P16 · December 2026 · the questions to study

topic by topic, in study-material order

WHY THIS LIST

The exam keeps asking the same concepts. Share of each paper's marks on a concept that had already been asked in an earlier paper:

Jun'24 51% · Dec'24 47% · Jun'25 64% · Dec'25 59% · Jun'26 88%. Adding ICMAI's practice papers of the term: Jun'26 **97%**. This list is every concept asked in the seven papers (Jun'23–Jun'26) and in ICMAI's Jun'26 MQP, PTP and postal paper, plus our Dec'26 calls for concepts not yet asked. The rest of the marks come from new questions on the same topics (every Jun'26 question was on a topic asked before).

HOW TO READ A ROW

- ★★★ concept asked in 3+ of the 7 papers, or one of our Dec'26 calls: prepare first
- ★★ concept asked in 2 papers
- ★ asked once, or only in ICMAI's practice papers · SM exercise lines: if time
- **What the stars were worth** (tested on Jun'26, counting only the papers before it): ★★★ concepts carried **28%** of its marks, ★★★ + ★★ **44%**, all three **88%**.
- **Answer in**: where your coaching books already answer the same question — for a sum: the SM illustration or ICMAI workbook problem the exam copied ("same problem") or closely followed ("similar problem"); its full solution is printed right after it. Blank = practise the problems listed under the topic.
- **Sums are listed by what they ask**, not the full problem: open the paper (or the SM / workbook page) to solve it. Each topic ends with **Problems to solve** from the SM and the workbook: ★★★ = the exam already used it, ★★ = SM illustration or workbook problem, ★ = SM exercise sum.

MCQ PLACES (Q1, 15 × 2 MARKS): TOPIC IN EACH PLACE, LAST FOUR PAPERS

Q1	Dec'24	Jun'25	Dec'25	Jun'26
(i)	1.1	1.1	3.8	3.8
(ii)	3.1	2.1	3.1	3.1
(iii)	2.2	4.4	3.1	3.1
(iv)	4.3	15.0	4.1	4.1
(v)	5.1	15.0	5.1	5.1
(vi)	3.2	4.3	6.0	8.0
(vii)	13.0	8.0	9.0	10.0
(viii)	4.1	13.0	12.0	12.0
(ix)	11.0	3.1	15.0	15.0
(x)	11.0	9.0	1.3	1.1
(xi)	15.0	5.1	6.0	5.1
(xii)	15.0	3.4	4.2	4.2
(xiii)	12.0	12.0	5.1	5.2
(xiv)	14.0	11.0	1.3	1.3
(xv)	10.0	3.1	3.5	3.5

DEC'26 MCQ CALLS: ONE TOPIC PER PLACE (A CALL, NOT A PROMISE)

Place	Call	Runner-up	Why
(i)	**3.8 Decision tree / expected value (numerical)**	3.1 Alternative choices	3.8 in D25, J26, MQP and PTP.
(ii)	**3.1 Break-even, contribution (numerical)**	3.4 Relevant cost	3.1 in D25, J26, MQP and PTP.
(iii)	**3.1 Alternative choices: make or buy, shut down (numerical)**	3.2 Pricing	3.1 in D25, J26, MQP and PTP.
(iv)	**4.1 Activity-based costing (numerical)**	4.3 Throughput	4.1 in D25, J26, MQP and PTP.
(v)	**5.1 Variances (numerical)**	5.1 (second item)	5.1 in every paper since D24, and in MQP and PTP.
(vi)	**7.0 Transportation (numerical)**	6.0 Linear programming	Operations research rotates here: 6.0 D25, 8.0 J26 and PTP, 7.0 MQP. Transportation is the one not yet used in the exams.
(vii)	**9.0 Game theory (numerical)**	10.0 Simulation	9.0 in D25, MQP and PTP; 10.0 in J26.
(viii)	**12.0 Learning curve (numerical)**	13.0 Maxima / minima	12.0 in D25, J26, MQP and PTP.
(ix)	**15.0 Data analytics tools**	15.0 (second item)	15.0 in D25, J26, MQP and PTP.
(x)	**1.1 Value chain, red / blue ocean**	1.3 Value analysis	1.1 in J26 and the PTP; 1.3 in D25; 2.2 in the MQP.
(xi)	**6.0 Linear programming (theory)**	3.2 Pricing strategies	Mixed: 6.0 D25, 5.1 J26, 3.2 MQP, 3.1 PTP.

(xii)	**4.2 JIT**	4.4 Back-flush	4.2 in D25, J26, MQP and PTP.
(xiii)	**5.1 Variances (theory)**	5.2 Uniform costing	5.1 in D25, MQP and PTP; 5.2 in J26.
(xiv)	**1.3 Value analysis / BPR**	1.1 SCM concepts	1.3 in D25, J26, MQP and PTP.
(xv)	**3.5 Target costing (numerical)**	3.4 Relevant cost	3.5 in D25, J26, MQP and PTP.

1.1 Concepts of Strategic Cost Management in different stages of Value Chain

SM pp. 5–14 · marks per attempt: **J26-2 · J25-2 · D24-2 · J24-2 · D23-2 · J23-4** · Dec'26 forecast: tier **B**, chance of any marks **57% (Possible)**, of a 7-mark question 11% (Rare), expected **1.7** marks (MCQ formulas / facts only)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Porter's value chain: primary and support activities, generic links; or cost control vs cost reduction. [PRACTICE · postal Q2(a)-(b); value-chain MCQs J23, J25]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★	Generic links of Porter's value chain	POSTAL Q2(a) · 8 m	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★★	(x) Which one of the following is true for a Blue Ocean Strategy? (A) Exploit existing demand (B) Beat the competition (C) Make the competition irrelevant (D) Make the value-cost trade off [2]	J23 Q1(v) · J26 Q1(x) · 2 m · asked in 3 papers	
★★★	(i) Which one of the following is true for Blue Ocean Strategy? (A) Beat the competition (B) Exploit existing demand (C) Make the competition irrelevant (D) Make the value-cost trade off *(2 Marks)*	J24 Q1(i) · 2 m · asked in 3 papers	
★★	(A) Operations (B) Outbound Logistics (C) Infrastructure (D) Services (ii) Which of the following is/are not the quality parameter(s) for manufacturing organisations?	J25 Q1(i) · 2 m · asked in 2 papers	
★★	(A) Cost Driver Analysis (B) Value Chain Analysis (C) Strategic Positioning Analysis (D) Competitive Value Analysis	D23 Q1(ii) · D24 Q1(i) · 2 m · asked in 2 papers	
★★	(i) Which one of the following is not a support activity of value chain? (A) Human Resource Management (B) Technological Development (C) Service (D) Infrastructure	J23 Q1(i) · PTP Q1(x) · 2 m · asked in 2 papers	

★ **SM exercise (if time):** M1 essay 1 (p.38): (SCM) and discuss its relevance in the contemporary scenario · M1 essay 2 (p.38): Generic links of Porter's Value Chain · M1 essay 3 (p.38): Demonstrate the significance of Value Chain Analysis with an illustrative example

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q1, Q2, Q5, Q234, Q239, Q280

1.2 Cost Control and Cost Reduction - Contemporary Techniques

SM pp. 15–21 · **never asked in the seven papers** · Dec'26 forecast: tier **C**, chance of any marks **0% (Rare)**, of a 7-mark question 0% (Rare), expected **0** marks (Read the headings)

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★	Cost control vs cost reduction	POSTAL Q2(b) · 4 m	

Problems to solve (3): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★	Ever Forward Ltd is manufacturing and selling two products: Splash and Flash, at selling…	SM M1 exercise sum 1 · SM p.38	
★	Practical problem: The profit for The Forward Look Ltd. works out to 12.5% of the capital employed…	SM M1 exercise sum 2 · SM p.39	

