Cosmetic regularisation can conceal a continuing weakness and lead to renewed stress soon after the reporting date.

Borrower and facility aggregation needs care. Several accounts can depend on the same repayment capacity, and applicable rules can require treatment across facilities rather than isolated selection of the best-looking account. Connected information should be available to reviewers. At the same time, specialised exceptions or separate rules should not be ignored. The correct process is to establish the governing requirement and relevant relationships, rather than apply a simplistic rule that every account is always independent or every connected exposure is automatically identical.

Calculate provisions using established inputs

The retrieved dated provision card includes general substandard treatment of 15%, with specified unsecured treatment reaching 25%; special categories can differ. For doubtful assets, uncovered exposure attracts 100%, while the covered portion has rates linked to doubtful duration: 25%, 40% or 100% in the stated bands. Loss assets remaining in the books require full provision. This compact summary omits special and additional requirements. The calculator therefore requires the user to establish the category, recognised protection and applicable rate rather than infer them from a collateral label.

For a supplied substandard balance of INR10 crore at an assumed applicable 15%, the provision is INR1.5 crore. At an explicitly supplied 25% treatment, it is INR2.5 crore. The difference is INR1 crore. This comparison teaches the arithmetic and the significance of correct classification; it does not establish which rate applies merely from the word unsecured in an informal description. Definitions, guarantees, special treatment and later amendments need to be considered before applying a real percentage.

For a doubtful illustration, exposure is INR10 crore and established realisable security is INR6 crore. The uncovered amount is INR4 crore. At a supplied 25% covered-portion rate, provision is four plus 25% of six, or INR5.5 crore. At 40%, it becomes INR6.4 crore. Applying the covered rate to the whole exposure understates the supplied uncovered requirement. Using the original collateral valuation instead of a realistic recoverable amount can also materially distort the result.

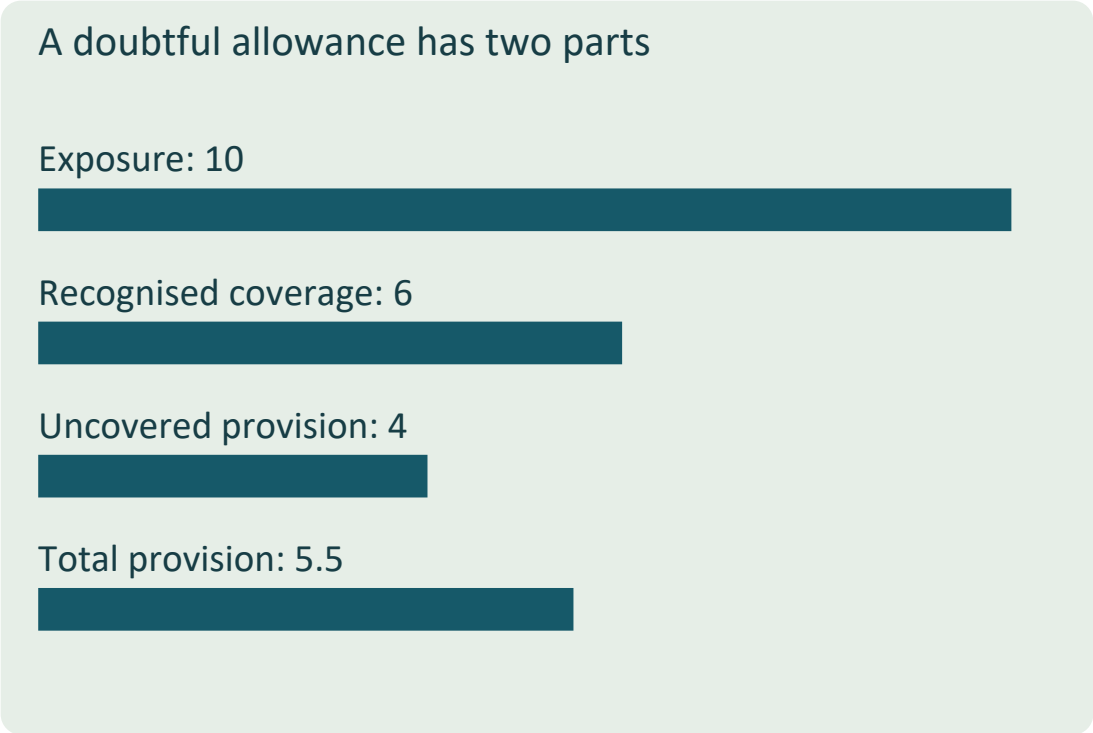
Treat security valuation and recognition carefully

Security value should be assessed realistically, with attention to legal rights, priority, market conditions, enforcement time and costs. A historic purchase price or a borrower's estimate is not necessarily an appropriate recovery amount. The bank needs evidence that its recourse is valid and that the asset can actually be realised. A property can appear valuable while disputes, senior claims or a thin market reduce useful recovery. The provision model should use the established relevant value rather than whichever number produces the smallest charge.

Suppose the recognised security amount in the doubtful example falls from INR6 crore to INR4 crore, with exposure and supplied covered rate unchanged at INR10 crore and 25%. Uncovered exposure rises to INR6 crore and the covered provision is INR1 crore, giving total INR7 crore. The increase from INR5.5 crore is INR1.5 crore. Security deterioration can therefore affect the loss allowance even when the loan balance is unchanged. The example isolates valuation; actual rules and additional provisions still need separate review.

Protection can be correlated with the borrower. A factory's property or inventory may lose value during the same downturn that weakens its cash generation. A guarantee provider may depend on the same business group. Stress testing should challenge recoveries rather than assume they remain unchanged as defaults increase. The purpose is not to declare every security unreliable, but to identify the conditions under which

protection becomes less effective and ensure that valuation, concentration and collection plans reflect those dependencies.



INR crore; 100% of uncovered 4 plus supplied 25% of covered 6 = 5.5. No category or recourse determination. [('Exposure', 10), ('Recognised coverage', 6), ('Uncovered provision', 4), ('Total provision', 5.5)]

Connect income recognition and cash recovery

Contractual interest due, cash received and recognised income are different quantities. When an exposure deteriorates, the applicable framework can restrict accrual or require reversal of previously recognised amounts. The bank should follow the relevant treatment and maintain a clear record of uncollected interest. It should not treat a debit to the loan account as equivalent to a customer cash receipt. Internal entries can increase the balance while leaving the economic collection problem unchanged.

For a teaching example, a loan carries INR0.30 crore of accrued but unpaid interest whose recognition must be reversed under the supplied treatment. If reported pre-adjustment profit is INR4 crore, that reversal reduces it to INR3.70 crore before provision and tax effects. A new provision charge of INR1.50 crore then reduces it to INR2.20 crore under this simplified sequence. The example does not prescribe every accounting entry; it shows why income and provision adjustments need to be distinguished and reconciled without double counting.

Recovery allocation must follow the applicable policy and rules. A cash collection may relate to principal, interest or other amounts, and a later recovery does not automatically erase the history of earlier deterioration. Maintain traceable records and avoid recognising the same receipt twice through both reversal and recovery entries. The bank should also distinguish a genuine external payment from funding extended elsewhere simply to create an appearance of collection. Reliable cash evidence supports both accounting and an honest assessment of borrower performance.

Explain ECL as a forward-looking concept

Expected credit loss estimates discounted shortfalls across possible outcomes under a defined framework. A basic PD times LGD times EAD illustration helps explain drivers, but a complete ECL method can require term structures, scenarios, discounting and other conditions. A twelve-month expected-loss concept should not be confused with counting only cash shortfalls received in the next twelve months. The horizon refers to the relevant default-event assessment under the framework, while resulting losses can extend beyond that period. Definitions must be read carefully before modelling.

The retrieved RBI 2026 direction establishes a transition from 1 April 2027 and distinguishes initial twelve-month and lifetime expected-loss assessment following significant credit deterioration, with credit-impaired treatment and further conditions. It was issued in April 2026, so describing it only as an unissued draft would be inaccurate. Equally, importing its future transition into a November 2026 exercise without qualification would mix dates. The source register records the applicable evidence and separates the new framework from the retrieved existing provision examples.

For a single-horizon teaching case, EAD INR100 crore, PD 2% and LGD 40% give INR0.8 crore expected loss before discounting. A stressed scenario with PD 5% and unchanged other inputs gives INR2 crore. If probabilities are 70% base and 30% stress, the weighted result is INR1.16 crore. This simplified scenario exercise is not a complete accounting provision engine. It illustrates why a forward-looking estimate can change before a borrower crosses an overdue classification threshold.

Govern models and judgement

ECL and other loss estimates require reliable data, controlled assumptions and independent challenge. Model risk can arise from unsuitable definitions, weak data, implementation errors or use outside the intended scope. A formula reproduced correctly in software can still be inappropriate for the portfolio. Validation should examine conceptual soundness, calibration, ranking where relevant and performance across conditions. Management overlays need evidence and governance rather than becoming an unexplained adjustment used to reach a preferred profit result.

Scenario weights should reflect a defensible assessment and remain traceable. An adverse scenario cannot be given negligible weight simply because its provision effect is inconvenient. Conversely, arbitrary pessimism without a coherent method can impair comparability. Document macroeconomic links, limitations and sensitivities. Where data are sparse, explain the role of judgement rather than disguise uncertainty with many decimal places. The bank needs a method that can be understood, challenged and updated when evidence changes, not only a number that satisfies a reporting deadline.

Transition planning also involves systems, staff, accounting and capital. A new framework can change recognised allowances and resource measures, so business plans should examine the impact and relevant transitional treatment. The fact that a direction has a future commencement does not justify waiting until the last day to prepare. At the same time, preparation should not silently replace the currently applicable process before its operative date. Parallel analysis and clear version labels help avoid mixing methods in reports and teaching cases.

Maintain an auditable classification process

Automation can improve consistency, but input and rule changes need control. Due dates, payment allocation, borrower links, security values and category history should reconcile to source records. A manual override needs authority, rationale and expiry or review. The system should retain who changed what and when. A favourable status change near year-end deserves the same scrutiny as a deterioration, especially if the evidence is incomplete or the payment source is unusual. Controls should address incentives as well as arithmetic.

Independent review should test both formal classification and the operational process. Repeated missing security valuations may indicate a systemic weakness rather than several isolated file errors. Correct the immediate cases and the cause, with accountable action and verification. A new circular is not evidence that staff now perform the required review. Management information should show overdue reviews, exceptions, category movements, provisions, recoveries and important concentrations so that the bank can act before the next reporting date.

For revision, separate overdue facts, category, protection, provision, income and recovery. Establish the applicable date and product conditions before calculating. Use the uncovered and covered components correctly, preserve realistic security values and distinguish a basic expected-loss model from complete ECL. The tools below illustrate elapsed days, supplied-rate provisions, doubtful splits, income adjustment and scenario-weighted loss. They make assumptions visible while leaving real classification and complete legal treatment to verified facts and the operative framework.

Review Aster's deterioration and response

Meridian should first reconstruct Aster's cash position, repayment schedule and account conduct. Verify overdue amounts, actual collections, borrower links and security recourse. Identify the applicable category and income treatment without allowing an optimistic turnaround forecast to override established requirements. Then estimate the relevant allowance using current evidence. A clear assessment helps management distinguish a viable recovery strategy from a plan that merely delays recognition while exposure and uncertainty increase.

Next consider responses with realistic cash and legal consequences. Additional security may improve recovery but not operating viability. Restructuring can change timing but needs authorised treatment and monitoring. A sale or recovery action can reduce exposure while crystallising loss or taking time. Compare alternatives on consistent assumptions and avoid treating the smallest immediate provision as the best economic outcome. The bank's objective is sustainable resolution and accurate reporting, rather than a temporary improvement in one ratio.

Finally, monitor the plan and preserve its evidence. Track cash generation, promised actions, actual payments and valuation changes. Escalate deviations and reassess when facts change. Communicate relevant effects to capital, liquidity and profit planning because credit deterioration can affect all three. This whole-bank link is why classification and provisioning belong in Module D: they are not merely labels on a credit file, but decisions that shape the institution's reported resources, capacity for growth and ability to withstand adverse conditions.

Practice with explanations

01. Asset classification, provisioning and income recognition are what?

A. Always independent of borrower performance	B. Three identical labels
C. Connected decisions with different purposes	D. Only cash-collection procedures

Answer C. Classification describes condition, provisioning addresses allowance and income recognition addresses revenue treatment. They interact with performance but are not identical or limited to collection actions, so each requires its own evidence and method.

02. A valuable collateral asset automatically prevents NPA status?

A. No, repayment and conduct tests remain relevant	B. Only if the collateral has photographs
C. Yes, if management expects recovery	D. Yes, regardless of arrears

Answer A. Security can affect recovery without curing a performance failure. Expectations and documentation images do not replace the applicable trigger; distinguish the reason for classification from the estimate of recoverable value.

03. Why verify original and amended due dates?

A. Every amendment erases history	B. A verbal promise always changes the schedule
C. Dates affect only formatting	D. Wrong dates can move an account across a boundary

Answer D. Classification relies on accurate obligations and authorised changes. History should be preserved; neither formatting nor informal assurance establishes the contractual date or justifies altering recorded delinquency to obtain a favourable status.

04. An internal early warning necessarily equals formal NPA classification?

A. Only a collateral decline can create warning	B. Yes, every alert is an NPA
C. No alert is useful before default	D. No, concern can precede the rule-defined trigger

Answer D. Risk assessment and formal categories serve different purposes. Early intervention can be valuable before the trigger, while not every signal satisfies the legal test. Evidence should support both the warning and formal status separately.

05. The retrieved ordinary term-loan rule card uses which general overdue boundary?

A. Exactly one late day universally	B. Only the loan's original maturity
C. Every agricultural facility uses 90 days identically	D. More than 90 days, subject to applicable conditions

Answer D. The dated summary distinguishes products and uses more than ninety days for the ordinary term-loan test. One-day lateness, universal crop treatment or final maturity alone does not describe that specified trigger.

06. Why not apply the same simple overdue clock to every facility?

A. A high coupon cancels classification	B. All products have no rules
C. Only the borrower's opinion matters	D. CC/OD conduct and eligible crop-season tests differ

Answer D. Product-specific conditions determine treatment. Different conduct or crop tests do not remove rules, and neither borrower opinion nor pricing can substitute for the verified framework and facts relevant to the facility.