Priority	Problem (what it asks)	Where	Came in the exam
★	Practical problem: The anticipated sales of Electronic Corporation Ltd. is ₹ 4,00,000 and unit…	SM M1 exercise sum 3 · SM p.39	

★ **SM exercise (if time):** M1 essay 4 (p.38): Key points for exercising cost control · M1 essay 5 (p.38): Tools and techniques of cost reduction · M1 essay 6 (p.38): Differentiate Cost Control with Cost Reduction · M1 essay 7 (p.38): Narrate five steps to Strategic Cost Reduction

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q4, Q6, Q216, Q269

1.3 Value Analysis and Value Engineering - Business Process Re-engineering

SM pp. 22–28 · marks per attempt: **J26-2 · D25-4 · D24-7 · D23-7 · J23-6** · Dec'26 forecast: tier **B**, chance of any marks **81% (Very likely)**, of a 7-mark question 45% (Possible), expected **4.2** marks (MCQ facts + one sum / answer type)

OUR DEC'26 CALLS FOR THIS TOPIC

1. "Value analysis ..." - state the phases of value analysis (origination, information, functional analysis, innovation, evaluation, choice, implementation). [REPEAT+PRACTICE · D23 Q4(b), D24 Q4(b) (both December); MQP Q4(b) and PTP Q4(b)]
2. Characteristics and principles of business process re-engineering. [REPEAT · J23 Q2(a); BPR MCQs in D25 and J26]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	(b) "Value Analysis enables people to contribute towards value addition by continuous focus on product design and services". – In this context, summarize the phases of Value Analysis. [7]	D23 Q4(b) · D24 Q4(b) · MQP Q4(b) · PTP Q4(b) · 7 m · asked in 2 papers	
★★★	"Business Process Re-engineering involves the radical redesign of core business processes to achieve dramatic improvements in productivity, cycle times and quality." In this context, state what are the characteristics and principles of Business Process Re-engineering. [6]	J23 Q2(a) · 6 m · asked in 2 papers	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★	(xiv) Which of the following is not a principle of Business Process Re-engineering? (A) Organise work around outcomes, not tasks. (B) Capture information once and at the source. (C) Empower workers who use the process. (D) Rely heavily on hierarchy and supervision. [2]	D25 Q1(xiv) · 2 m · asked in 2 papers	
★	(xiv) A major risk in implementing Business Process Reengineering is (A) over dependence on Information Technology. (B) increase in product prices. (C) reduced market share. (D) employee resistance to change. [2]	J26 Q1(xiv) · MQP Q1(xiv) · 2 m	
★	(x) Which one of the following, simply answers the question "What else will accomplish the purpose of the product, service or process we are studying?" (A) Value Engineering (B) Value Analysis (C) Business Process Re-engineering (D) Supply Chain Strategy [2]	D25 Q1(x) · 2 m	
★	Not a value-analysis term (resale value)	PTP Q1(xiv) · 2 m	
★	Not a value-analysis term (resale value)	POSTAL Q1(i) · 2 m	

★ **SM exercise (if time):** M1 essay 8 (p.38): Draft a report to your Managing Director emphasizing the importance of value analysis with… · M1 essay 9 (p.38): Phases of Value Analysis · M1 essay 10 (p.38): Value Analysis and Value Engineering · M1 essay 11 (p.38): Need for Business Process Reengineering (BPR)

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q3

1.4 Supply Chain Management

SM pp. 29–36 · **never asked in the seven papers** · Dec'26 forecast: tier **C**, chance of any marks **11% (Rare)**, of a 7-mark question 0% (Rare), expected **0.2** marks (Read the headings)

★ **SM exercise (if time):** M1 essay 12 (p.38): Supply Chain · M1 essay 13 (p.38): Cross-Docking · M1 essay 14 (p.38): Supply Chain Management with an illustrative case let

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q7

2.1 Managing Quality in Competitive Environment

SM pp. 43–47 · marks per attempt: **J25-2 · J23-5** · Dec'26 forecast: tier **C**, chance of any marks **6% (Rare)**, of a 7-mark question 0% (Rare), expected **0.1** marks (Read the headings)

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	"Quality is the degree to which a set of inherent characteristics fulfils requirements." – In this context, explain the concept of quality and append the cost of quality under different categories briefly explaining them. [7] (listed under 2.2 too)	J25 Q4(b) · 7 m	
★	Newspaper: on-time delivery tracking system - cost vs benefit, install or not	J23 Q3(b) · 5 m	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★	(A) Reliability (B) Durability (C) Service ability (D) Courtesy/Friendliness (iii) The companies that would benefit from backflush costing include companies (A) which have fast manufacturing lead time.	J25 Q1(ii) · POSTAL Q1(iii) · 2 m	

Problems to solve (1): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★	Practical problem: Rags Ltd. manufactures and sells premium quality of sports shoes in India	SM M2 exercise sum 3 · SM p.72	

★ **SM exercise (if time):** M2 MCQ (not in the bank) 9 (p.71): Which of the following is not the quality parameter for service organizations · M2 essay 1 (p.71): An elaborative note on managing quality in a competitive environment

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q8

2.2 Cost of Quality

SM pp. 48–49 · marks per attempt: **J26-7 · J25-7 · D24-2 · J24-2 · D23-2 · J23-9** · Dec'26 forecast: tier **B**, chance of any marks **56% (Possible)**, of a 7-mark question 29% (Unlikely), expected **2.2** marks (MCQ facts + one sum / answer type)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Concept of quality and the four categories of quality cost, or classify given items into prevention / appraisal / internal / external failure. [REPEAT · J25 Q4(b), J26 Q4(b)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Apply the classification of Cost of Quality to assess the following items under appropriate categories of quality costs, viz., Prevention Costs (PC), Appraisal Costs (AC), Internal Failure Costs (IFC) and External Failure Costs (EFC): (i) Product acceptance (ii) Design review (iii) Discount due to defects (iv) Re-inspection (v) Statistical process control activities (vi) Cost of field servicing (vii) Depreciation of testing equipment \[*Note:* Write only the Roman numbers of the items given against appropriate categories] [7]	J26 Q4(b) · 7 m · asked in 5 papers	
★★★	"Quality is the degree to which a set of inherent characteristics fulfils requirements." – In this context, explain the concept of quality and append the cost of quality under different categories briefly explaining them. [7]	J25 Q4(b) · 7 m	
★	Cost of quality statement: prevention / appraisal / internal / external failure; Profit net of quality costs	J23 Q3(a)(i)(ii) · 7 m	
★	Newspaper: on-time delivery tracking system - cost vs benefit, install or not (listed under 2.1 too)	J23 Q3(b) · 5 m	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★★	(iii) Which of the following quality costs is incurred when inferior products are delivered to customers? (A) Prevention Costs (B) Appraisal Costs (C) External Failure Costs (D) Internal Failure Costs	D24 Q1(iii) · 2 m · asked in 5 papers	

Priority	Question	Asked / marks	Answer in
★★★	(ii) Which of the following Quality Cost is incurred in the process of uncovering defects? (A) Appraisal Costs (B) Prevention Costs (C) Internal Failure Costs (D) External Failure Costs *(2 Marks)*	J24 Q1(ii) · 2 m · asked in 5 papers	
★★★	(i) Down time due to defect in quality is an example of (A) Internal failure cost (B) Prevention cost (C) Appraisal cost (D) External failure cost	D23 Q1(i) · 2 m · asked in 5 papers	
★★★	(ii) Warranty period return of finished goods sold falls under the following quality cost: (A) Prevention (B) Appraisal (C) Internal failure (D) External failure	J23 Q1(ii) · MQP Q1(x) · 2 m · asked in 5 papers	

Problems to solve (2): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★	Practical problem: Zebra Limited introduced a quality improvement program and following results…	SM M2 exercise sum 1 · SM p.71	
★	Practical problem: A Company manufactures a single product, which requires two components	SM M2 exercise sum 2 · SM p.72	

★ **SM exercise (if time):** M2 MCQ (not in the bank) 7 (p.70): Cost of Rework is a cost related to Quality Cost Management · M2 essay 2 (p.71): Detail and discuss the costs of quality

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q13, Q14, Q229, Q237, Q246, Q257, Q283

2.3 Total Quality Management

SM pp. 50–57 · marks per attempt: **J23-6** · Dec'26 forecast: tier **C**, chance of any marks **11% (Rare)**, of a 7-mark question 11% (Rare), expected **0.5** marks (Read the headings)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Steps in implementing TQM; the 6 C's; PRAISE. [PRACTICE · J23 Q2(b) (old layout); postal Q3(a)-(b), Q1(ii)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Summarize the essential steps to be taken in the implementation of Total Quality Management (TQM) (Any Six). [6]	J23 Q2(b) · POSTAL Q3(a) · 6 m	
★	The 6 C's of TQM	POSTAL Q3(b) · 4 m	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★	PRAISE stands for	POSTAL Q1(ii) · 2 m	

★ **SM exercise (if time):** M2 essay 3 (p.71): Total Quality Management is vital for growth" – Justify · M2 essay 4 (p.71): Narrate the steps for implementing the Total Quality Management · M2 essay 5 (p.71): 6C's · M2 essay 6 (p.71): Relevance of PRAISE analysis · M2 essay 7 (p.71): Comment about the utility of Pareto Analysis

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q9, Q10, Q11, Q12

2.4 Lean Accounting

SM pp. 58–63 · marks per attempt: **D25-7 · J24-7** · Dec'26 forecast: tier **B**, chance of any marks **23% (Unlikely)**, of a 7-mark question 23% (Unlikely), expected **1.1** marks (MCQ facts + one sum / answer type)

OUR DEC'26 CALLS FOR THIS TOPIC

1. What is lean accounting? State its principles and practices. [REPEAT · J24 Q4(b), D25 Q4(b)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	□4. (b) "Lean Accounting is the application of Lean Philosophy to all accounting and finance processes and systems" — In this context, Align the Principles and Practices of Lean Accounting. [7]	J24 Q4(b) · D25 Q4(b) · 7 m · asked in 2 papers	

★ **SM exercise (if time):** M2 essay 8 (p.71): Significance of lean accounting · M2 essay 9 (p.71): Narrate the principles, practices, and tools of lean accounting

2.5 Six Sigma

SM pp. 64–69 · **never asked in the seven papers** · Dec'26 forecast: tier **C**, chance of any marks **7% (Rare)**, of a 7-mark question 7% (Rare), expected **0.3** marks (Read the headings)

★ **SM exercise (if time):** M2 MCQ (not in the bank) 4 (p.70): Six Sigma is about · M2 essay 10 (p.71): DMAIC · M2 essay 11 (p.71): DMIADV

3.1 Decisions Involving Alternative Choices

SM pp. 77–116 · marks per attempt: **J26-18 · D25-4 · J25-18 · D24-16 · J24-16 · D23-2 · J23-8** · Dec'26 forecast: tier **A**, chance of any marks **97% (Very likely)**, of a 7-mark question 85% (Very likely), expected **11.1** marks (7-mark sum / answer + MCQ formulas)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Budget profit statement, then an export / special order at idle capacity (variable cost by labour hours) and a make-or-buy of a component: accept? make or buy? [REPEAT+PRACTICE · D24 Q2 (= PTP Q2 word for word); MQP Q2 adds "use of the released capacity: rent out or make component Y"]
2. Contribution per machine hour of a made vs bought-in product and an alternative product; quantities to make and buy for maximum operating income. [REPEAT · J24 Q2 = J26 Q2 (word for word, same numbers) - learn this exact sum]
3. Accept an offer that changes the mix (airline stop-over type): profit and break-even before the offer, incremental profit after, accept or not. [REPEAT · J25 Q2]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Cement: budget profit, export order at idle capacity, make or buy a component	D24 Q2 · MQP Q2 · PTP Q2 · 14 m · asked in 2 papers	
★★★	BEP, units for a profit / loss, probability of reaching them from the sales forecast (listed under 3.8 too)	D24 Q3(b) · MQP Q1(i) · MQP Q3(b) · POSTAL Q5(b) · 7 m · asked in 2 papers	same problem: Workbook ch.7 illustration 8 (WB p.115; solution there) · same problem: Workbook ch.7 illustration 7 (WB p.114; solution there)
★★	Contribution per unit: made ZN100 vs made ZN200 (per machine hour)	J24 Q2(a) · J26 Q2 · 4 m · asked in 2 papers	
★★	Airline: profit per flight and break-even passengers	J25 Q2(a) · 7 m · asked in 2 papers	
★★	Stop-over offer: incremental profit, accept or not	J25 Q2(b) · 7 m · asked in 2 papers	
★★	Contribution: made vs bought-in ZN100	J24 Q2(b) · 4 m · asked in 2 papers	
★★	Quantities to make / buy for maximum operating income	J24 Q2(c) · 6 m · asked in 2 papers	
★	Leave a job for a venture: profit at each sales level; Break-even point at each selling price; Advise on viability	J23 Q6(i)(ii)(iii) · 8 m	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★★	(ii) A company has a break-even point when sales are ₹ 3,20,000 and variable cost at that level of sales are ₹ 2,00,000. How much would P/V ratio increase or decrease if variable expenses are dropped by ₹ 30,000? (A) Increase by 27.5% (B) Increase by 9.375% (C) Decrease by 9.375% (D) Increase by 37.5% [2]	J26 Q1(ii) · 2 m · asked in 6 papers	
★★★	(iii) A firm has a fixed cost of ₹ 1,00,000 and a break-even sale of ₹ 8,00,000. What is its projected profit at ₹ 12,00,000 sales? (A) ₹ 50,000 (B) ₹ 1,50,000 (C) ₹ 2,00,000 (D) None of the above [2]	J26 Q1(iii) · 2 m · asked in 6 papers	
★★★	(ii) SM Ltd., a manufacturing company produces a product which is sold at a price of ₹ 80 p.u. Its break even sales is ₹ 15 lakhs, while its fixed cost is ₹ 6 lakhs. What will be its desired quantity of sales to earn a profit of ₹ 4 lakhs? (A) 18,750 units (B) 31,250 units (C) 32,320 units (D) None of the above [2]	D25 Q1(ii) · 2 m · asked in 6 papers	
★★★	(iii) BOS Ltd., a manufacturing company, requires ₹ 90 lakhs in sales to meet target net profit of ₹ 15 lakhs. The company's contribution margin is 30%. What will be its fixed cost? (A) ₹ 15 lakhs (B) ₹ 12 lakhs (C) ₹ 10 lakhs (D) ₹ 20 lakhs [2]	D25 Q1(iii) · 2 m · asked in 6 papers	similar problem: SM M3 Illus. 35 (SM p.185; solution there)
★★★	(A) ₹ 5 (B) ₹ 6 (C) ₹ 7 (D) ₹ 4	D23 Q1(iv) · D24 Q1(ii) · J25 Q1(xv) · MQP Q1(ii)(iii) · PTP Q1(ii)(iii)(xi) · PTP Q3(b) · POSTAL Q1(iv)(v) · POSTAL Q4(a) · 2 m · asked in 6 papers	
★★★	20 & 13 & 8 & 10 \\ 40 & 4 & 11 & 6 \end{bmatrix} \end{array} What is the value of game (using Maximin – Minimax Principle)? (A) 6	J25 Q1(ix) · 2 m · asked in 6 papers	
★★★	(iv) The Break Even Sales of GXT Ltd., a manufacturing company, is ₹ 3,75,000, while its fixed cost is ₹ 1,12,500. If the Margin of Safety is 40%, what will be its Profit? (A) ₹ 80,000 (B) ₹ 75,000 (C) ₹ 64,000 (D) Insufficient information * (2 Marks)*	J24 Q1(iv) · 2 m · asked in 6 papers	
★★	(i) RIM Ltd. has estimated the demand level of its product: | Sales (units) | 5,000 | 10,000 | 15,000 | 20,000 | | | Probability | 0.10 | 0.20 | 0.40 | 0.30 | It has estimated contribution of ₹ 4 per unit and total fixed costs of ₹ 60,000. What is the probability that the company will make a profit of at least ₹ 15,000? (A) 40% (B) 30% (C) 20% (D) None of the above [2] (listed under 3.8 too)	D25 Q1(i) · 2 m · asked in 2 papers	same problem: Workbook ch.7 illustration 8 (WB p.115; solution there) · same problem: SM M10 Illus. 4 (SM p.584; solution there)