07. A small payment near reporting date should prompt what if sustainability is unclear?

A. No review if the balance falls slightly	B. Investigation of source, arrears and applicable upgrade conditions
C. Deletion of prior overdue history	D. Automatic standard status

Answer B. A cosmetic reduction may leave the underlying weakness. Evidence and governing conditions determine upgrade; automatic treatment or erased history can misstate performance, while a slight balance change alone does not establish full regularisation.

08. Classification as loss means recovery effort is always pointless?

A. Yes, every claim disappears	B. Only the borrower can decide
C. Yes, security becomes legally void	D. No, salvage can remain despite the accounting category

Answer D. The category addresses collectability and reporting, not automatic cancellation of all rights. Some salvage may remain, so appropriate collection continues while recognition follows the framework rather than an assumption of guaranteed zero recovery.

09. Balance 10 crore at supplied 15% provision requires what?

A. INR0.15 crore	B. INR15 crore
C. INR1.5 crore	D. INR8.5 crore

Answer C. Multiply exposure by 0.15. Eight point five is the remainder after provision, while other answers mis-scale the percentage. The supplied exercise does not itself determine whether fifteen percent legally applies to the account.

10. The same balance at supplied 25% requires what?

A. INR2.5 crore	B. INR1.5 crore
C. INR0.25 crore	D. INR7.5 crore

Answer A. Ten times one-quarter gives 2.5. One point five uses another rate, seven point five is the remaining balance and 0.25 confuses the decimal rate with the monetary allowance.

11. Doubtful exposure 10, recognised security 6 crore gives uncovered amount of?

A. INR10 crore	B. INR16 crore
C. INR6 crore	D. INR4 crore

Answer D. Exposure less recognised coverage gives four. Security itself is not uncovered exposure, full balance ignores protection and addition double counts the relationship. Valid recourse and realistic value must be established before using the amount.

12. At supplied 100% uncovered and 25% covered rates, provision for that case is?

A. INR1.5 crore	B. INR2.5 crore
C. INR5.5 crore	D. INR4 crore

Answer C. Uncovered four plus 25% of covered six gives 5.5. Applying the lower rate to everything or omitting a component understates the stated method; the split must precede multiplication.

13. Using 40% instead on the covered portion produces what?

A. INR4 crore	B. INR2.4 crore
C. INR6.4 crore	D. INR10 crore

Answer C. The calculation is four uncovered plus 0.40×6=2.4, totalling 6.4. Other choices omit a component or assume full provision without the supplied category treatment. All values use the same monetary unit.

14. Recognised security falls to 4 crore with exposure 10 and covered rate 25%. Total provision becomes?

A. INR5.5 crore	B. INR1 crore
C. INR7 crore	D. INR2.5 crore

Answer C. Uncovered amount becomes six and covered allowance one, giving seven. The old value ignores deterioration, while applying one rate to the whole or reporting only the covered component omits required exposure.

15. Which security value is most appropriate for the exercise input?

A. Always original purchase price	B. Only the borrower's verbal estimate
C. Established realistic recoverable value with valid recourse	D. Whichever value minimises provision

Answer C. Recovery depends on enforceability, priority and market evidence. Historical or convenient values can mislead; a verbal estimate alone does not establish the amount available to cover the bank's claim under the applicable treatment.

16. Why stress collateral alongside defaults?

A. Both can deteriorate under the same economic driver	B. More defaults guarantee higher recoveries
C. Security eliminates concentration	D. Collateral values always stay fixed

Answer A. Borrower weakness and asset-price declines can be linked. Assuming fixed or improving recovery during common stress can understate losses, and collateral in the same sector may increase rather than remove common-driver dependence.

17. Debiting unpaid interest to the loan account proves what cash collection?

A. An external recovery	B. Full customer receipt
C. None automatically	D. A guaranteed increase in equity

Answer C. An accounting debit can increase a claim without bringing cash. Recognition and collection are distinct; internal entries do not establish an external payment or necessarily improve the bank's resources and borrower performance.

18. Profit 4 crore less required interest reversal 0.30 and new provision 1.50 gives what in the simplified case?

A. INR2.50 crore	B. INR5.80 crore
C. INR3.70 crore	D. INR2.20 crore

Answer D. Subtract both distinct adjustments once: 4-0.30-1.50=2.20. The alternatives omit a charge or add adverse adjustments. Actual entries require the governing accounting treatment and avoidance of double counting.

19. A later recovery automatically erases earlier deterioration records?

A. Yes, if any amount arrives	B. No, history and allocation remain traceable
C. Only if management wants a higher ratio	D. Yes, delete all old status

Answer B. Recovery changes current facts but not what previously happened. Traceable allocation and upgrade conditions matter; deleting history or treating any receipt as full cure can conceal continuing arrears and misstate reporting.

20. The retrieved 2026 ECL direction commences when?

A. Never because it remains only an unissued draft	B. Immediately in November 2026 by assumption
C. Only when every bank chooses	D. 1 April 2027

Answer D. The retrieved final direction states the April 2027 transition and continuing prior governance until commencement. Publication and effective date differ; voluntary timing or describing the issued text as unissued would misrepresent its status.

21. EAD 100 crore, PD 2% and LGD 40% imply simple expected loss of?

A. INR2 crore	B. INR8 crore
C. INR40 crore	D. INR0.8 crore

Answer D. Use 100×0.02×0.40=0.8. Two omits severity, forty is conditional loss at the full exposure and eight mis-scales the result. Compatible horizon and definitions are prerequisites for the product formula.

22. At PD 5% with the other inputs unchanged, that simple loss is?

A. INR5 crore	B. INR0.8 crore
C. INR2 crore	D. INR20 crore

Answer C. Multiplying 100×0.05×0.40 gives two. The alternatives retain the old case, omit LGD or introduce a decimal error. The model is an average estimate rather than a prediction of an exact individual outcome.

23. Weights 70% on loss 0.8 and 30% on loss 2 crore give what?

A. INR2.8 crore	B. INR1.4 crore
C. INR0.84 crore	D. INR1.16 crore

Answer D. Weighted loss is 0.70×0.8+0.30×2=0.56+0.60=1.16. Adding scenarios or using an unweighted mean changes the method; the scenario probabilities and compatible definitions need independent support. The simple tool omits discounting and lifetime losses.

24. A basic PD×LGD×EAD tool fully implements accounting ECL?

A. No, complete treatment can need scenarios, timing, discounting and floors	B. Only the calculator's name determines compliance
C. Yes, if the output has decimals	D. Yes, for every asset

Answer A. A simple mechanism omits important framework conditions and modelling detail. Precision and naming do not expand scope; classification, stage, horizon and operative requirements must be established before a real allowance is determined.

25. A manual classification override should retain what?

A. No record if year-end is near	B. The smallest possible provision
C. Authority, rationale, evidence and review history	D. Only the new favourable label

Answer C. Overrides need traceability and independent challenge. A favourable status or reporting deadline cannot justify erased evidence, and minimising a charge is not a valid substitute for applying the correct facts and framework.

D03 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 A loan creates contractual receipts, but accounting and risk management must respond when those receipts become uncertain or overdue.	**15** Security value should be assessed realistically, with attention to legal rights, priority, market conditions, enforcement time and costs.
02 Use fictional Aster Components, a Meridian Bank borrower whose customers delay payment.	**16** Protection can be correlated with the borrower.
03 This chapter explains classification, income and provisioning through original cases.	**17** Contractual interest due, cash received and recognised income are different quantities.
04 An overdue amount is linked to an obligation not paid when due under the relevant terms and rules.	**18** For a teaching example, a loan carries INR0.30 crore of accrued but unpaid interest whose recognition must be reversed under the supplied treatment.
05 For a simple elapsed-days exercise, assume a payment due at the end of 1 June remains unpaid at the end of 2 June.	**19** Recovery allocation must follow the applicable policy and rules.
06 Early warning and formal classification also differ.	**20** Expected credit loss estimates discounted shortfalls across possible outcomes under a defined framework.
07 For Aster's term loan, knowing that an instalment is late is not enough to calculate a provision immediately.	**21** For a single-horizon teaching case, EAD INR100 crore, PD 2% and LGD 40% give INR0.8 crore expected loss before discounting.
08 Collateral and expected recovery influence loss assessment, but they do not automatically prevent non-performing classification.	**22** ECL and other loss estimates require reliable data, controlled assumptions and independent challenge.
09 A standard exposure is not a guarantee of no future loss.	**23** Scenario weights should reflect a defensible assessment and remain traceable.
10 A restructuring changes terms under an authorised process; it is not automatically proof that the asset should become standard.	**24** Transition planning also involves systems, staff, accounting and capital.
11 Borrower and facility aggregation needs care.	**25** Automation can improve consistency, but input and rule changes need control.
12 The retrieved dated provision card includes general substandard treatment of 15%, with specified unsecured treatment reaching 25%; special categories can differ.	**26** Independent review should test both formal classification and the operational process.
13 For a supplied substandard balance of INR10 crore at an assumed applicable 15%, the provision is INR1.5 crore.	**27** For revision, separate overdue facts, category, protection, provision, income and recovery.
14 For a doubtful illustration, exposure is INR10 crore and established realisable security is INR6 crore.	**28** Meridian should first reconstruct Aster's cash position, repayment schedule and account conduct.

D04 Liquidity Management

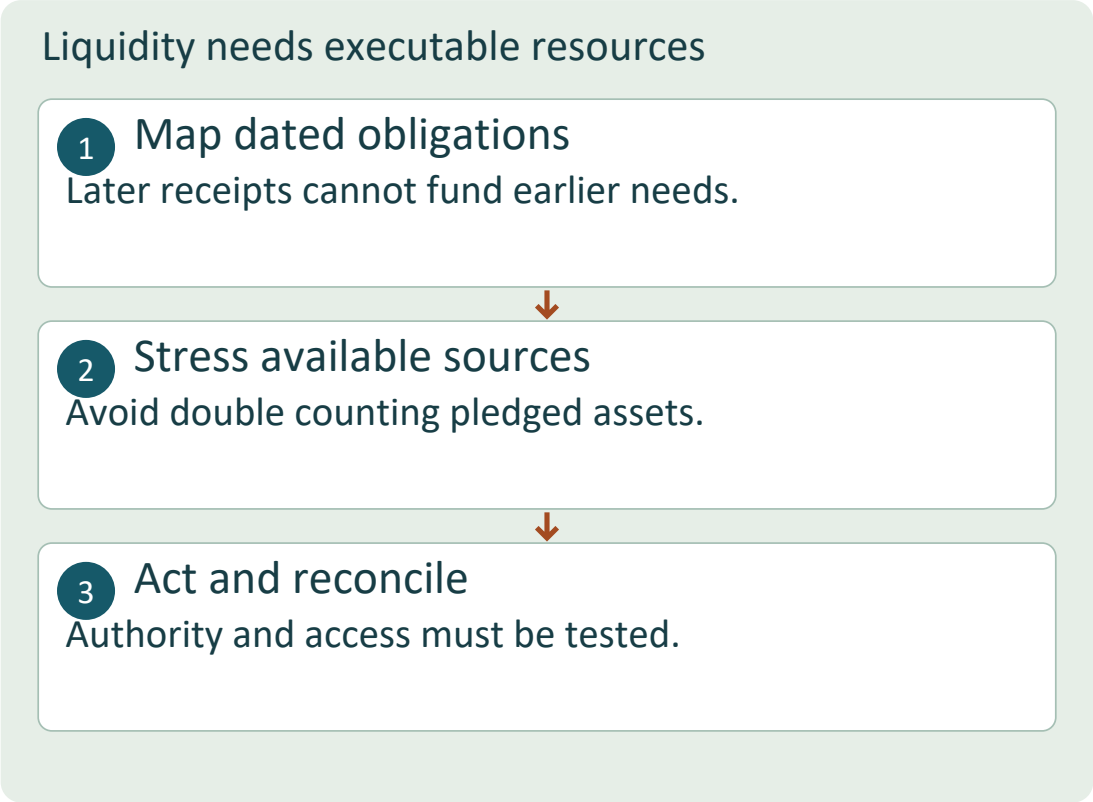
Practice / Quick Revision

Define liquidity in terms of obligations

Liquidity management ensures that the bank can meet obligations when due without unacceptable losses. It concerns amount, timing, currency, location and operational access to resources. A positive accounting profit or a valuable asset portfolio does not by itself provide cash for a payment due now. A bank can be solvent under a valuation view and still face immediate difficulty. The manager should therefore begin with the actual obligation and identify resources usable for it, rather than infer payment capacity from a favourable balance-sheet total.

Fictional Meridian Bank expects routine customer payments, a large deposit maturity and possible commitment drawdowns. Its loan book remains profitable, but an incoming receipt is delayed and market funding becomes more expensive. The problem is a combination of timing and access. Treasury can execute transactions, while business units provide reliable forecasts and senior management decides within the liquidity framework. A good response connects those responsibilities instead of assuming that one department can create unlimited cash whenever the balance sheet needs it.

This chapter develops definition, dimensions and the role of liquidity management in whole-bank planning. It builds on the regulatory ratios explained in Module B and treasury execution in Module C, but gives a complete account of the balance-sheet decisions here. The tools use transparent cash ladders, funding concentration, stressed proceeds and survival assumptions. They do not claim to implement every regulatory liquidity return or determine whether a real asset is eligible and operationally available.



Later receipts cannot fund earlier needs. Avoid double counting pledged assets. Authority and access must be tested.

Distinguish funding, market and intraday liquidity

Funding liquidity concerns obtaining cash or financing. Market liquidity concerns trading an asset in sufficient size at an acceptable cost. Intraday liquidity concerns resources available at particular times within the day. These dimensions interact but answer different questions. A bank may hold a marketable asset yet lack time to sell it before a morning payment. It may obtain overnight funding while remaining exposed to next day's rollover. A favourable end-of-day net flow can conceal an earlier shortfall.

Suppose Meridian starts with INR20 crore and owes INR60 crore before noon, while INR70 crore is expected later. The daily total eventually becomes INR30 crore, but the earlier gap is INR40 crore before any bridge funding. Treating the later receipt as if it arrived first hides the payment problem. A timing-aware forecast should identify deadlines, confidence in receipts and available intraday resources. Payment priorities and queue management must follow obligations and system rules rather than arbitrary delay to improve an internal report.

Market liquidity can deteriorate when funding is most needed. If many banks sell similar securities, achievable prices may fall and transaction size can widen execution costs. A marked value should not be treated as guaranteed cash proceeds. The bank should assess market depth, bid-ask spread, concentration and time to monetise. A liquidity scenario that assumes unlimited sales at yesterday's mid-price can contradict the very market disruption it is intended to test and overstate the capacity to respond.

Identify the drivers of cash demand

Deposit withdrawals, maturing borrowings, loan disbursements, securities settlements, operating payments and derivative margin can consume cash. Undrawn commitments and guarantees create contingent demands. A customer under stress may withdraw deposits and draw a line simultaneously. These behaviours can be linked to the same economic event. Assessing each at an isolated average can understate the combined need. The bank should identify common drivers and include relevant off-balance-sheet obligations instead of relying only on today's funded balances.

Receipts also need challenge. Loan repayments can be delayed, securities may be pledged and an uncommitted funding provider may decline to lend. Group support can face legal or local constraints. Classify resources by certainty, timing and conditions rather than presenting every possible source as equally available. A contingency plan should distinguish an existing usable balance from an asset requiring sale, a committed facility requiring conditions and a merely proposed transaction whose counterparty has made no binding commitment.

Growth creates incremental liquidity needs. A profitable lending plan can use cash before related income is collected, while new deposits add future repayment obligations. The bank should assess funding tenor, concentration, currency and stress capacity before committing expansion. Short-term solutions can be appropriate for temporary gaps, but repeated rollover can reveal a structural mismatch. Escalate that pattern to balance-sheet governance rather than treating each successful overnight borrowing as proof that the underlying strategy is durable.

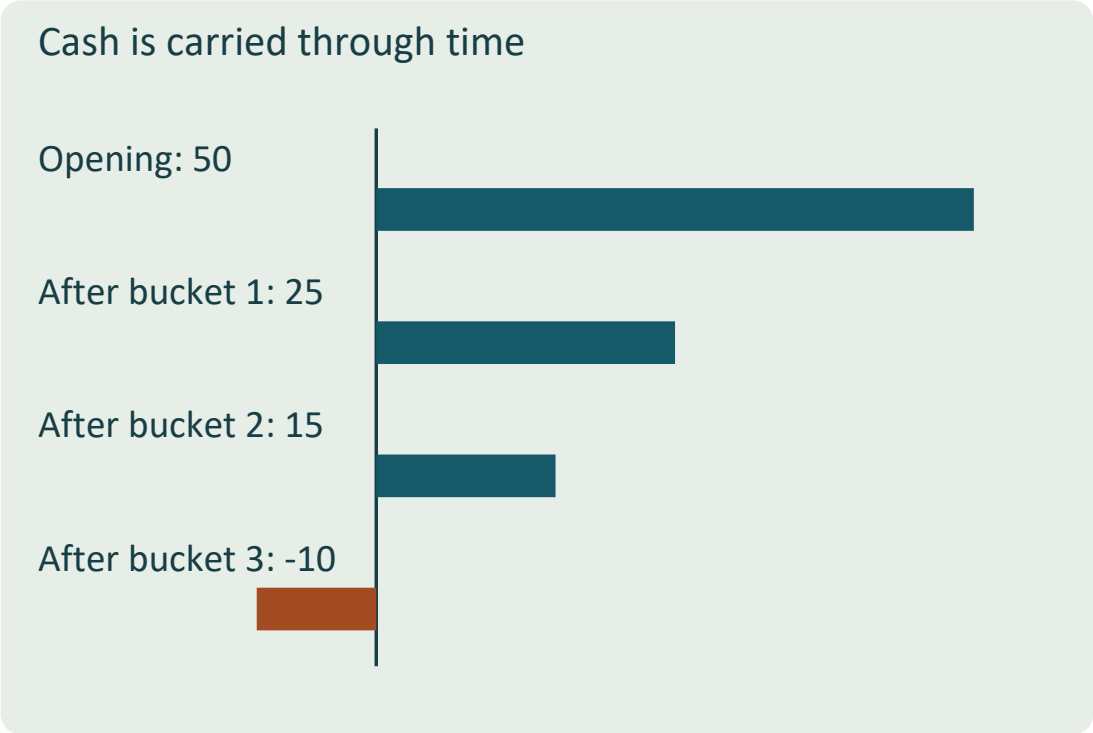
Build a cash-flow ladder correctly

A cash-flow ladder groups expected receipts and payments by time bucket. Each bucket gap is inflows minus outflows, and cumulative cash starts with usable opening resources and carries the balance forward. Opening cash is counted once. All amounts need a consistent currency and unit. Contractual and behavioural schedules should be labelled separately because one describes promises and the other estimates actual behaviour. A ladder becomes useful when its assumptions and resource constraints remain visible to the person making a funding decision.

Assume opening usable cash INR50 crore. Bucket one has inflows INR20 crore and outflows INR45 crore, leaving INR25 crore. Bucket two has INR30 crore and INR40 crore, leaving INR15 crore. Bucket three has

INR10 crore and INR35 crore, leaving minus INR10 crore. The cumulative shortfall appears in the third bucket, while the individual gaps are minus twenty-five, minus ten and minus twenty-five. Confusing a bucket gap with the carried closing balance produces an incorrect view of available resources.

The ladder should show when action is needed, not merely a final total. A later surplus cannot cure an earlier failure to pay on time. Large flows can also need finer timing within a bucket. Where behaviour is uncertain, show sensitivity or alternative assumptions. If a small reduction in deposit renewal produces a large shortfall, management should recognise that dependency and consider more stable funding or a larger cushion. An optimistic estimate should not be hidden inside a single net figure.



INR crore; opening stock counted once. The negative final balance requires action before the obligation. [('Opening', 50), ('After bucket 1', 25), ('After bucket 2', 15), ('After bucket 3', -10)]

Manage a buffer as a usable portfolio

A liquidity buffer should provide resources under relevant stress, subject to the framework's eligibility and operational conditions. Its composition, marketability, currency and encumbrance matter. A strong issuer alone does not establish that the asset can be monetised at the required time. Keep an inventory of holdings, location, existing pledges, haircuts and mobilisation steps. The bank should know who can authorise a transaction and which systems or accounts are needed before it relies on the resource in a contingency plan.

Suppose securities marked at INR100 crore can be sold under an explicitly assumed 4% stress discount with INR0.5 crore execution costs. Estimated proceeds are INR95.5 crore. This is a scenario, not an actual executable quote. If INR30 crore of the holding is unavailable, calculate proceeds only from the usable portion using a clearly stated cost assumption. Do not count the full holding for sale and simultaneously as collateral for an unrelated borrowing unless the actual arrangements permit that combined use.

Buffers have costs and purposes. Holding liquid resources may reduce current yield, but it supports payment capacity and confidence. The right comparison includes the cost of illiquidity and the institution's obligations, not only the foregone coupon. A buffer that cannot be used operationally offers less protection than its accounting value suggests. Regular tests of mobilisation and reconciliation help demonstrate that the resources are real and accessible within the time assumed by management's survival analysis.

Diversify funding with an economic view

Funding diversification concerns counterparties, instruments, maturities, currencies and common behavioural drivers. Many accounts do not guarantee independence if they belong to connected entities or depend on the same industry. A deposit base can be concentrated even when no single product appears dominant. Review both name concentration and economic dependence. The goal is to understand which event could remove several sources together, rather than count categories and declare diversification without examining their relationships.

If the largest provider supplies INR200 crore of a comparable INR1,000 crore funding base, its share is 20%. This indicator highlights dependence but does not predict withdrawal. Add maturity, contractual conditions and replacement capacity. If several providers are connected, a group share can be more informative. A simple four-source concentration index can complement the largest share, but it cannot establish credit quality, stability or access. Measures should support questions and actions rather than replace the underlying analysis.

Longer-term funding can reduce rollover exposure but may cost more or create other constraints. Stable retail relationships can help, yet pricing competition and digital access can change behaviour. Management should compare sources over consistent horizons, including fees, collateral and option effects. Internal pricing can communicate the cost of liquidity consumed by business lines. A lending product should not look artificially profitable because treasury absorbs its long-term funding burden without an appropriate allocation or explicit strategic decision.

Use ratios without losing their limits

Liquidity ratios summarise defined relationships, such as loans to deposits, liquid resources to obligations or the regulatory LCR and NSFR. They answer different questions and use different definitions. A bank can have a favourable aggregate ratio while facing one currency's shortfall or an intraday payment need. The manager should identify what is included, the time horizon and whether resources are actually available. A green indicator is not a complete assessment of the institution's capacity to perform every obligation.

For a simple internal ratio, INR700 crore loans divided by INR1,000 crore deposits gives 70%. The result does not show deposit maturity or concentration, nor derivative collateral calls. A lower ratio could still coexist with fragile funding. Likewise, an LCR calculation requires already adjusted HQLA and specified stressed flows; raw investment balances are not automatically the numerator. The chapter uses such ratios to explain interpretation, while the complete regulatory definitions and dated conditions remain separate requirements.

Reports should show changes and causes. A ratio can improve because funding becomes more stable, assets shrink or a temporary reporting-date transaction changes the denominator. These explanations have different implications. Compare routine and stressed positions and investigate large movements. Window dressing can leave the underlying vulnerability unchanged after the reporting date. Management should seek durable capacity and reliable information rather than actions that improve a single published number while increasing cost or risk elsewhere.

Stress cash flows and test survival

An institution-specific scenario can involve adverse publicity or an operational failure, while a market-wide scenario can involve reduced funding access and asset liquidity. A combined scenario may be especially severe because the bank needs support when alternative providers are themselves constrained. State the narrative, horizon and affected flows. Translate it into withdrawals, delayed receipts, drawdowns, collateral calls and sale assumptions without double counting the same obligation in several categories.

For a deliberately simple constant-burn model, INR100 crore usable resources against INR12 crore daily net outflow gives 8.3333 continuous days, or eight complete daily outflows covered. Real cash flows vary and resources can have constraints, so this is an intuition tool rather than a full survival forecast. A dated ladder

should identify exactly when balances become inadequate. Zero net burn requires a distinct interpretation; dividing by zero should not produce an unexplained infinite compliance score.

Show results before and after management actions. Funding from an uncommitted source should not be certain, and a sale needs an achievable stressed price and execution time. A proposed action can improve one measure while harming another: selling investments may raise cash but realise losses that reduce capital. The bank needs a coherent whole-balance-sheet comparison. Stress testing is useful when it changes buffers, limits, funding strategy or operational readiness, with actions tracked to completion.

Make contingency arrangements executable

A contingency funding plan identifies warning signals, decision authority, communication and feasible resource actions. It should distinguish stages of severity and explain when management moves from monitoring to intervention. Triggers can include unusual withdrawals, widening funding spreads, collateral pressure or repeated forecast misses. A vague promise that treasury will borrow is not enough. The plan should specify potential sources, conditions, amounts, timing and alternatives if a source is unavailable during the scenario.

Test operational dependencies. A collateral facility may exist but require documentation, permissions or transfers that staff cannot complete quickly. A backup funding provider may share the same vulnerability as the primary provider. Group support can be restricted. Exercises should challenge these assumptions and include decision making and communication, not merely confirm that contact details are current. Record weaknesses and verify corrections. A successful scripted demonstration under easy conditions provides limited evidence of capability during the actual disruption.

Communication must be accurate and coordinated. Different stakeholders need appropriate information, but conflicting statements can intensify uncertainty. Establish who speaks and how facts are verified as the event evolves. Internal reporting should reach people with authority in time to act. A material shortfall should not circulate through committees without a decision owner. After an incident, review both immediate execution and the original assumptions, preserving evidence so that improvements reflect what actually happened rather than a convenient retrospective narrative.

Respect currency and entity constraints

A consolidated surplus is not automatically transferable to every obligation. Cash may be in another currency, subject to restrictions or required to support local activities. Conversion needs market access, pricing, counterparties and settlement. A reporting exchange rate translates values but does not deliver the currency due. The manager should assess significant currencies and legal entities separately where relevant, then explain the conditions under which resources can move. This preserves local weaknesses that an aggregate figure might otherwise hide.

Suppose Meridian has a rupee surplus but owes dollars tomorrow. It can consider available dollar balances, reliable receipts or an authorised conversion or swap, with their own conditions and timing. A long-term dollar asset may not be monetisable quickly, while an assumed group transfer may depend on another regulator or local buffer. The correct question is what usable dollars will be available before the deadline. Adding all translated balances at a convenient rate cannot answer that question without execution analysis.

For revision, follow obligations, resources, timing, constraints, stress and action. Distinguish funding access from marketability, net totals from intraday needs and available assets from accounting holdings. Carry cash balances correctly and challenge behavioural assumptions. The calculators below make these mechanisms visible through ladders, proceeds, concentration and survival. Their purpose is to support disciplined reasoning, while an actual liquidity decision still depends on verified inputs, legal conditions and an operationally credible plan.

Review Meridian's funding decision

Meridian's committee should receive a concise starting position and a clear explanation of the developing gap. Show confirmed flows, uncertain receipts, available collateral and major concentrations. Compare feasible actions by speed, cost and consequences. A more expensive reliable source may be preferable to a cheaper uncommitted line when timing is critical. The recommendation should explain that trade-off rather than rank offers by rate alone or assume that every indicated borrowing is already settled cash.

Next show the position after the action matures. An overnight borrowing creates tomorrow's principal and interest need; a repo also involves collateral and reverse settlement. A sale changes future income and may realise loss. Include these effects in the forward plan so that a short-term solution does not conceal a persistent structural mismatch. Escalate repeated reliance on the same temporary action and assess whether business growth, funding tenor or liquidity appetite needs revision.

Finally, verify execution and learn from differences. Reconcile settlement, update the cash forecast and monitor warning indicators. Investigate why actual flows differed from estimates and assign corrective actions where data or controls failed. Liquidity management is a continuing cycle rather than a one-time ratio pass. Its practical aim is reliable payment capacity supported by resources the bank can genuinely access, with enough time and authority to respond when customers, markets or operations behave differently from the base plan.

Practice with explanations

01. Liquidity means what in this chapter?

A. Only assets exceeding liabilities	B. Only a high bond coupon
C. Meeting obligations when due without unacceptable losses	D. Only positive annual profit

Answer C. Timing and usable resources define payment capacity. Profit, net worth and yield provide other information but cannot establish that the correct cash is available in the required currency and place before a deadline.

02. Which distinction is correct?

A. Funding access differs from asset marketability	B. Borrowing removes all future needs
C. Every marketable asset is instant cash	D. Daily net cash proves intraday adequacy

Answer A. Funding and market liquidity interact but differ. Sale execution takes time, borrowing creates repayment and net daily totals can conceal earlier shortfalls, so none of those shortcuts replaces a timing-specific resource assessment.