Problems to solve (21): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: (Computation of BEP & Profit Planning) The income statement of Ashok Gears Ltd....	SM M3 Illus. 1 · SM p.84	
★★	Practical problem: A manufacturing company currently operating at 80% capacity has received an...	SM M3 Illus. 2 · SM p.85	
★★	Practical problem: (Limiting Factor Analysis & Optimum Mix) A manufacturer has three products A,...	SM M3 Illus. 3 · SM p.87	
★★	(Optimum Product Mix & Maximisation of Profit, Multiple limiting factors / contraints) As a...	SM M3 Illus. 4 · SM p.89	
★★	MN Agarwal owns a Gift-Shop, a Restaurant and a Lodge in Shillong	SM M3 Illus. 5 · SM p.93	
★★	S.H.Ltd., a cycle manufacturing company, has drawn up a programme for the manufacture of a new...	SM M3 Illus. 6 · SM p.95	
★★	(Make or Buy & Evaluation of Alternatives) Household Equipments Ltd. is producing kitchen...	SM M3 Illus. 7 · SM p.97	
★★	Practical problem: (Evaluation of Alternatives for Profit Planning) AB Limited has two divisions...	SM M3 Illus. 8 · SM p.99	

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: (Optimum Crop Mix & Profit Planning) An agro-based farm is planning its…	SM M3 Illus. 9 · SM p.101	
★★	Practical problem: S.G Ltd produces four products in its factory	SM M3 Illus. 10 · SM p.103	
★★	Practical problem: (Make or Buy & Choosing between the Alternatives) T.T.D Ltd., manufacturing a…	SM M3 Illus. 11 · SM p.106	
★★	(Make or Buy and Evaluation of Alternatives) A Company manufacturing a highly successful line…	SM M3 Illus. 12 · SM p.107	
★★	(Evaluation of Alternative Choices) ABC Computer Ltd. is planning to introduce a new computer…	SM M3 Illus. 13 · SM p.109	
★★	S K started a catering service to supply food to patients admitted in hospitals and those who…	SM M3 Illus. 14 · SM p.112	
★★	Practical problem: Look Ahead Ltd. wants to fix proper selling prices for their products 'A' and…	SM M3 Illus. 15 · SM p.113	
★★	Practical problem: S.V.Ltd budgets to make 1,00,000 units of product P. The variable cost per unit…	SM M3 Illus. 16 · SM p.115	
★★	Make or subcontract four products with limited machine hours and stepped fixed overheads; profit of the best plan	Workbook ch.1 illustration 1 · WB p.1	
★★	Three-year export order: monthly and yearly profit statements and monthly break-even units	Workbook ch.1 illustration 2 · WB p.4	
★★	Product profitability statement with overheads split by machine hours, batches and product-specific costs; advise on the range	Workbook ch.1 illustration 3 · WB p.5	
★★	Which parts to make in limited press hours, buy the rest or run a second shift; effect on profit	Workbook ch.1 illustration 4 · WB p.7	
★★	Diversify 40% of capacity into a new product: cost and profit before and after	Workbook ch.1 illustration 5 · WB p.10	

★ **SM exercise (if time):** M3 essay 1 (p.247): Decision making process · M3 essay 2 (p.247): Relevance of cost behaviour in the context of choosing the best alternative · M3 essay 3 (p.247): Key factor analysis

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q15, Q17, Q19, Q20, Q21, Q31, Q185, Q191, Q194, Q210, Q214, Q217, Q245, Q247, Q248, Q256, Q259, Q271, Q274, Q276, Q279

3.2 Pricing Decisions and Strategies

SM pp. 117–137 · marks per attempt: **D24-2 · J23-2** · Dec'26 forecast: tier **B**, chance of any marks **37% (Possible)**, of a 7-mark question 29% (Unlikely), expected **1.6** marks (MCQ facts + one sum / answer type)

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Spare hours in two departments: relevant cost, best price, weekly programme, gain (listed under 3.4 too)	D25 Q2 · 14 m	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★	(vi) 120 units of semi-conductors are required to be sold to earn a profit of ₹1,00,000 in a monopoly market. The fixed cost for the period is ₹80,000. The contribution in the monopoly market is as high as 3/4th of its variable cost. Determine the target selling price per unit. (A) ₹4,500 (B) ₹3,250 (C) ₹4,000 (D) ₹3,500	D24 Q1(vi) · 2 m	
★	(vi) SINT Ltd. determine its selling price by marking up the variable cost 50%. In addition, the company uses frequent selling price mark down to stimulate sales. If the mark down average is 20%, what is the company's contribution margin Ratio? (A) 16.67% (B) 18.50% (C) 20.30% (D) None of the above	J23 Q1(vi) · 2 m	

Priority	Question	Asked / marks	Answer in
★	Yield management = best pricing for optimum profit	MQP Q1(xi) · 2 m	

★ **SM exercise (if time):** M3 essay 4 (p.247): Key pricing strategies · M3 essay 5 (p.247): Merits and de-merits of product differentiation · M3 essay 6 (p.248): Concept of cost leadership with the help of a case study · M3 essay 7 (p.248): Key features of Yield Management · M3 essay 8 (p.248): Key features of industries that are amenable to Yield Management

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q32, Q33, Q39, Q195, Q196, Q209, Q236, Q243, Q266, Q270

3.3 Transfer Pricing

SM pp. 138–159 · marks per attempt: **J26-7 · D25-7 · J25-7 · D24-7 · J24-7 · D23-7** · Dec'26 forecast: tier **A**, chance of any marks **80% (Very likely)**, of a 7-mark question 80% (Very likely), expected **6.6** marks (7-mark sum / answer + MCQ formulas)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Division buying outside vs internal transfer: effect on the company (with / without alternative use of the selling division's capacity, outside price falls); the transfer price in each case. [REPEAT+PRACTICE · J25 Q3(a), J26 Q3(a); postal Q4(b); SM 3.3 illustrations]
2. Divisional profit at each output level with a set transfer price; company profit when each division maximises its own profit; optimum without profit centres. [REPEAT+PRACTICE · D25 Q3(a) (= PTP Q3(a) with figures x10)]
3. Selling division with spare capacity and a stepped external demand: best external strategy, minimum transfer price, the price the buying division will pay (bulk transport cost saved). [REPEAT+PRACTICE · J24 Q3(a); MQP Q3(a)]
4. Transfer price = variable cost + fixed cost + target return on the division's assets; or a division judged on ROI refusing a lower price. [REPEAT+PRACTICE · D24 Q3(a); postal Q5(a); D23 Q3(a)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Dx buying outside at 135: company view; with 18,000 savings; price drops by 20	J26 Q3(a) · 7 m · asked in 2 papers	same problem: SM M3 Illus. 25 (SM p.154; solution there)
★★★	Profit of each division and the company at each output; optimum without profit centres	D25 Q3(a) · PTP Q3(a) · 7 m	
★★★	Division Y buying outside at 270 / 249.75: company view, transfer price	J25 Q3(a) · POSTAL Q4(b) · 7 m · asked in 2 papers	
★★★	Division M judged on ROI: transfer at 22? lowest acceptable price	D24 Q3(a) · POSTAL Q5(a) · 7 m	
★★★	Division A selling to Division B at 2.25: divisional vs company view	D23 Q3(a) · 7 m	
★	Best external strategy for the selling division; Minimum transfer price for 1,00,000 units; Quantity and price if benefits are shared equally	J24 Q3(a)(i)(ii)(iii) · MQP Q3(a) · 7 m	similar problem: SM M3 Illus. 24 (SM p.152; solution there)