03. Opening cash 20, payment 60 before noon and receipt 70 later imply early gap of?

A. INR10 crore	B. INR40 crore
C. INR90 crore	D. No gap because day closes positive

Answer B. Only twenty is initially usable against sixty due, leaving forty. Later receipts cannot fund the earlier obligation automatically; daily aggregation hides timing while other figures add or omit the relevant amounts.

04. A stressed customer may withdraw deposits and draw a line together because?

A. Both behaviours can share a common cash need	B. Withdrawals create bank capital
C. Commitments never require funding	D. They are always independent

Answer A. The customer's stress can drive simultaneous actions. Treating them independently may understate demand; commitments can become funded, and deposit withdrawals consume cash rather than automatically create loss-absorbing equity.

05. An uncommitted line is best treated how in stress planning?

A. As unlimited guaranteed funding	B. As equivalent to cash already settled
C. As permanent CET1	D. Assess realistic availability rather than assume certain cash

Answer D. A provider may refuse or reduce an uncommitted source. Conditions, timing and stress dependence matter; it is neither capital nor an existing balance, so counting it as certain resources can overstate resilience.

06. Opening 50, inflow 20 and outflow 45 crore leave what?

A. INR25 crore	B. INR115 crore
C. Minus INR25 crore	D. INR70 crore

Answer A. Closing cash is 50+20-45=25. Minus twenty-five is the isolated bucket gap; seventy omits payments and 115 adds them. Opening stock and period flows need distinct treatment in the ladder.

07. Next bucket starts at 25, receives 30 and pays 40 crore. Closing is?

A. INR35 crore	B. Minus INR10 crore
C. INR15 crore	D. INR95 crore

Answer C. Carry forward twenty-five and add the net minus ten to get fifteen. The gap alone is not the balance, and reversing or adding outflows creates an incorrect cumulative cash position.

08. Final bucket starts at 15, receives 10 and pays 35 crore. Closing is?

A. Minus INR25 crore	B. Minus INR10 crore
C. INR60 crore	D. INR10 crore

Answer B. Fifteen plus ten minus thirty-five equals minus ten. The individual gap is minus twenty-five; adding payments or changing the sign hides the shortfall and the need for action before the obligation.

09. Why count opening cash only once?

A. Repeated use would invent resources	B. Every bucket creates new cash
C. A cumulative ladder excludes stocks	D. Opening cash is always zero

Answer A. Opening resources enter initially and subsequent balances roll forward. Repeating them duplicates the same money; neither zero opening cash nor exclusion of stocks is required for a valid cumulative cash assessment.

10. A positive later bucket automatically cures an earlier missed payment?

A. Only annual totals matter	B. No, obligations have specific deadlines
C. Yes, if the asset book is profitable	D. Yes, if the monthly sum is positive

Answer B. Cash arriving later cannot retrospectively meet an earlier deadline. Profit and net totals do not remove timing constraints, so the ladder needs enough detail to reveal when resources first become insufficient.

11. A liquidity buffer needs what beyond issuer quality?

A. Only a high rating	B. Availability, marketability, currency and mobilisation evidence
C. Only an original purchase invoice	D. No controls once approved

Answer B. Quality does not prove timely use. Encumbrance, markets and operational access matter; invoices or initial approval alone cannot establish that the asset remains available under the stress scenario when cash is required.

12. Marked holding 100 crore, stress discount 4%, costs 0.5 gives proceeds of?

A. INR104.5 crore	B. INR96 crore
C. INR95.5 crore	D. INR4.5 crore

Answer C. Discounted value is ninety-six and subtracting costs gives 95.5. Four point five is the reduction from mark, not proceeds; omitting costs or adding deductions misstates the cash available under the scenario.

13. Counting one pledged security for several unrelated borrowings requires what?

A. Only its face value	B. No reconciliation because securities are valuable
C. Only management optimism	D. Actual rights and availability supporting those uses

Answer D. Resource reuse depends on arrangements and encumbrance. Value alone does not permit unlimited independent pledges; optimistic assumptions without custody and transaction reconciliation can double count the same funding support.

14. Largest provider 200 crore out of comparable funding 1,000 gives share of?

A. 5%	B. 80%
C. 200%	D. 20%

Answer D. Provider amount divided by total gives twenty percent. Five is the reciprocal scale, eighty the remaining share and two hundred mis-converts the ratio. The result indicates dependence, not a withdrawal probability.

15. Many accounts guarantee funding diversification?

A. Yes, if products have different labels	B. Only the count is relevant
C. Yes, names alone prove independence	D. No, common ownership or economic drivers can remain

Answer D. Different records can belong to connected parties or react to the same shock. Name and product counts therefore complement rather than replace analysis of relationships, maturities and the availability of alternative funding sources.

16. Loans 700 and deposits 1,000 crore give simple loan-to-deposit ratio of?

A. 7%	B. 70%
C. 142.86%	D. 30%

Answer B. The specified ratio is 700/1,000×100. The reciprocal answers a different question, thirty is the complement and seven a scale error. Interpretation still requires deposit timing, concentration and other obligations.

17. A strong aggregate LCR guarantees what about a specific currency?

A. No automatic coverage without currency analysis	B. Every currency obligation is covered
C. Conversion is instant and free	D. No intraday shortage can occur

Answer A. Aggregate coverage can conceal currency and timing constraints. Exchange and settlement require access and resources; a favourable overall percentage does not guarantee that the needed cash exists locally before every deadline.

18. Why investigate a sudden favourable liquidity-ratio change?

A. Ratios cannot change through denominators	B. It may reflect temporary transactions or changed definitions
C. Only adverse movements need review	D. Improvement always proves durable resilience

Answer B. A ratio can improve through several mechanisms, including short-lived balance-sheet changes. Explaining numerator, denominator and scope is essential; favourable movement alone does not prove the underlying vulnerability has been removed.

19. Resources 100 and daily constant burn 12 crore cover how many complete days?

A. 8	B. 9
C. 100	D. 12

Answer A. The continuous quotient is 8.3333, so only eight full daily outflows are covered. Nine overstates resources; twelve and one hundred confuse inputs with time. A real forecast needs dated varying flows and availability conditions.

20. Zero daily net burn should produce what in the simple tool?

A. Exactly zero resources	B. A finite guaranteed survival score
C. A clear undefined-ratio explanation	D. Automatic compliance with every requirement

Answer C. Division by zero does not yield a meaningful finite survival estimate. No burn can have a different interpretation, but the tool should explain its boundary rather than convert it into universal liquidity assurance.

21. A combined stress is potentially severe because?

A. Every management action is immediate	B. Alternative providers can be constrained when the bank needs them
C. Asset prices must remain unchanged	D. All sources become more available

Answer B. Institution and market weakness can coincide, reducing replacement funding and sale proceeds. Assuming unlimited access, fixed prices or instant action contradicts the scenario and can materially overstate feasible resilience.

22. A contingency plan should specify what?

A. Only last year's profit	B. Only a promise to borrow
C. Triggers, authority, sources, timing and communication	D. Only bank logos

Answer C. An executable plan links signals to accountable actions and realistic resources. A vague promise, branding or historical profit does not establish access, amounts, conditions or the time needed during an actual shortage.

23. A rupee surplus against a dollar payment needs what?

A. No further action	B. Currency-specific resources and executable conversion assessment
C. Only translation at a reporting rate	D. Automatic use of every group balance

Answer B. Reporting conversion does not deliver dollars. Market access, settlement and transfer restrictions matter, so local and group resources must be assessed for actual availability before concluding that the payment is funded.

24. An overnight borrowing in today's solution must appear where next?

A. Nowhere after cash arrives	B. Only in marketing records
C. Tomorrow's principal, interest and settlement forecast	D. As permanent equity

Answer C. The source creates later obligations and possible collateral flows. Omitting them can conceal repeated rollover dependence; the cash receipt does not transform a short liability into permanent loss-absorbing resources.

25. Forecast-versus-actual review should lead to what?

A. Removal of buffers	B. Only a prettier report
C. Investigation and correction of recurring data or assumption weaknesses	D. Guaranteed future accuracy

Answer C. Comparison provides evidence for improvement but cannot guarantee future flows. Repeated errors need ownership and process correction, while presentation changes or removing protection do not address the underlying source of forecasting weakness.

D04 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 Liquidity management ensures that the bank can meet obligations when due without unacceptable losses.	**15** Buffers have costs and purposes.
02 Fictional Meridian Bank expects routine customer payments, a large deposit maturity and possible commitment drawdowns.	**16** Funding diversification concerns counterparties, instruments, maturities, currencies and common behavioural drivers.
03 This chapter develops definition, dimensions and the role of liquidity management in whole-bank planning.	**17** If the largest provider supplies INR200 crore of a comparable INR1,000 crore funding base, its share is 20%.
04 Funding liquidity concerns obtaining cash or financing.	**18** Longer-term funding can reduce rollover exposure but may cost more or create other constraints.
05 Suppose Meridian starts with INR20 crore and owes INR60 crore before noon, while INR70 crore is expected later.	**19** Liquidity ratios summarise defined relationships, such as loans to deposits, liquid resources to obligations or the regulatory LCR and NSFR.
06 Market liquidity can deteriorate when funding is most needed.	**20** For a simple internal ratio, INR700 crore loans divided by INR1,000 crore deposits gives 70%.
07 Deposit withdrawals, maturing borrowings, loan disbursements, securities settlements, operating payments and derivative margin can consume cash.	**21** Reports should show changes and causes.
08 Receipts also need challenge.	**22** Show results before and after management actions.
09 Growth creates incremental liquidity needs.	**23** A contingency funding plan identifies warning signals, decision authority, communication and feasible resource actions.
10 A cash-flow ladder groups expected receipts and payments by time bucket.	**24** Test operational dependencies.
11 Assume opening usable cash INR50 crore.	**25** Communication must be accurate and coordinated.
12 The ladder should show when action is needed, not merely a final total.	**26** A consolidated surplus is not automatically transferable to every obligation.
13 A liquidity buffer should provide resources under relevant stress, subject to the framework's eligibility and operational conditions.	**27** Suppose Meridian has a rupee surplus but owes dollars tomorrow.
14 Suppose securities marked at INR100 crore can be sold under an explicitly assumed 4% stress discount with INR0.5 crore execution costs.	**28** For revision, follow obligations, resources, timing, constraints, stress and action.

D05 Interest Rate Risk Management

Practice / Quick Revision

Identify what changes when rates move

Interest-rate risk arises when changes in rates adversely affect the bank's earnings or economic value. It can exist even when every borrower pays on time. A fixed-rate asset funded by liabilities that reprice sooner can suffer a margin squeeze. A long stream of fixed receipts can lose present value when discount rates rise. The manager should identify which rates affect each position, when they reset and how customers can alter cash flows. A generic statement that rates might rise is not yet a useful exposure analysis.

Fictional Meridian Bank holds fixed-rate housing loans, floating business loans, term deposits and non-maturity deposits. It also uses swaps. These products differ in contractual maturity, repricing and options. A five-year floating loan may reset quarterly, while a one-year fixed deposit does not ordinarily reprice until maturity. The cash-flow ladder and interest-rate report can therefore classify the same instrument differently for valid reasons. Start by defining the question: next year's income, longer-term value or actual cash availability.

This chapter covers sources and effects of interest-rate exposure, measurement techniques, strategies, controls and supervision. It preserves the syllabus's reference to RBI draft IRRBB guidance as a syllabus topic while distinguishing it from retrieved ALM directions and international standards. A historical draft is not automatically the current binding instruction. The calculators use explicit simplified models and do not reproduce a full regulatory shock calibration, behavioural model or economic-value-of-equity return. Their purpose is to explain direction, units and limitations.

Distinguish repricing, curve, basis and option risk

Repricing risk arises when assets and liabilities reset at different times. Yield-curve risk arises when rates at different maturities move differently. Basis risk arises when reference rates do not move together as assumed. Option risk arises from contractual or customer choices that change cash flows. These sources can overlap. Matching average maturity does not necessarily match reset dates, benchmarks or prepayment behaviour. A useful assessment identifies each mechanism and the data needed to measure it rather than treating all rate exposure as one parallel shift.

Suppose Meridian funds a loan linked to one benchmark with deposits priced using another. Even if both reset quarterly, their rates can change by different amounts. A swap referencing a third benchmark can leave additional basis exposure. Similarly, two portfolios can have equal aggregate duration but different maturity concentrations, making a steepening or flattening curve affect them differently. An aggregate measure can be useful without being complete. The manager should retain enough detail to see offsets that may break down under stress.

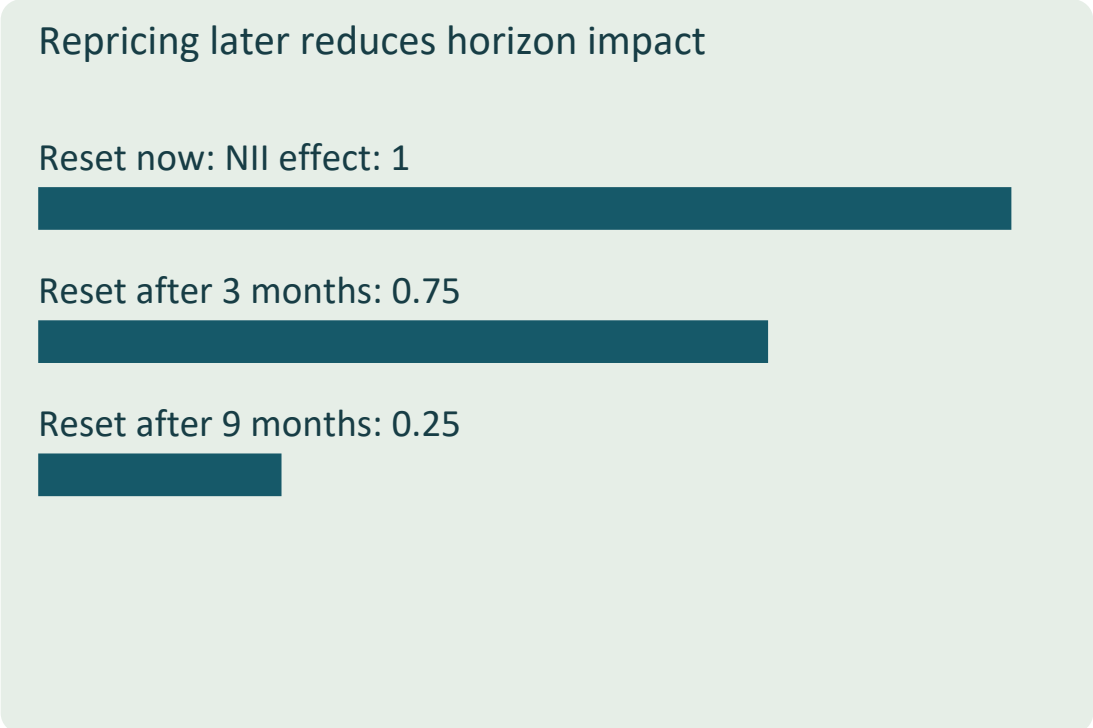
Customer options can make exposure nonlinear. Borrowers may prepay fixed-rate loans when refinancing becomes attractive, shortening the cash-flow stream just when reinvestment yields are lower. Depositors may withdraw or shift products when rates change. Caps and floors can limit pass-through. Behavioural models need evidence and sensitivity analysis rather than a permanent favourable assumption. The bank should distinguish contractual rights from estimated exercise patterns and test conditions where behaviour differs materially from the history used to build the model.

Measure a simple repricing gap

A repricing gap is rate-sensitive assets minus rate-sensitive liabilities within a defined bucket. If assets resetting over the chosen horizon are INR500 crore and liabilities INR650 crore, the gap is minus INR150 crore. Under a simple immediate parallel one-percentage-point rate rise, full-year net interest income changes by approximately minus INR1.5 crore. This follows gap times decimal rate movement. The calculation assumes unchanged balances and equal pass-through, with no timing weights, basis effects or options.

If rates fall one percentage point under the same assumptions, the estimated change is plus INR1.5 crore. A negative gap is therefore not automatically a loss under every rate path, nor is it inherently a good strategy because management expects rates to fall. Appetite should consider adverse alternatives and the reliability of assumptions. A sensitivity is a conditional relationship, not a forecast. The report should show the result under several relevant movements rather than use one preferred view to justify all exposure.

The bucket definition matters. A position resetting near the end of a one-year horizon affects income for fewer months than one resetting immediately. Combining both without weights can overstate the response. Multiple buckets provide a more informative schedule, but totals still need consistent assumptions. Do not add the same principal to every later repricing bucket unless the method intentionally models repeated resets. Clear data definitions and reconciliation prevent a detailed-looking report from duplicating exposures or misplacing the relevant dates.



INR crore; gap 100, rise one point, immediate uniform pass-through after reset over the remaining year. [('Reset now: NII effect', 1), ('Reset after 3 months', 0.75), ('Reset after 9 months', 0.25)]

Add timing and product-specific pass-through

A simple time-weighted income estimate multiplies each repricing gap by its rate shock and the fraction of the horizon remaining after reset. For INR100 crore repricing after three months in a one-year horizon, a one-point rise has a nine-month effect: INR0.75 crore before other assumptions. If the same amount resets after nine months, the effect is INR0.25 crore. These examples demonstrate why reset timing matters even when principal and rate movement are identical.

Product rates may not respond one-for-one to a market shock. A deposit beta is an assumed pass-through proportion in a defined model, not a universal constant. Suppose a liability rate rises by only 60% of a one-point market increase. INR100 crore then incurs INR0.6 crore extra annual interest under immediate

full-year assumptions, rather than INR1 crore. The estimate needs empirical support and stress. Competitive conditions or customer behaviour can change pass-through, especially when the bank's funding position becomes weaker.

For a mixed example, assets INR200 crore pass through 80% of a one-point rise, while liabilities INR150 crore pass through 100%. The simple annual income effect is INR1.6 crore minus INR1.5 crore, or plus INR0.1 crore. Applying the same shock to the net balance of INR50 crore would give INR0.5 crore and miss the different responses. The calculator makes each assumption visible, but a detailed forecast still needs actual schedules, floors, caps and changing balances where material.

Assess economic value separately

Economic-value analysis discounts future cash flows and examines how their present values change. It can reveal long-term exposure beyond the earnings horizon. A bank can maintain next year's margin while retaining a large present-value sensitivity, or accept a near-term cost to improve long-term matching. Neither perspective should be selected solely because it produces a favourable result. Management needs both and should understand the trade-off. A value change is not automatically an immediate cash payment or a recognised accounting loss under every framework.

A first-order duration model uses value-weighted modified duration. Assets INR1,000 crore at duration four have sensitivity INR4,000 crore-years; liabilities INR900 crore at duration two have INR1,800 crore-years. Net sensitivity is INR2,200 crore-years. A one-point parallel yield rise implies approximate economic-value change of minus INR22 crore. Subtracting duration years alone ignores unequal values. The model should state market-value and duration conventions consistently so that the liability offset is not accidentally reversed or omitted.

Duration is local. Large shocks, non-parallel movements, convexity and embedded options can change actual revaluation. An amortising loan portfolio also differs from a single bullet bond. More complete methods reproject or revalue relevant cash flows under scenarios. The simple tool teaches the relationship, not a complete regulatory EVE calculation. Its output should be accompanied by the assumptions and a statement of what further analysis is needed before relying on it for a real limit or capital decision.

Use cash-flow revaluation to challenge approximations

A basic present-value exercise discounts each future receipt or payment at an explicit rate and date. Consider annual net receipts of INR10 crore, INR10 crore and INR110 crore at years one, two and three. At 6%, present value is approximately INR110.6920 crore. Recalculate at 7% to observe the value effect directly. This exercise uses net illustrative flows and one discount rate, not a complete bank yield curve. It nevertheless shows why distant cash flows can be more sensitive to changes in discounting.

Compare the revaluation with a duration approximation where a consistent duration is available. Differences can arise from the first-order nature of duration or an inconsistent input set. Do not force agreement by adjusting a parameter after seeing the result. A model review should explain the reason and judge which method fits the decision. For nonlinear instruments, using a local sensitivity for a large shock can produce a misleading result even when the arithmetic is implemented perfectly.

Scenario design should include relevant curve shapes and basis changes rather than only one parallel shock. A steepening curve can affect long assets and short funding differently. A basis shock can weaken a hedge whose instruments appeared matched under a common-rate assumption. The number of scenarios should serve the portfolio's material risks, not merely create a large report. Each result should connect to a vulnerability, a limit or a feasible action so that analysis informs management rather than remaining an isolated calculation.

Evaluate strategies using the combined position

The bank can change asset or liability structure, alter pricing, adjust maturities or use suitable derivatives. Each action has costs and residual risks. Longer fixed funding may reduce repricing exposure but increase initial expense. A swap can change rate sensitivity while creating counterparty and collateral obligations. An option can provide asymmetric protection at a premium. The right response depends on objectives, appetite, market access and operational capacity, rather than a rule that every mismatch should always be eliminated at any price.

For fixed-rate assets funded by floating liabilities, a pay-fixed, receive-matching-floating swap can stabilise the funding leg under suitable assumptions. If the underlying funding shrinks, the swap may become excessive. If benchmarks differ, basis risk remains. A hedge should have an objective, amount, horizon, review triggers and accountable owner. Monitor both underlying and derivative. The existence of a signed hedge contract is not permanent evidence that the relationship continues to reduce the risk it was designed to address.

Sensitivity hedge sizing should use comparable measures. If the net DV01 magnitude is INR2.8 lakh and an opposite contract provides INR0.07 lakh per unit, a continuous hedge ratio is forty contracts. Whole-contract rounding, curve exposure and basis need review. Equal notionals do not automatically produce equal sensitivities. A hedge that reduces economic value sensitivity can still require cash margin during an adverse path, so liquidity planning must accompany the market-risk decision rather than assume that offsetting values settle simultaneously.

Govern assumptions and model limitations

Interest-rate models rely on data about balances, dates, rates, options and behaviour. Missing positions or incorrect reset dates can make exposure disappear artificially. Independent review should challenge favourable changes and reconcile source systems. Model development, implementation, changes and use require documentation and authority. A technically correct formula can still represent an unsuitable model. The bank should know when an approximation is acceptable, when it needs fuller revaluation and what fallback applies if required data or systems are unavailable.

Behavioural assumptions deserve explicit ownership. Non-maturity deposit persistence, repricing beta and loan prepayment can materially affect results. Compare estimates with outcomes, investigate deviations and retain earlier versions. Adjust assumptions using evidence rather than hindsight chosen to support a desired result. Stress the uncertain parameters. If a modest change produces a large deterioration, management should recognise the dependency and consider a more robust structure rather than publish only the most favourable central estimate.

Validation should examine conceptual soundness, implementation and outcomes. A model can fit past data yet fail when customer behaviour or market structure changes. Sensitivity tests help identify which inputs dominate, while backtesting and benchmark comparisons provide other evidence. No one check proves universal reliability. Reports should communicate uncertainty in usable terms and avoid a false impression of precision from excessive decimal places. The decision maker needs to understand the exposure and the consequences of assumptions being wrong.

Set limits, reporting and escalation

Limits can address earnings sensitivity, economic-value change, repricing gaps, duration or other approved measures. Each has a defined purpose, horizon and scenario. Passing one does not establish that all interest-rate risk is acceptable. A small aggregate gap can conceal maturity concentrations, and a modest value change can coexist with near-term margin pressure. Reports should retain the important detail and explain material movements. Warning thresholds should provide time to act before a hard boundary is reached or market liquidity makes adjustment difficult.

The board and senior management establish appetite and oversight; the asset-liability committee coordinates relevant actions; treasury executes within authority; independent risk challenges and monitors. Internal audit provides assurance on the process. These roles should connect through clear decisions and ownership rather than diffuse responsibility across many committees. A breach needs investigation, containment where appropriate and authorised resolution. Retrospectively raising a limit should not become the ordinary response to an exposure that was allowed to grow without effective oversight.

Reports should connect before-and-after positions to actual actions. If sensitivity falls, explain whether the cause was a hedge, changed balances, lower modelled duration or a method change. If a model change creates headroom, independently validate it before new business consumes that headroom. Preserve version records and reconcile performance. A polished dashboard is insufficient if users cannot determine what changed or whether the reported improvement reflects a genuine economic reduction rather than a technical or data effect.

Read regulatory and syllabus references by date

The syllabus mentions RBI draft guidance on interest-rate risk in the banking book. That reference should be taught as part of the syllabus history, not used as evidence that all current guidance remains a draft. Retrieved RBI ALM directions contain governance and interest-rate management provisions, while Basel IRRBB standards provide international context. Domestic implementation, scope and effective dates must be established separately. This chapter does not claim that a global shock specification automatically applies unchanged to every Indian institution.

The source register identifies what was actually retrieved and what later completeness remains unverified. Detailed regulatory shock calibrations and institution-specific thresholds are not inferred from general links. The teaching tools use supplied shocks and clearly label their simplified purpose. An examination may specify a cutoff or provide a rate scenario; use those facts for the calculation and explain the assumptions. For operational use, obtain the current applicable direction and approved bank methodology before treating a result as a compliance measure.

For revision, distinguish repricing, curve, basis and option risk; calculate gap and timing effects; compare earnings and value; and assess the hedge's residual exposures. Keep units explicit: a percentage point is 0.01 in decimal and a basis point is 0.0001. Value-weight durations rather than subtracting years alone. The calculators below provide practice in these relationships while preserving the limitations that determine whether a simple result is suitable for a real banking decision.

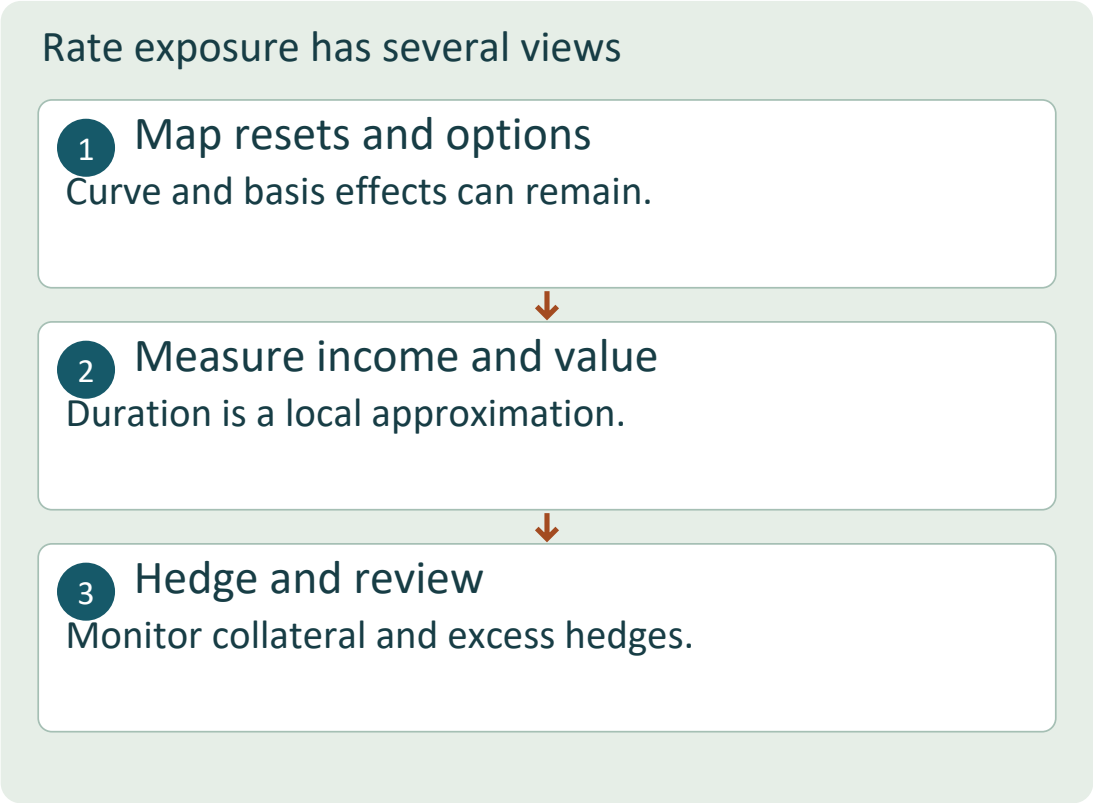
Review Meridian's rate-risk recommendation

Meridian's committee should receive an integrated view of the fixed assets, repricing liabilities, behavioural assumptions and hedges. Show both income and value effects under relevant scenarios. If management expects falling rates, still test an adverse rise and a curve change. A directional forecast should not replace appetite. The proposal should state what risk the bank chooses to retain, why that is supportable and which indicators would trigger reconsideration if market or customer behaviour differs from the base plan.