Problems to solve (12): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★★	Practical problem: XY Co. has Profit Centre Divisions X and Y, making products X and Y respectively	SM M3 Illus. 24 · SM p.152	J24 Q3(a)(i) (similar)
★★★	A company is organized on decentralized lines, with each manufacturing division operating as a...	SM M3 Illus. 25 · SM p.154	J26 Q3(a)
★★	Practical problem: Your company fixes the inter-divisional transfer prices for its products on the...	SM M3 Illus. 17 · SM p.140	
★★	Practical problem: Transferor Ltd. has two processes, Preparing and Finishing	SM M3 Illus. 18 · SM p.140	
★★	Practical problem: A Company with two manufacturing divisions is organised on profit centre basis	SM M3 Illus. 19 · SM p.142	
★★	Practical problem: Division A is a profit centre which produces three products X, Y and Z. Each...	SM M3 Illus. 20 · SM p.144	
★★	Practical problem: P.H. Ltd. has two manufacturing departments organised into separate profit...	SM M3 Illus. 21 · SM p.146	

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: SV Ltd. manufactures a product which is obtained basically from a series of...	SM M3 Illus. 22 · SM p.148	
★★	Practical problem: XYZ Ltd which has a system of assessment of Divisional Performance on the basis...	SM M3 Illus. 23 · SM p.151	
★★	Practical problem: A Company is organized on decentralized lines, with each manufacturing division...	SM M3 Illus. 26 · SM p.155	
★★	Cost-plus transfer price that earns a target return on the division's investment	Workbook ch.1 illustration 11 · WB p.18	
★★	Inter-division transfer at market price, market price less saved selling costs, and marginal cost: profit statements	Workbook ch.1 illustration 12 · WB p.18	

★ **SM exercise (if time):** M3 MCQ (not in the bank) 2 (p.237): Practical problem: The higher the actual hours worked, Explanatory Comment Capacity utilization... · M3 essay 9 (p.248): Benefits of Transfer pricing

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q22, Q23, Q186, Q223

3.4 Relevant Cost Analysis

SM pp. 160–174 · marks per attempt: **D25-14 · J25-2 · J24-2 · D23-16 · J23-7** · Dec'26 forecast: tier **A**, chance of any marks **86% (Very likely)**, of a 7-mark question 78% (Likely), expected **7** marks (7-mark sum / answer + MCQ formulas)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Relevant cost of a special contract or of spare capacity: classify each cost as relevant / irrelevant (sunk, committed, opportunity, replacement value), find the minimum price or the gain, and advise. [REPEAT+PRACTICE · December papers: D23 Q2 (builder's contract), D25 Q2 (spare hours + best price); J23 Q4(a) minimum price; SM 3.4 illustrations]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Spare hours in two departments: relevant cost, best price, weekly programme, gain	D25 Q2 · 14 m	
★★★	Modify a job for a new customer: minimum price from relevant costs	J23 Q4(a) · 7 m	
★	Builder's contract: relevant and irrelevant costs	D23 Q2(a) · 7 m	
★	Accept the contract or not	D23 Q2(b) · 7 m	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★	| Variable Cost | 700 | 1,100 | 1,500 | Assume that there is no constraint on resource utilization or demand and similar resources are consumed by A, B and C. The opportunity cost of making one unit of C is (A) ₹ 900 (B) ₹ 800 (C) ₹ 1,800 (D) ₹ 1,500	D23 Q1(iii) · J25 Q1(xii) · POSTAL Q1(vi) · 2 m · asked in 2 papers	
★	(xi) A particular job MB requires 800 kgs. of a material. 500 kgs. of the particular material is currently in stock. The original price of the material was ₹ 300 but current resale value of the same has been determined as ₹ 200. The current replacement price of the material is Re. 0.80 per kg., what will be the relevant cost of material for job MB? (A) ₹ 640 (B) ₹ 440 (C) ₹ 300 (D) None of the above *(2 Marks)*	J24 Q1(xi) · 2 m	

Problems to solve (10): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: Company A manufactures bicycles	SM M3 Illus. 27 · SM p.160	
★★	Practical problem: A machine which originally cost ₹12,000 has an estimated life of 10 years and...	SM M3 Illus. 28 · SM p.163	
★★	Practical problem: X Ltd. has been approached by a customer who would like a special job to be...	SM M3 Illus. 29 · SM p.164	

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: Chakra Ltd. manufactures Mixer Grinders	SM M3 Illus. 30 · SM p.165	
★★	The Officers' Recreation Club of a large public sector undertaking has a cinema theater for...	SM M3 Illus. 31 · SM p.166	
★★	Tiptop Textiles manufactures a wide range of fashion fabrics	SM M3 Illus. 32 · SM p.168	
★★	Practical problem: A Company can produce any of its 4 products, A, B, C and D. Only one product...	SM M3 Illus. 33 · SM p.171	
★★	Practical problem: The accountant of XYZ Ltd. has prepared the following estimate on the basis of...	SM M3 Illus. 34 · SM p.171	
★★	Obsolete stock: rework or sell as scrap, with opportunity cost as the relevant cost	Workbook ch.1 illustration 6 · WB p.12	
★★	Contract cost estimate restated on relevant costs (stock, material on order, labour, overheads); accept or not	Workbook ch.1 illustration 7 · WB p.13	

★ **SM exercise (if time):** M3 essay 10 (p.248): Relevant Costs and Irreverent Costs

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q24, Q25, Q26, Q27, Q28, Q29, Q30, Q34, Q219, Q268

3.5 Target Costing

SM pp. 175–197 · marks per attempt: **J26-9 · D25-2 · J25-7 · J24-2 · D23-9 · J23-2** · Dec'26 forecast: tier **B**, chance of any marks **78% (Likely)**, of a 7-mark question 45% (Possible), expected **3.9** marks (MCQ facts + one sum / answer type)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Target cost after value engineering: target price after a price cut, target profit on sales, target cost per unit and in total by element (orders, testing hours, rework at given rates), target profitability statement. [REPEAT · D23 Q3(b) = J26 Q3(b) (same template, new numbers)]
2. Target cost at full capacity when demand doubles for each price cut; cost reduction needed; maximum investment for a target return. [REPEAT+PRACTICE · J25 Q3(b); J24 Q1(vi) and PTP Q1(xv) (MCQ form)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Target cost per unit after value engineering + target profitability statement	D23 Q3(b) · J26 Q3(b) · 7 m · asked in 2 papers	
★★★	Target cost at full capacity (demand doubles per Rs 10 cut), cost reduction, maximum investment	J25 Q3(b) · 7 m · asked in 2 papers	same problem: SM M3 Illus. 41 (SM p.188; solution there)

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★★	(xv) Marketing department of Axis Ltd. estimates that 40,000 of new mixers could be sold annually at a price of ₹ 60 each. To design, develop and produce these new mixers, an investment of ₹ 40,00,000 would be required. The company desires a 15% return on investment (ROI). Given these data, the target cost to manufacture and sell one mixer will be (A) ₹ 37.50 (B) ₹ 40.00 (C) ₹ 45.00 (D) ₹ 48.60 [2]	D23 Q1(v) · D25 Q1(xv) · J26 Q1(xv) · MQP Q1(xv) · 2 m · asked in 3 papers	
★★★	(vi) BENT Ltd., a manufacturer of components for VCD, has a capacity to produce 4 Lakh units. The market demand is sensitive to the sale price and the company could sell 1 Lakh units at a price of ₹ 5,000 each. The demand thereafter would double for each ₹ 500 per unit fall in the selling price. If the company expects a minimum margin of 25%, what would be the Target Cost per unit for the company to sell at full capacity utilization? (A) ₹ 4,000 (B) ₹ 3,200 (C) ₹ 3,000 (D) ₹ 2,900 *(2 Marks)*	J24 Q1(vi) · PTP Q1(xv) · 2 m · asked in 2 papers	
★	(iii) Target Costing is the answer to (A) Market Driven Prices (B) Seller's Market (C) No Profit Situation (D) None of the Above	J23 Q1(iii) · POSTAL Q1(vii) · 2 m	