Compare alternatives on consistent assumptions. Fixed funding can change current expense; a swap can change collateral needs; an asset sale can crystallise a loss. Include execution time and capacity. A proposed hedge is not available merely because its theoretical payoff is attractive. Check documentation, limits, valuation and settlement readiness. The manager should be able to explain the combined position after the action, including basis, option and liquidity effects, rather than report only the derivative's standalone sensitivity.

After execution, verify positions and monitor the relationship. Business changes such as prepayment or deposit withdrawal can make an initially appropriate hedge excessive. Reconcile actual rate pass-through and income with forecasts, investigate differences and update assumptions using evidence. This completes the

management cycle. Interest-rate risk management is the continuing task of understanding how changing rates affect the bank's promises and resources, supported by transparent measurement, credible controls and timely decisions rather than dependence on a single preferred market forecast.



Curve and basis effects can remain. Duration is a local approximation. Monitor collateral and excess hedges.

Practice with explanations

01. Interest-rate risk can exist when all borrowers repay because?

A. Funding and valuation can respond adversely to rates	B. Deposits have no price
C. Fixed assets never change value	D. Only default changes earnings

Answer A. Performance does not eliminate repricing or discounting exposure. Funding expense and present values can change without default, while deposits have costs and fixed cash flows can be sensitive to required yields.

02. A five-year loan resetting quarterly has what schedules?

A. Different final maturity and repricing dates	B. A fixed five-year coupon
C. Quarterly final principal maturity necessarily	D. No need for a cash-flow record

Answer A. Reset terms concern rates, not automatically principal repayment. A position can validly appear in different liquidity and rate buckets; assuming a fixed coupon or omitting records would misstate its actual sensitivity and obligations.

03. Repricing risk primarily concerns what?

A. Different times when asset and liability rates change	B. Only a security's custody address
C. Only default probability	D. Only accounting tax expense

Answer A. Timing differences can change margin when rates move. Credit likelihood, custody and tax are other considerations, but they do not define the mismatch between asset and liability rate-reset schedules.

04. Yield-curve risk can remain when aggregate duration is small because?

A. Only notional size matters	B. Different maturities can move differently
C. Duration removes every basis exposure	D. All rates always shift identically

Answer B. Offsetting aggregate sensitivity can hide bucket concentrations. Non-parallel moves affect them differently; duration and notional alone do not guarantee matching or eliminate benchmark relationships that change under adverse conditions.

05. Loan and hedge use different benchmarks. What residual risk matters?

A. Basis risk	B. No interest payments
C. Guaranteed complete cancellation	D. Only physical damage

Answer A. Benchmarks can move differently, weakening the intended offset. Equal dates or notionals do not establish identical rate behaviour, and the contracts still generate interest obligations rather than eliminating payments or creating a physical-loss mechanism.

06. Borrower prepayment when refinancing becomes attractive illustrates what?

A. Option risk affecting cash-flow timing	B. Guaranteed longer asset duration
C. Only counterparty settlement risk	D. A fixed schedule that never changes

Answer A. Customer choice can shorten receipts and change reinvestment exposure. It does not guarantee longer duration or leave the expected schedule unchanged; settlement risk is a different mechanism requiring separate analysis.

07. Rate-sensitive assets 500 and liabilities 650 crore produce what gap?

A. Minus INR150 crore	B. Plus INR150 crore
C. Minus INR650 crore	D. INR1,150 crore

Answer A. The defined gap is assets minus liabilities. The sum is not net exposure, selecting liabilities omits assets, and reversing subtraction changes the sign of the modelled income response to a rate movement.

08. At immediate full-year one-point rise, that gap gives NII change of?

A. Zero	B. Minus INR1.5 crore
C. Plus INR1.5 crore	D. Minus INR150 crore

Answer B. Multiply the negative gap by 0.01. The direction reflects more repricing liabilities; the larger magnitude omits percentage conversion, and zero ignores the mismatch. Timing and pass-through assumptions limit this simple estimate.

09. A one-point fall under the same assumptions gives what?

A. No calculable effect	B. Plus INR150 crore
C. Minus INR1.5 crore	D. Plus INR1.5 crore

Answer D. Negative gap times negative rate movement is positive. This is conditional sensitivity, not a forecast or approval to speculate; reversing sign or omitting decimal conversion gives the other numeric errors.

10. Why can a one-year bucket overstate NII effect?

A. Timing affects only principal	B. Some balances reset late and earn the new rate for fewer months
C. Every balance resets immediately	D. All customers have identical options

Answer B. Reset timing affects the period earning or paying the changed rate. Immediate common reset is a simplification; principal schedules and customer options remain relevant, and a single bucket does not establish identical behaviour.

11. INR100 crore resets after three months of a year at one-point rise. Simple weighted effect is?

A. INR3 crore	B. INR1 crore
C. INR0.25 crore	D. INR0.75 crore

Answer D. Nine months remain, so 100×0.01×9/12=0.75. One assumes a full year, one-quarter uses the elapsed rather than remaining period, and three confuses months with a return multiplier.

12. The same amount resets after nine months. Effect is?

A. INR9 crore	B. INR1 crore
C. INR0.75 crore	D. INR0.25 crore

Answer D. Only three months remain, giving 100×0.01×3/12=0.25. Other answers use the wrong remaining fraction, ignore timing or multiply by months without converting the annual-rate period consistently.

13. Deposit beta 60% on a one-point market rise means modelled deposit-rate increase of?

A. 0.6 percentage point	B. 1.6 percentage points
C. 60 percentage points	D. 0.06 basis point

Answer A. Beta is the supplied pass-through proportion: 0.60×1=0.6 point. The alternatives confuse proportion, addition or units. It is a model assumption requiring evidence, not a universal permanent response of every deposit product.

14. Liabilities 100 crore with that immediate annual response cost how much extra?

A. INR60 crore	B. INR0.6 crore
C. INR6 crore	D. INR1 crore necessarily

Answer B. Apply the 0.006 decimal rate increase to one hundred crore. Other magnitudes mis-scale the percentage, while one crore assumes full rather than sixty-percent pass-through. Balances and period are held fixed here.

15. Assets 200 at 80% pass-through and liabilities 150 at 100%, one-point rise, give net effect of?

A. Plus INR0.5 crore	B. Plus INR0.1 crore
C. Plus INR3.1 crore	D. Minus INR0.1 crore

Answer B. Asset response is 1.6 crore and liability cost 1.5, leaving 0.1. Applying a common shock to net balances gives 0.5 and ignores differing pass-through; adding both effects or reversing sign is incorrect.

16. Economic-value analysis differs from earnings analysis because?

A. It discounts future flows beyond a single income horizon	B. It ignores every liability
C. It is always today's cash balance	D. It must give the same signal

Answer A. Value and near-term income describe different effects. Present value is not usable cash, liabilities can offset asset sensitivity, and differing results can reveal a real trade-off rather than an inconsistency to suppress.

17. Assets 1,000 duration 4 and liabilities 900 duration 2 have net value-weighted duration of?

A. 100 crore-years	B. 2 years
C. 2,200 crore-years	D. 5,800 crore-years

Answer C. Asset sensitivity 4,000 less liability sensitivity 1,800 gives 2,200. Subtracting unweighted years or balances ignores exposure size; adding sensitivities misses the stated liability offset in the economic-value model.

18. At one-point yield rise, that first-order value change is?

A. Minus INR2,200 crore	B. Plus INR22 crore
C. Minus INR2 crore	D. Minus INR22 crore

Answer D. The approximation is -2,200×0.01=-22. Reversed direction, missing decimal conversion or unweighted duration subtraction produce the alternatives. Large or non-parallel changes need richer revaluation than this local model.

19. When is duration approximation especially limited?

A. Every small parallel shift by definition	B. Large shocks, embedded options or non-parallel curves
C. Only when the answer is negative	D. Only when units are crore

Answer B. Duration is a local first-order relationship. A negative result after a yield rise is expected, and consistent monetary units do not invalidate it. Nonlinearity and curve detail can materially change actual revaluation.

20. A pay-fixed receive-matching-floating swap can help which case?

A. Only a loan already prepaid with no exposure	B. No case because swaps lack cash flows
C. Fixed assets funded by floating liabilities	D. Every possible mismatch automatically

Answer C. Receiving the matching floating leg can offset funding-rate changes while paying fixed. Other cases need separate analysis; a vanished underlying can leave excess hedge exposure, and swaps do create contractual cash-flow obligations.

21. Portfolio DV01 2.8 lakh and opposite contract 0.07 lakh imply continuous hedge count of?

A. 400	B. 4
C. 0.025	D. 40

Answer D. Divide comparable sensitivity magnitudes: 2.8/0.07=40. Reversing the ratio or scale gives other values. Direction, whole-contract constraints, curve matching and basis still require assessment beyond this simple sizing calculation.

22. A hedge reducing value sensitivity can still require what?

A. Interim collateral cash	B. Automatic free funding
C. No liquidity review ever	D. Only gains before losses

Answer A. Economic offset does not guarantee simultaneous cash flows. Margin can arrive before underlying benefits, so funding capacity and contractual terms remain important even when the combined position has lower market sensitivity.

23. A behavioural assumption should change how?

A. Only to reach a preferred limit result	B. Through evidence, controlled review and sensitivity testing
C. Never regardless of new data	D. Without retaining old versions

Answer B. Assumptions need validation and traceable updates. Opportunistic changes can create artificial headroom, erased history impairs comparison and refusing all updates ignores structural change. Evidence and independent challenge support credible ongoing measurement.

24. A small reported rate gap proves what about total rate risk?

A. No stress scenario is needed	B. Every hedge is effective
C. All risk is eliminated	D. No complete conclusion without curve, basis and options

Answer D. An aggregate gap captures a limited relationship and can conceal other sources. It does not certify all hedges or remove the need for relevant scenarios, behavioural assessment and independent review of position completeness.

25. The syllabus's mention of draft IRRBB guidance means what for current teaching?

A. Assume every current rule is still a draft	B. Apply every global standard automatically
C. Preserve the historical reference and separately verify current implementation	D. Ignore source and commencement dates

Answer C. Syllabus history and operative domestic rules are different evidence. Current applicability requires scope and date checks; neither a historical label nor a global publication alone establishes the complete requirement for an Indian bank.

D05 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 Interest-rate risk arises when changes in rates adversely affect the bank's earnings or economic value.	**15** Duration is local.
02 Fictional Meridian Bank holds fixed-rate housing loans, floating business loans, term deposits and non-maturity deposits.	**16** A basic present-value exercise discounts each future receipt or payment at an explicit rate and date.
03 This chapter covers sources and effects of interest-rate exposure, measurement techniques, strategies, controls and supervision.	**17** Compare the revaluation with a duration approximation where a consistent duration is available.
04 Repricing risk arises when assets and liabilities reset at different times.	**18** Scenario design should include relevant curve shapes and basis changes rather than only one parallel shock.
05 Suppose Meridian funds a loan linked to one benchmark with deposits priced using another.	**19** The bank can change asset or liability structure, alter pricing, adjust maturities or use suitable derivatives.
06 Customer options can make exposure nonlinear.	**20** For fixed-rate assets funded by floating liabilities, a pay-fixed, receive-matching-floating swap can stabilise the funding leg under suitable assumptions.
07 A repricing gap is rate-sensitive assets minus rate-sensitive liabilities within a defined bucket.	**21** Sensitivity hedge sizing should use comparable measures.
08 If rates fall one percentage point under the same assumptions, the estimated change is plus INR1.5 crore.	**22** Interest-rate models rely on data about balances, dates, rates, options and behaviour.
09 The bucket definition matters.	**23** Behavioural assumptions deserve explicit ownership.
10 A simple time-weighted income estimate multiplies each repricing gap by its rate shock and the fraction of the horizon remaining after reset.	**24** Validation should examine conceptual soundness, implementation and outcomes.
11 Product rates may not respond one-for-one to a market shock.	**25** Limits can address earnings sensitivity, economic-value change, repricing gaps, duration or other approved measures.
12 For a mixed example, assets INR200 crore pass through 80% of a one-point rise, while liabilities INR150 crore pass through 100%.	**26** Reports should connect before-and-after positions to actual actions.
13 Economic-value analysis discounts future cash flows and examines how their present values change.	**27** The syllabus mentions RBI draft guidance on interest-rate risk in the banking book.
14 A first-order duration model uses value-weighted modified duration.	**28** The source register identifies what was actually retrieved and what later completeness remains unverified.

D06 RAROC and Profit Planning

Practice / Quick Revision

Define success beyond gross income

Profit planning translates business objectives into expected income, costs, losses, resource use and actions over a defined horizon. A bank should understand how a plan earns money and what can prevent the expected result. Gross interest income alone is insufficient because funding, operating expenses, credit costs and capital all matter. A high-yield activity can create little value after these effects. The planning process should therefore connect financial targets with the risks and capacity required to achieve them, rather than reward volume independently of quality.

Fictional Meridian Bank compares two lending portfolios and a fee-based service. The first portfolio earns more income but consumes more capital; the second has lower gross profit but better risk-adjusted performance; the service has limited credit exposure but significant operational dependencies. Management needs comparable definitions and horizons before ranking them. A single measure cannot decide every strategic question, but consistent risk-adjusted analysis can reveal when apparent profitability depends on underpriced expected loss, cheap internal funding or understated resource consumption.

This chapter covers profit planning, risk aggregation, economic capital, capital allocation and risk-adjusted return on capital. Its calculators use explicit management conventions rather than a universal accounting or regulatory definition. They show contribution, hurdle cost, economic profit, break-even pricing and constrained allocation. The student should be able to reconcile the arithmetic and explain the assumptions. A precise percentage is useful only when its numerator, denominator, period and risk treatment are understood and consistently applied.

Build a transparent contribution statement

Start with income and deduct the costs included by the chosen convention. For an illustrative one-year portfolio, gross income INR18 crore, funding cost INR8 crore, operating cost INR3 crore and expected loss INR2 crore produce risk-adjusted contribution INR5 crore. Label the measure pre-tax if tax is excluded. Do not call it final statutory profit unless all relevant accounting items are included. A transparent statement allows another reviewer to identify omissions and compare alternatives without relying on an unexplained headline result.

Funding cost should reflect the resources the business consumes, with an approved internal allocation where appropriate. A long-term asset should not appear artificially profitable because treasury supplies an overnight rate without recognising maturity and liquidity demands. Operating costs can include direct and allocated components, but allocation methods need consistency. Expected loss should be deducted once under the stated convention; if another cost line already includes the same allowance, subtracting it again understates contribution. Reconciliation prevents both hidden subsidies and double counting.

Contribution differs from cash generation. Income may be accrued, principal can be tied up in loans and an initial fee can arrive before future costs. Profit planning should connect the income statement to balance-sheet growth and liquidity. A plan can show positive contribution while requiring cash or capital before the earnings materialise. Management should assess the timing and reliability of resources, not assume that a projected annual profit is already available to fund this month's expansion or absorb a near-term stress.

Distinguish expected loss and unexpected variation

Expected loss is an average estimate under defined assumptions, useful for pricing and planning. Unexpected loss describes adverse variation around that expectation and motivates loss-absorbing resources. Realised outcomes do not arrive in separate labelled containers. If ordinary loss was underestimated, capital can be consumed by what should have been recognised as a business cost. A sound plan challenges both the average and the tail rather than treating capital as a substitute for accurate credit pricing or operating controls.

A simple expected-loss model uses PD, LGD and EAD with compatible definitions and horizon. EAD INR100 crore, one-year PD 2% and LGD 40% give INR0.8 crore. Doubling PD doubles this estimate if other inputs remain fixed. The amount is not a forecast that one borrower will lose exactly that sum. A complete portfolio or accounting model can require scenarios, discounting and dependency. The planning calculation should state its purpose and avoid presenting a basic product formula as a complete provision or capital engine.

Uncertainty in inputs matters. A profitable plan based on optimistic recovery or default assumptions may fail even without an extreme event. Show sensitivity and evidence for key estimates. Historical low losses can reflect a favourable cycle, limited observation or delayed recognition. New products may have sparse data. Judgement is necessary in such cases, but it should be documented and challenged rather than hidden behind many decimal places. The objective is a credible decision under uncertainty, not a falsely certain forecast.

Understand economic capital and its assumptions

Economic capital is an internal estimate of resources needed for unexpected loss under a chosen confidence level, horizon and methodology. Regulatory capital follows prescribed eligibility and requirements; accounting equity follows financial reporting. These concepts can differ. An economic-capital estimate should not be treated as a legal minimum merely because it uses a sophisticated model, and a regulatory ratio pass does not prove the internal risk assessment is complete. The bank should understand and reconcile the purposes and constraints of each view.

The selected confidence and horizon affect the estimate. A model based on one year and a particular loss quantile answers a different question from a short-term market-risk measure. Dependence, tail behaviour and diversification assumptions also matter. A model can understate capital if correlations change in stress or concentrations are omitted. Independent validation should examine conceptual suitability, data, implementation and use. Increasing simulation paths improves numerical precision around the selected model; it cannot repair a fundamentally unsuitable distribution or exposure mapping.

Economic capital should influence decisions rather than exist only in a specialist report. It can support pricing, portfolio limits, performance comparison and resource allocation, subject to governance. The bank should avoid incentives to minimise allocated capital merely to improve a ratio. If a business can alter model inputs without independent challenge, its apparent return can rise without any real improvement. Allocation methods and changes need clear documentation, authority and reconciliation to the institution-wide assessment.

Calculate RAROC with a named convention

Under this chapter's convention, illustrative RAROC is annual risk-adjusted contribution divided by allocated economic capital. Contribution INR5 crore and capital INR25 crore give 20%. This is a pre-tax teaching measure unless specified otherwise. Banks can define risk-adjusted returns differently, so a comparison must use consistent numerator and denominator. Dividing monthly income by capital and comparing it directly with an annual hurdle would mix periods. The tool reports the convention instead of implying that the abbreviation alone establishes every calculation detail.

Consider portfolio B with contribution INR6 crore and allocated capital INR40 crore. Its RAROC is 15%, despite higher contribution than portfolio A. If an assumed hurdle is 16%, A exceeds the hurdle and B falls below it. The result helps identify resource efficiency, but it does not decide strategy automatically. Capacity, customer

relationships, diversification, operational readiness and estimate uncertainty remain relevant. A bank may have reasons to retain an activity, but those reasons should be explicit rather than concealed by inconsistent calculations.

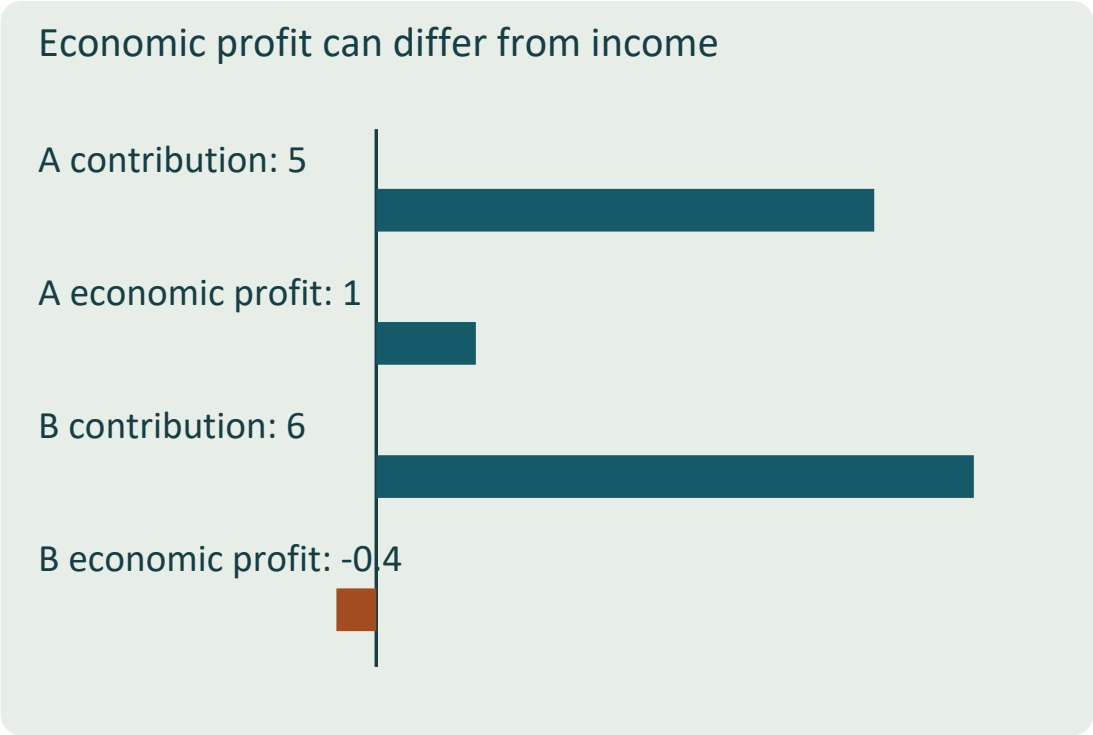
RAROC can be improved artificially by understating expected loss, operating cost or capital. A short observation window can make a risky activity look attractive before losses emerge. Review assumptions and compare realised outcomes with forecasts. The ratio should support disciplined discussion, not become a target that encourages hidden risk. Where allocated capital is zero, the simple ratio is undefined; displaying infinity as a success badge would avoid the real question of whether the allocation and measure are appropriate for the activity.

Interpret economic profit and hurdle cost

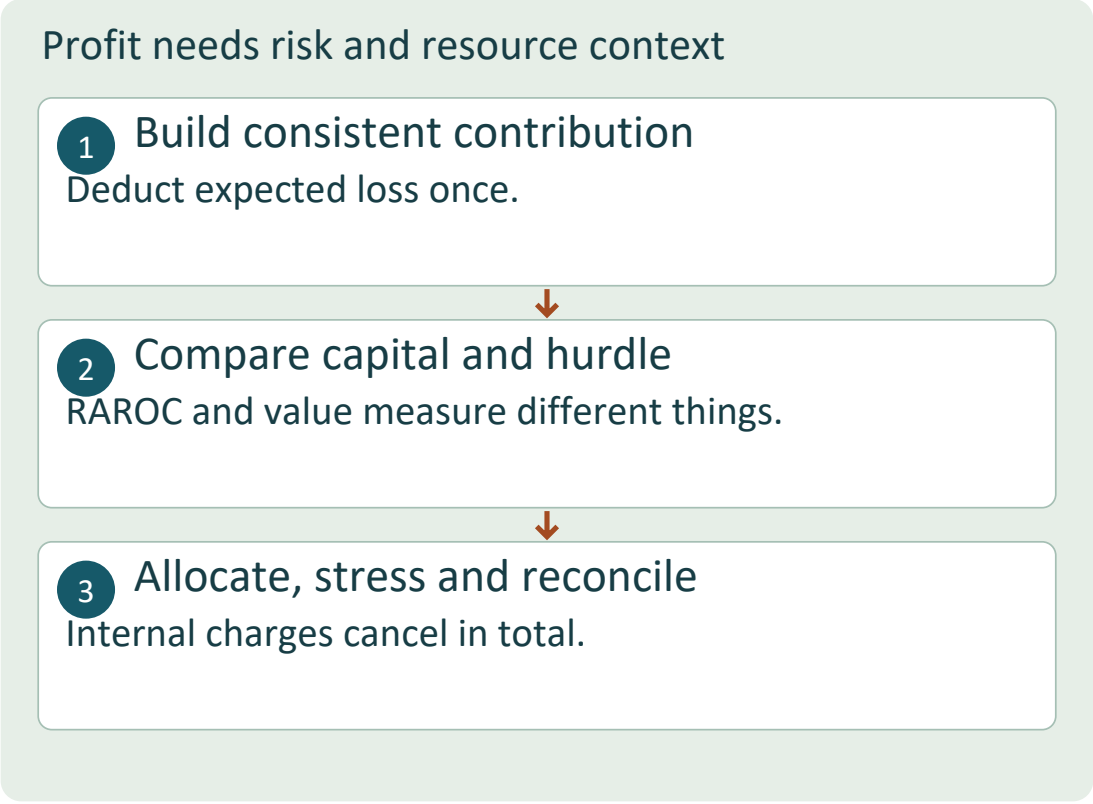
Economic profit under the supplied convention is contribution minus allocated capital multiplied by the hurdle rate. For portfolio A, INR5 crore minus INR25 crore times 16% equals INR1 crore. For B, INR6 crore minus INR40 crore times 16% equals minus INR0.4 crore. This expresses value relative to the assumed capital cost in monetary terms. The hurdle is a management assumption in the exercise, not a universal RBI percentage or a promise that investors will accept that return.

RAROC and economic profit answer related but different questions. A small activity can have a high ratio yet create little total value, while a larger activity above the hurdle can produce more economic profit. If capital is constrained, ranking ratios may be informative; if activities differ in scalability, indivisibility or other constraints, a simple ranking can be inadequate. Compare both amount and efficiency, then examine the actual feasible choices. The best plan depends on the objective and constraints, not on maximising one number regardless of scale.

Negative economic profit is a signal to investigate pricing, costs, risk and structure. Raising price may help only if customers can and will pay and the change does not worsen risk. Cost reduction must preserve necessary controls. Lower capital consumption must reflect genuine exposure improvement rather than optimistic measurement. Alternatives can include changing tenor, collateral, customer selection or business volume, or declining the activity. The recommendation should explain the mechanism and consequences of the proposed improvement.



INR crore. A capital 25, B capital 40, supplied hurdle 16%. Ratios are 20% and 15%, respectively. [('A contribution', 5), ('A economic profit', 1), ('B contribution', 6), ('B economic profit', -0.4)]



Deduct expected loss once. RAROC and value measure different things. Internal charges cancel in total.

Aggregate risks without inventing diversification

Institution-wide risk aggregation considers relationships across exposures and risk types. Expected losses add under consistent definitions, but variability and tail loss depend on joint behaviour. A common sector shock can increase defaults, reduce collateral values and weaken funding together. Separate departmental models can miss that link. Aggregation should use consistent data and avoid counting the same consequence twice, while retaining genuinely distinct effects such as credit loss and additional funding cost caused by the same scenario.

A simplified two-risk variance example uses stand-alone loss standard deviations INR4 crore and INR3 crore. With zero correlation, combined standard deviation is the square root of sixteen plus nine, or INR5 crore. At correlation one, it is INR7 crore. This demonstrates a dependency effect, not a complete economic-capital allocation rule. If capital measures are not comparable standard-deviation quantities, inserting them into the same formula without justification can produce a misleading diversification benefit. The model's interpretation must fit its inputs.

Historical dependence may change during stress. Apparent offsets can also be unavailable across currencies or legal entities when resources cannot move freely. A group-wide model should not erase local constraints. Stress common drivers and explain which benefits remain credible. Management should see the stand-alone, aggregated and constrained views where relevant, rather than only the smallest favourable total. Diversification is useful when supported by economic and legal reality; it is not a number to assume simply because business lines have different names.

Allocate scarce capital to feasible choices

Capital allocation should connect strategy, risk appetite and resource constraints. A bank may have a fixed budget and several activities with different returns, minimum sizes and concentration effects. If activities are divisible and all other conditions are equal, marginal value per unit of capital can guide allocation. If choices are indivisible or interact, a simple descending-ratio rule can fail. The plan should state what can actually be scaled and whether returns remain constant as volume grows.

For a transparent two-choice exercise, project A needs INR25 crore capital and contributes INR5 crore; B needs INR40 crore and contributes INR6 crore. With a budget INR40 crore and indivisible choices, only one can be selected. At a supplied 16% hurdle, A's economic profit is INR1 crore and B's is minus INR0.4 crore, so A is preferable under that objective and those assumptions. The unspent INR15 crore does not automatically make B superior merely because it uses the whole budget.

Now consider a different objective or constraint. A strategic requirement, concentration reduction or essential service may justify a choice that a narrow ratio ranking would not select. Such decisions should be documented with costs and expected benefits, not disguised by adjusting inputs until the preferred project ranks first. After allocation, monitor whether the business uses capital and produces contribution as planned. A static annual budget cannot substitute for review when losses, growth or model changes alter resource consumption materially.

Build break-even and stress pricing

A required income calculation can combine funding cost, operating cost, expected loss and a capital hurdle charge under a stated convention. Suppose a portfolio of INR100 crore has funding cost INR5 crore, operating cost INR1 crore, expected loss INR0.8 crore and allocated capital INR10 crore with a 16% hurdle. Required contribution before the capital charge is INR1.6 crore, so required total income is INR8.4 crore. If all income is represented as a simple annual yield on the unchanged balance, that is 8.4%.

This is not automatically the customer price a real bank should quote. Fees, amortisation, tax, reserves, liquidity, competition and behaviour may require a richer model. A higher yield can affect default likelihood, making expected loss endogenous rather than fixed. The tool isolates the arithmetic and states what is

omitted. Its value is to show which cost or resource drives the required income, allowing management to challenge assumptions and compare structures rather than use a single opaque pricing number.