Problems to solve (15): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★★	Practical problem: A Company requires ₹ 85,00,000 in sales to meet its target net profit	SM M3 Illus. 35 · SM p.185	D25 Q1(iii) (similar)
★★★	Practical problem: CELO Company has the capacity of production of 80,000 units and presently sells…	SM M3 Illus. 41 · SM p.188	J25 Q3(b)
★★★	Target cost per unit after a 20% price cut and a volume increase (same figures as the Jun'26 exam Q3(b))	Workbook ch.1 illustration 8 · WB p.16	J26 Q3(a)
★★★	Target cost at full capacity when demand doubles per price cut; cost reduction needed and maximum investment (same figures as the Jun'25 exam Q3(b))	Workbook ch.1 illustration 9 · WB p.16	J25 Q3(b)
★★	Practical problem: Marketing department of an organisation estimates that 40,000 new mixers could…	SM M3 Illus. 36 · SM p.186	
★★	Practical problem: T Ltd. produces and sells a product	SM M3 Illus. 37 · SM p.186	
★★	Practical problem: Desktop Co. manufactures and sells 7,500 units of a product	SM M3 Illus. 38 · SM p.187	
★★	Practical problem: 'B' manufacturing Company sells its product at ₹1,000 per unit	SM M3 Illus. 39 · SM p.187	
★★	You, the manager of a paper mill (XYZ Ltd.), have recently come across a particular type of…	SM M3 Illus. 40 · SM p.187	
★★	Practical problem: K & Co. manufactures and sells 15,000 units of a product	SM M3 Illus. 42 · SM p.190	
★★	Practical problem: ABC Enterprises has prepared a draft budget for one of its products for the…	SM M3 Illus. 43 · SM p.191	
★★	The operation costs of a product produced by ABC Ltd are ₹53	SM M3 Illus. 44 · SM p.193	
★★	Practical problem: A manufacturing company "Bee" sells its product at ₹1,000 per unit	SM M3 Illus. 45 · SM p.193	
★★	Practical problem: S Ltd. has sales of 2,00,000 units at a price of ₹100.00 per unit and profit of…	SM M3 Illus. 46 · SM p.196	
★★	Ex-factory target cost per tonne worked back from a competitor's value chain	Workbook ch.1 illustration 10 · WB p.17	

★ **SM exercise (if time):** M3 essay 11 (p.248): Philosophy of Target Costing · M3 essay 12 (p.248): Narrate the process of Target Costing

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q18, Q35, Q36, Q37, Q38, Q188, Q198, Q200, Q203, Q241, Q244, Q258, Q260, Q265

3.6 Product Life Cycle Costing

SM pp. 198–206 · marks per attempt: **D25-7** · Dec'26 forecast: tier **B**, chance of any marks **23% (Unlikely)**, of a 7-mark question 23% (Unlikely), expected **1.1** marks (MCQ facts + one sum / answer type)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Product life-cycle cost (R&D, manufacturing, marketing, warranty) and the effect of a price cut that raises volume; advise.
   [REPEAT · D25 Q3(b)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Life-cycle cost of 'Meu'; revised with a 5% price cut; advise	D25 Q3(b) · 7 m	

Problems to solve (4): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★	Wipro is examining the profitability and pricing policies of its Software Division	SM M3 Illus. 47 · SM p.201	
★★	Practical problem: Zenith Ltd. manufacturers tablet batteries	SM M3 Illus. 48 · SM p.203	
★★	Practical problem: SRM Ltd. has developed a new product 'Kent' which is about to be launched into…	SM M3 Illus. 49 · SM p.205	
★★	Product life-cycle cost and profit of a new furniture range over three years	Workbook ch.1 illustration 13 · WB p.22	

★ **SM exercise (if time):** M3 essay 13 (p.248): Product life cycle · M3 essay 14 (p.248): Life cycle costing

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q225, Q230

3.7 Asset Life Cycle Costing

SM pp. 207–218 · marks per attempt: **J24-7** · Dec'26 forecast: tier **B**, chance of any marks **16% (Unlikely)**, of a 7-mark question 16% (Unlikely), expected **0.7** marks (Short sum or theory answer (one of a rotating set))

OUR DEC'26 CALLS FOR THIS TOPIC

1. Asset life-cycle cost: two machines with different lives (replacement chain), overhauls, trade-in, PV at 10%; which to buy. [REPEAT · J24 Q3(b)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Machine BX (12 years) vs SW (6 years, replaced): life-cycle cost, PV	J24 Q3(b) · 7 m	similar problem: SM M3 Illus. 50 (SM p.214; solution there)

Problems to solve (4): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★★	Practical problem: A2Z plc	SM M3 Illus. 50 · SM p.214	J24 Q3(b) (similar)
★★	Practical problem: Company X is forced to choose between two machines A and B. The two machines…	SM M3 Illus. 51 · SM p.215	
★★	(Computation of Equivalent Annual Cost and Identification of Year to Replace the Machine) A &…	SM M3 Illus. 52 · SM p.216	
★★	Practical problem: A company is considering the purchase of a machine for ₹ 3,50,000	SM M3 Illus. 53 · SM p.218	

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q231, Q255

3.8 Decision Making Using Probability

SM pp. 219–236 · marks per attempt: **J26-2 · D25-2 · D24-7** · Dec'26 forecast: tier **B**, chance of any marks **66% (Likely)**, of a 7-mark question 35% (Unlikely), expected **2.9** marks (MCQ facts + one sum / answer type)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Pricing / CVP under uncertainty: expected variable cost, fixed cost and demand at two prices; recommend the price; expected profit and margin of safety; probability of breaking even. [REPEAT+PRACTICE · D24 Q3(b); MQP Q3(b); postal Q5(b)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	BEP, units for a profit / loss, probability of reaching them from the sales forecast	D24 Q3(b) · MQP Q1(i) · MQP Q3(b) · POSTAL Q5(b) · 7 m · asked in 2 papers	same problem: Workbook ch.7 illustration 8 (WB p.115; solution there) · same problem: Workbook ch.7 illustration 7 (WB p.114; solution there)
★	Investigate a variance? Probability at which investigation pays [old 3.8] (listed under 5.1 too)	J23 Q5(b) · 4 m	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★	(i) RIM Ltd. has estimated the demand level of its product: | Sales (units) | 5,000 | 10,000 | 15,000 | 20,000 | | | Probability | 0.10 | 0.20 | 0.40 | 0.30 | It has estimated contribution of ₹ 4 per unit and total fixed costs of ₹ 60,000. What is the probability that the company will make a profit of at least ₹ 15,000? (A) 40% (B) 30% (C) 20% (D) None of the above [2]	D25 Q1(i) · 2 m · asked in 2 papers	same problem: Workbook ch.7 illustration 8 (WB p.115; solution there) · same problem: SM M10 Illus. 4 (SM p.584; solution there)
★	(i) LDT Manufacturers is evaluating its research and development programs for the upcoming year. The four products under consideration all appear to offer favourable profitability if they can be carried out successfully. But, due to budget constraint one product can be launched. The following information is relevant: | Product | Probability of Success Commercially | Probability of Success Technically | Expected Profit (₹ in Crore) | | | P01 | 0.7 | 0.4 | 10 | | P02 | 0.8 | 0.5 | 12 | | P03 | 0.5 | 0.9 | 9 | | P04 | 0.4 | 0.8 | 14 | Which product should be launched? (A) P01 (B) P02 (C) P03 (D) P04 [2]	J26 Q1(i) · PTP Q1(i) · 2 m	