Stress the plan by changing linked inputs. Funding cost might rise while expected loss increases and income falls. If income becomes INR8 crore, funding INR6 crore, operating cost INR1 crore and expected loss INR1.5 crore, contribution is minus INR0.5 crore before the capital charge. A plan that barely meets the hurdle in the base case may therefore be fragile. Show the adverse result and feasible responses, including the time needed to adjust pricing, reduce exposure or obtain resources.

Reconcile planning, performance and governance

Profit plans should reconcile across business lines, treasury and the institution. Internal transfer-pricing flows allocate results but cancel in consolidation. A lending team's internal funding charge is not additional external expense for the whole bank if the corresponding treasury credit is also counted. Consistent definitions prevent double counting and hidden subsidies. Reports should distinguish gross income, contribution, accounting profit, RAROC and economic profit rather than use the word profit for several incompatible measures in the same comparison.

Governance should cover assumptions, models, allocations and changes. Business teams provide commercial information; finance reconciles results; risk challenges loss and capital estimates; senior management decides within appetite. Independent assurance checks the process. Incentives should recognise sustainable outcomes and controls, not only volume or a favourable ratio. A business should not improve its measured return by delaying recognition of losses, omitting costs or retaining an optimistic capital model after evidence shows that the assumptions no longer fit.

For revision, build contribution first, establish compatible expected loss and capital, calculate RAROC, compare with a supplied hurdle and compute economic profit. Then consider aggregation, feasible allocation, pricing and stress. Explain both monetary value and resource efficiency. The calculators below help test these relationships, while strategic judgement remains necessary where choices interact or benefits are not captured by the simple model. The objective is transparent planning that management can challenge and update, not a mechanically impressive ranking built from inconsistent inputs.

Present Meridian's portfolio recommendation

Meridian should compare the two portfolios using the same period, cost convention and capital basis. Show that A's lower contribution produces a higher RAROC and positive economic profit at the assumed hurdle. Explain the uncertainty in expected losses and the reliability of allocated capital. If management favours B for strategic reasons, quantify the current economic shortfall and the conditions needed to improve it. A reasoned exception is more useful than pretending the arithmetic supports a conclusion it does not.

Next examine the bank-wide effect. Either portfolio can worsen concentration, funding or operational pressure. A diversification benefit should be supported by common-driver analysis and stress, not just a different business label. Ensure that planned earnings arrive in time to support growth and that liquidity and regulatory capital constraints remain satisfied. Economic-capital efficiency cannot authorise a breach of a separate legal requirement or provide cash for a payment. The measures need a common decision framework while retaining their distinct meanings.

Finally, establish review triggers and evidence. Track actual income, funding, operating costs, losses and capital use against the plan. Investigate whether differences reflect volume, price, risk or model assumptions, and update forecasts transparently. This closes Module D's whole-bank perspective: balance-sheet structure, capital, credit quality, liquidity and interest-rate exposure all feed the capacity to earn sustainable returns. Profit planning is strongest when those connections are visible and accountable decisions follow from the evidence throughout the life of the business.

Practice with explanations

01. Profit planning should connect income with what?

A. Only volume targets	B. Costs, risk, capital, cash timing and capacity
C. Only last month's favourable result	D. Only the largest coupon

Answer B. A sustainable plan accounts for resources and uncertainty. Volume, coupon and recent profit can omit funding or losses, so none alone establishes the value or feasibility of the business over the chosen horizon.

02. Income 18, funding 8, operating 3 and expected loss 2 crore give contribution of?

A. INR10 crore	B. INR18 crore
C. INR7 crore	D. INR5 crore

Answer D. Deduct all stated costs once: 18-8-3-2=5. Seven omits expected loss, ten omits operations and loss, and eighteen is gross income rather than the risk-adjusted teaching contribution defined in the case.

03. Why label that contribution pre-tax?

A. Funding was not deducted	B. It automatically equals final statutory profit
C. Tax and other excluded accounting items are not included	D. Capital is always tax-free cash

Answer C. The label makes the convention transparent. Contribution need not equal final accounting profit; funding was explicitly deducted, and the tax treatment or cash nature of capital cannot be inferred from this income calculation.

04. Expected loss should be deducted how under a consistent model?

A. Never because capital exists	B. Once, avoiding overlap with other included allowance lines
C. Only after a realised default	D. Twice for safety in every case

Answer B. Expected cost belongs in planning under the stated convention, but duplication misstates economics. Capital addresses adverse variation rather than eliminating ordinary cost, and waiting for default defeats forward-looking pricing and assessment.

05. Projected annual profit is automatically available cash today?

A. Only if the coupon exceeds the hurdle	B. Yes, if RAROC is high
C. No, recognition and receipts have different timing	D. Yes, every forecast is cash

Answer C. Earnings, principal deployment and cash flows differ. A favourable ratio or coupon does not accelerate receipts, so liquidity and capital timing must be assessed alongside the annual contribution rather than inferred from it.

06. EAD 100 crore, PD 2%, LGD 40% gives simple expected loss of?

A. INR0.8 crore	B. INR40 crore
C. INR8 crore	D. INR2 crore

Answer A. The product is 100×0.02×0.40=0.8. The alternatives omit an input or mis-scale it. This is an average under compatible definitions and horizon, not an exact prediction for one borrower or complete accounting engine.

07. Unexpected loss is best understood as what?

A. Always the same as expected loss	B. Adverse variation around the expected estimate
C. Every cash payment regardless of cause	D. Only an operating expense invoice

Answer B. Unexpected variation motivates loss-absorbing resources. It differs from the average business cost and from routine invoices or all payments; realised losses need not arrive neatly separated into accounting categories matching these concepts.

08. Economic capital depends on what?

A. Horizon, confidence, risk and aggregation assumptions	B. Only a universal fixed percentage
C. Only cash held in a branch	D. Only the business's preferred ratio

Answer A. It is an internal risk estimate whose assumptions affect the result. Neither a fixed universal number nor vault cash defines it, and selecting inputs to achieve a preferred return undermines independent assessment.

09. A well-implemented model can still mislead when?

A. Its assumptions or exposure mapping are unsuitable	B. It uses many scenarios
C. Its documentation is readable	D. It has been independently checked

Answer A. Implementation accuracy does not establish conceptual suitability. Documentation and review support quality, and additional scenarios cannot repair a wrong model or missing exposure; the method must fit the decision and portfolio.

10. Contribution 5 and allocated capital 25 crore give illustrative RAROC of?

A. 25%	B. 500%
C. 5%	D. 20%

Answer D. Divide contribution by capital and multiply by one hundred. Input amounts are not percentages, and multiplying rather than dividing gives a scale error. The numerator and hurdle must use a consistent annual horizon.

11. Contribution 6 and capital 40 crore give what RAROC?

A. 20%	B. 40%
C. 15%	D. 6%

Answer C. Six divided by forty is fifteen percent. Twenty belongs to the other portfolio, while six and forty confuse monetary inputs with the ratio. Higher contribution does not necessarily imply greater efficiency in scarce capital.

12. Against a supplied 16% hurdle, those portfolios imply what?

A. B necessarily wins because contribution is higher	B. Both clear because profit is positive
C. Neither can be compared under any convention	D. A clears the hurdle while B falls below

Answer D. Twenty percent exceeds sixteen and fifteen does not. Positive contribution alone does not cover the capital hurdle, and consistent definitions permit comparison even though strategy and uncertainty can still influence the final decision.

13. Allocated capital zero should produce what in the simple RAROC tool?

A. Automatic permission to grow	B. An undefined-ratio explanation
C. A guaranteed infinite success score	D. Exactly zero return

Answer B. Division by zero does not provide a meaningful finite performance ratio. It should prompt examination of allocation and measure suitability; neither zero nor infinity establishes resource efficiency or authorises new business.

14. Economic profit for contribution 5, capital 25 and hurdle 16% is?

A. Minus INR1 crore	B. INR5 crore
C. INR4 crore	D. INR1 crore

Answer D. The hurdle charge is four crore, leaving five minus four equals one. Four is the charge, five ignores it and reversing subtraction changes sign. The hurdle is explicitly supplied rather than a universal regulatory percentage.

15. For contribution 6, capital 40 and hurdle 16%, economic profit is?

A. Minus INR0.4 crore	B. INR6.4 crore
C. INR15 crore	D. Plus INR0.4 crore

Answer A. Capital cost is 6.4, so contribution less charge is -0.4. Reversing subtraction changes sign; 6.4 is the cost and fifteen is the percentage RAROC rather than economic profit in money.

16. Why use both RAROC and economic profit?

A. Efficiency and total value can rank scale differently	B. A high ratio guarantees large total value
C. They are identical monetary amounts	D. Capital constraints never matter

Answer A. RAROC measures contribution per capital, while economic profit measures surplus amount over a hurdle. Scale, divisibility and constraints matter, so a small high-ratio business need not create the largest total value.

17. Raising customer price always fixes weak risk-adjusted economics?

A. Yes, expected loss is necessarily fixed	B. Yes, every borrower pays any rate
C. Only volume matters	D. No, capacity, demand and risk can change

Answer D. Pricing can affect repayment and customer behaviour. A higher coupon is not guaranteed income, and expected loss may respond. Structure, selection, costs or declining the activity can be better than assuming unlimited price increases.

18. Loss standard deviations 4 and 3 crore at zero correlation combine to what?

A. INR25 crore standard deviation	B. INR7 crore
C. INR1 crore	D. INR5 crore

Answer D. The variance is sixteen plus nine, whose square root is five. Seven assumes perfect positive correlation, one perfect negative correlation, and twenty-five is variance rather than standard deviation under the supplied model.

19. Those standard deviations at correlation one combine to what?

A. INR5 crore	B. Zero
C. INR49 crore standard deviation	D. INR7 crore

Answer D. Perfect positive dependence makes the magnitudes add to seven. Five is the zero-correlation result, zero is impossible here and forty-nine is the resulting variance, not the requested standard deviation.

20. May arbitrary economic-capital figures be inserted into that variance formula?

A. No assumptions ever matter	B. Only with a justified compatible interpretation
C. Yes, all capital measures are standard deviations	D. Yes, to obtain a lower total

Answer B. The formula's inputs must match its statistical meaning. Capital can use different confidence or tail definitions, and choosing a formula because it produces diversification does not establish a valid aggregation method.

21. A 40 crore budget with indivisible A needing 25 and B needing 40 should select what under the supplied economic-profit objective?

A. B solely because it exhausts budget	B. Both because contribution is positive
C. Neither because ratios differ	D. A, with higher economic profit despite unused budget

Answer D. A creates one crore economic profit while B creates -0.4. Using all resources is not itself value creation, both exceed the budget together, and consistent metrics allow the comparison under the stated objective.

22. Why can a simple descending-ratio allocation fail?

A. Strategy never matters	B. Returns must stay constant with growth
C. Choices may be indivisible, interacting or constrained	D. Every activity is infinitely scalable

Answer C. Feasible combinations and marginal economics can differ from initial ratios. Indivisibility and constraints require explicit analysis; assuming unlimited scale or fixed returns can produce an impossible or suboptimal allocation of scarce capital.

23. Funding 5, operations 1, expected loss 0.8 and capital 10 crore at 16% hurdle require what total income?

A. INR6.8 crore	B. INR16.8 crore
C. INR1.6 crore	D. INR8.4 crore

Answer D. Costs total 6.8 and the capital charge is 1.6, giving 8.4. The alternatives omit the charge, report only the charge or double count components. The pricing convention and period are explicitly supplied.

24. On a constant 100 crore balance, that income corresponds to what simple annual yield?

A. 1.6%	B. 6.8%
C. 8.4%	D. 84%

Answer C. Required income divided by balance gives 8.4 percent. The other values mis-scale or isolate only non-capital costs or the hurdle component. Actual customer pricing can need fees, amortisation and other adjustments beyond the simple model.

25. Internal transfer-pricing payments do what in consolidation?

A. Cancel while allocating the external result	B. Create new external profit
C. Always double funding expense	D. Remove liquidity constraints

Answer A. Internal charges and credits allocate contribution but cancel across the common perimeter. Counting them again creates artificial profit or expense, and attribution does not eliminate actual funding, capital or cash requirements faced by the bank.

D06 Quick Revision

01-14 | Essential facts	15-28 | Essential facts
01 Profit planning translates business objectives into expected income, costs, losses, resource use and actions over a defined horizon.	**15** RAROC can be improved artificially by understating expected loss, operating cost or capital.
02 Fictional Meridian Bank compares two lending portfolios and a fee-based service.	**16** Economic profit under the supplied convention is contribution minus allocated capital multiplied by the hurdle rate.
03 This chapter covers profit planning, risk aggregation, economic capital, capital allocation and risk-adjusted return on capital.	**17** RAROC and economic profit answer related but different questions.
04 Start with income and deduct the costs included by the chosen convention.	**18** Negative economic profit is a signal to investigate pricing, costs, risk and structure.
05 Funding cost should reflect the resources the business consumes, with an approved internal allocation where appropriate.	**19** Institution-wide risk aggregation considers relationships across exposures and risk types.
06 Contribution differs from cash generation.	**20** A simplified two-risk variance example uses stand-alone loss standard deviations INR4 crore and INR3 crore.
07 Expected loss is an average estimate under defined assumptions, useful for pricing and planning.	**21** Historical dependence may change during stress.
08 A simple expected-loss model uses PD, LGD and EAD with compatible definitions and horizon.	**22** Capital allocation should connect strategy, risk appetite and resource constraints.
09 Uncertainty in inputs matters.	**23** For a transparent two-choice exercise, project A needs INR25 crore capital and contributes INR5 crore; B needs INR40 crore and contributes INR6 crore.
10 Economic capital is an internal estimate of resources needed for unexpected loss under a chosen confidence level, horizon and methodology.	**24** Now consider a different objective or constraint.
11 The selected confidence and horizon affect the estimate.	**25** A required income calculation can combine funding cost, operating cost, expected loss and a capital hurdle charge under a stated convention.
12 Economic capital should influence decisions rather than exist only in a specialist report.	**26** This is not automatically the customer price a real bank should quote.
13 Under this chapter's convention, illustrative RAROC is annual risk-adjusted contribution divided by allocated economic capital.	**27** Stress the plan by changing linked inputs.
14 Consider portfolio B with contribution INR6 crore and allocated capital INR40 crore.	**28** Profit plans should reconcile across business lines, treasury and the institution.

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