Problems to solve (6): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: A company has a choice among three products A, B and C for which the following…	SM M3 Illus. 54 · SM p.230	
★★	Practical problem: You are given the following estimates for next year's budgeted sales and costs…	SM M3 Illus. 55 · SM p.231	
★★	Practical problem: A company has estimated the following demand level of its product	SM M3 Illus. 56 · SM p.232	
★★	Practical problem: A company has estimated the unit variable cost of a Product to be ₹ 10, and the…	SM M3 Illus. 57 · SM p.232	
★★	The Managing Director of Y Ltd. has evolved some decision making to the operating division of…	SM M3 Illus. 58 · SM p.233	
★★	Probability of breaking even and of earning a target profit from a demand distribution	Workbook ch.1 illustration 14 · WB p.23	

★ **SM exercise (if time):** M3 essay 15 (p.248): Highlight the utility of probability in decision making

4.1 Activity Based Cost Management

SM pp. 253–282 · marks per attempt: **J26-9 · D25-2 · J25-7 · D24-9 · J24-2 · D23-7 · J23-2** · Dec'26 forecast: tier **A**, chance of any marks **84% (Very likely)**, of a 7-mark question 57% (Possible), expected **5.1** marks (7-mark sum / answer + MCQ formulas)

OUR DEC'26 CALLS FOR THIS TOPIC

1. ABC: recovery rate per activity (machine cost spread over set-up / receiving / inspection), overhead per unit of each product.
   [REPEAT · J25 Q4(a) = J26 Q4(a) (word for word, same numbers)]
2. ABC vs traditional absorption (prime cost or labour hours): cost driver rates, cost per unit of a batch, the difference.
   [REPEAT+PRACTICE · D24 Q4(a), D23 Q4(a) (bank service costing); PTP Q4(a)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Bank: activity rates and cost of each product	D23 Q4(a) · J26 Q4(a) · PTP Q4(a) · 7 m · asked in 4 papers	
★★★	Four products: activity rates (machine cost spread 4:3:2), overhead per unit	J25 Q4(a) · 7 m · asked in 4 papers	
★★★	Batch cost: prime-cost absorption vs ABC, cost driver rates	D24 Q4(a) · 7 m · asked in 4 papers	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★★	(iv) AON Ltd. following Activity Based Costing expected to place a total of 2,895 purchase orders at a total cost of ₹ 1,10,010. These costs are expected to occur at a constant rate throughout the budget year, which is divided into 13 four-week periods. During the four-week period ended on 30th September, 2025, a total of 210 purchase orders were placed at a cost of ₹ 7,650. The over-recovery of these costs for the four-week period was (A) ₹ 330 (B) ₹ 350 (C) ₹ 370 (D) ₹ 390 [2]	J26 Q1(iv) · 2 m · asked in 5 papers	
★★★	(iv) TONZ Ltd. manufactures two products BX and BZ using common material handling facility. The total budgeted material handling cost is ₹ 80,000. The other details are: | Particulars | Product BX | Product BZ | | | Number of units produced | 20 | 40 | | Material moves per product line | 15 | 5 | | Direct Labour hour per unit | 100 | 100 | Under Activity Based Costing System the material handling cost to be allocated to product BZ (per unit) would be (A) ₹ 400 (B) ₹ 500 (C) ₹ 1,500 (D) None of the above [2]	D25 Q1(iv) · 2 m · asked in 5 papers	
★★★	(viii) At KL Company, cost of personnel department has always been charged to production department based upon number of employees. Recently, opinion gathered from the department managers indicate that number of new hires might be better predictor of personnel cost. Total personnel department cost are ₹2,00,000. | Department | A | B | C | | :- | :- | :- | | Number of employees | 30 | 270 | 100 | | Number of new hires | 8 | 12 | 5 | If number of new hires is considered the cost driver, what amount of cost will be allocated to Department A? (A) ₹15,000 (B) ₹64,000 (C) ₹72,000 (D) ₹40,000	J23 Q1(vii) · D24 Q1(viii) · MQP Q1(iv) · PTP Q1(iv) · 2 m · asked in 5 papers	
★★★	(viii) Production overheads of XYZ Ltd. for 500 units of product X are: - Machine oriented activity cost: ₹ 1,35,400 - Material ordering overheads: ₹ 69,570 Machine hours are 1.50 hours per unit and No. of material orders are 6 per unit. What is the Machine Oriented Cost per unit and Material Ordering Cost per unit respectively? (A) ₹ 270.80 & ₹ 139.14 (B) ₹ 180.53 & ₹ 23.19 (C) ₹ 23.19 & ₹ 180.53 (D) ₹ 139.14 & ₹ 270.80 *(2 Marks)*	J24 Q1(viii) · 2 m · asked in 5 papers	same problem: SM M4 Illus. 2 (SM p.265; solution there)

Problems to solve (14): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★★	Practical problem: Production overheads of XYZ Manufacturers Pvt. Ltd. for 500 units of product X…	SM M4 Illus. 2 · SM p.265	J24 Q1(viii)
★★	Practical problem: A company manufactures 500 units of product AX. The following details are…	SM M4 Illus. 1 · SM p.264	
★★	Practical problem: A company produces four products, viz. P, Q, R and S. The data relating to…	SM M4 Illus. 3 · SM p.266	
★★	Practical problem: The budgeted overheads and cost driver volumes of XYZ are as follows	SM M4 Illus. 4 · SM p.268	
★★	Practical problem: AML Ltd is engaged in the production of three types of ice-cream products viz.…	SM M4 Illus. 5 · SM p.270	
★★	Practical problem: XYZ Limited makes three main products, using broadly the same production…	SM M4 Illus. 6 · SM p.272	
★★	Vikas Associates, a firm of Cost and Management Accountants, offers three different types of…	SM M4 Illus. 7 · SM p.276	
★★	Precision Auto company Ltd. manufactures and sells two automobile components A and	SM M4 Illus. 8 · SM p.280	

Priority	Problem (what it asks)	Where	Came in the exam
★★	With brief reason whether you would recommend an Activity Based Costing system in each of the…	SM M4 Illus. 9 · SM p.282	
★★	Price cut to fill capacity, then product profits under traditional costing and under ABC	Workbook ch.2 illustration 1 · WB p.24	
★★	Customer profitability with ABC cost-driver rates; which customers to supply when cases are limited	Workbook ch.2 illustration 2 · WB p.26	
★★	Material handling cost per unit: volume-based allocation versus ABC	Workbook ch.2 illustration 5 · WB p.32	
★★	Cost-driver rates for four activity centres and the cost of one component	Workbook ch.2 illustration 6 · WB p.33	
★★	ABC for a professional-services firm (audit, tax, consultancy): cost and profit per service	Workbook ch.2 illustration 7 · WB p.35	

★ **SM exercise (if time):** M4 solved case 1 (p.263): How Xu Ji achieved standardisation in working practices and processes (CIMA case study, 2011)… · M4 solved case 2 (p.264): ABC in Automobile Industry: Many automotive companies use activity-based costing to determine… · M4 solved case 3 (p.264): Activity-Based Costing of Coca-Cola Coca-Cola is another company that uses activity-based… · M4 MCQ (not in the bank) 2 (p.321): A company manufactures and sells packaging machines · M4 MCQ (not in the bank) 5 (p.322): Cost Driver is Activity Based Management and Just in Time (JIT) · M4 essay 1 (p.326): Elaborate the concept and purpose of Activity Cost Management · M4 essay 2 (p.326): Vital stages of implementation of Activity Based Costing · M4 essay 3 (p.326): Activity Based Budgeting · M4 essay 4 (p.326): Traditional Cost systems and ABC systems

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q40, Q41, Q42, Q43, Q44, Q190, Q193, Q202, Q215, Q238

4.2 JIT - Introduction, Benefits, Use of JIT in measuring the Performance

SM pp. 283–289 · marks per attempt: **J26-2 · D25-2 · J23-5** · Dec'26 forecast: tier **B**, chance of any marks **64% (Likely)**, of a 7-mark question 26% (Unlikely), expected **2.5** marks (MCQ facts + one sum / answer type)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Financial impact of a JIT policy: interest on stock released, storage / insurance saved, staff, stock-out and inspection costs; advise. [PRACTICE · MQP Q4(a); SM 4.2 illustration; J23 Q4(b) JIT purchasing]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Shift to JIT purchasing? (ordering, carrying, stock-out cost)	J23 Q4(b) · MQP Q4(a) · 5 m	similar problem: SM M4 Illus. 11 (SM p.287; solution there)

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★	(xii) A Kanban is a visual signal that indicates that it is time to replenish stock and possibly reorder. In which of the following this is referred to? (A) JIT Systems (B) JIT Strategy (C) Both (A) and (B) (D) None of the above [2]	J26 Q1(xii) · 2 m · asked in 2 papers	
★★	(xii) Kanban Japanese System under JIT Approach ensures (A) continuous supply of inventory or product. (B) minimum and maximum level of stock to be maintained. (C) inventory valuation. (D) All of the above [2]	D25 Q1(xii) · 2 m · asked in 2 papers	
★	Critical requirement for JIT: close suppliers, frequent deliveries	MQP Q1(xii) · 2 m	
★	Kanban ensures continuous supply (= Dec'25 Q1(xii))	PTP Q1(xii) · 2 m	

Problems to solve (4): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★★	Altra Video Company sells package of blank video tapes to its customers	SM M4 Illus. 11 · SM p.287	J23 Q4(b) (similar)

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: B Ltd. has decided to adopt JIT policy for materials	SM M4 Illus. 10 · SM p.286	
★★	Financial effect of JIT on raw material, WIP and finished-goods holding costs and interest	Workbook ch.2 illustration 3 · WB p.28	
★★	JIT policy: capital outlay and running costs against inventory, storage and labour savings	Workbook ch.2 illustration 11 · WB p.41	

★ **SM exercise (if time):** M4 essay 5 (p.326): Benefits of just-in-time manufacturing systems · M4 essay 6 (p.326): Precautions that should be taken while implementing a just-in-time manufacturing system

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q45, Q46, Q54

4.3 Throughput Accounting

SM pp. 290–306 · marks per attempt: **D25-7 · J25-2 · D24-2 · J24-7 · D23-2 · J23-2** · Dec'26 forecast: tier **B**, chance of any marks **61% (Likely)**, of a 7-mark question 48% (Possible), expected **3.2** marks (MCQ facts + one sum / answer type)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Throughput accounting: total factory cost, cost per factory hour, return per bottleneck hour, TA ratio, ranking and optimum mix (with a committed supply). [REPEAT+PRACTICE · D25 Q4(a), J24 Q4(a); postal Q6]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	TFC, cost per factory hour, return per bottleneck hour, TA ratio, efficiency ratio	D25 Q4(a) · 7 m · asked in 2 papers	
★★	Rank by throughput per machine hour, optimal mix; Effect of a court-ordered supply on profit	J24 Q4(a)(i)(ii) · POSTAL Q6 · 7 m · asked in 2 papers	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★★	(D) ₹ 21,700 (vii) In marking assignments which of the following should be preferred? (A) Only row having single zero (B) Only column having single zero (C) Column having more than one zero (D) Only row/column having single zero (viii) The Cost function of TNZ PIC is given by C = X^3 - 4X^2 + 7X in terms of Output X. Assess at what level of output the average cost is minimum.	D23 Q1(vii) · J25 Q1(vi) · POSTAL Q1(viii) · 2 m · asked in 3 papers	
★★★	(iv) DASN Ltd., operates a throughput accounting system. The details of product MB per unit are as under : | | ₹ | | :-- | | Selling Price | 50 | | Material Cost | 20 | | Conversion Cost | 15 | If time on bottleneck resource is 10 minutes, what will be the return per hour for product MB? (A) ₹300 (B) ₹270 (C) ₹180 (D) ₹150	D24 Q1(iv) · 2 m · asked in 3 papers	
★	(iv) Producing more non-bottleneck output (A) creates more inventory and increases throughput contribution. (B) creates more inventory but does not increase throughput contribution. (C) creates less pressure for the bottleneck workstations. (D) allows for the maximisation of overall contribution.	J23 Q1(iv) · 2 m	

Problems to solve (9): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: Modern Co produces 3 products, A, B and C, details of which are shown below	SM M4 Illus. 13 · SM p.297	
★★	Practical problem: Cat Co makes a product using three machines – X, Y and Z. The product has to…	SM M4 Illus. 14 · SM p.298	
★★	Practical problem: A factory has a key resource (bottleneck) of Facility A which is available for…	SM M4 Illus. 15 · SM p.299	

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: Given below is the basic data relating to New India Company for three years…	SM M4 Illus. 16 · SM p.301	
★★	Practical problem: T Ltd, produces a product which passes through two processes - cutting and…	SM M4 Illus. 17 · SM p.304	
★★	Practical problem: H Ltd. manufactures three products	SM M4 Illus. 18 · SM p.305	
★★	Throughput: rank independent machine upgrades for a three-machine bottleneck line	Workbook ch.2 illustration 8 · WB p.37	
★★	Daily profit, throughput accounting ratio per product and the best production plan	Workbook ch.2 illustration 9 · WB p.38	
★★	Bottleneck facility: throughput accounting ratio per product and how to improve it	Workbook ch.2 illustration 10 · WB p.39	

★ **SM exercise (if time):** M4 MCQ (not in the bank) 17 (p.325): Practical problem: S Ltd. recently sold an order of 50 units having the following costs · M4 essay 7 (p.326): Need for throughput accounting · M4 essay 8 (p.326): Core measures and terms which are used in throughput accounting · M4 essay 9 (p.326): Theory of constraints

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q47, Q48, Q49, Q50, Q184, Q221, Q277

4.4 Back-Flush Accounting

SM pp. 307–314 · marks per attempt: **J25-2** · Dec'26 forecast: tier **C**, chance of any marks **14% (Rare)**, of a 7-mark question 3% (Rare), expected **0.3** marks (Read the headings)

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★	(B) whose inventory vary from period to period. (C) Company requires that audit trails. (D) None of the above (iv) Which of the following is related to Financial Data Analytics? (A) Value driver analytics (B) Financial ratio analytics	J25 Q1(iii) · 2 m	

Problems to solve (3): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: The manufacturing cost information for March for a division of XYZ Co. is as…	SM M4 Illus. 19 · SM p.310	
★★	Practical problem: Dandia Ltd. follows JIT system	SM M4 Illus. 20 · SM p.312	
★★	Backflush accounting journal entries for a month under JIT, compared with traditional entries	Workbook ch.2 illustration 4 · WB p.30	

★ **SM exercise (if time):** M4 essay 10 (p.326): Process of back-flush costing · M4 essay 11 (p.326): Limitations of back-flush costing

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q51, Q52, Q199, Q206, Q220

4.5 Benchmarking

SM pp. 315–320 · **never asked in the seven papers** · Dec'26 forecast: tier **C**, chance of any marks **17% (Unlikely)**, of a 7-mark question 7% (Rare), expected **0.5** marks (MCQ formulas / facts only)

★ **SM exercise (if time):** M4 essay 12 (p.326): Noteworthy types of benchmarking

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q53

5.1 Variance Analyses

SM pp. 331–403 · marks per attempt: **J26-18 · D25-18 · J25-16 · D24-16 · J24-16 · D23-16 · J23-14** · Dec'26 forecast: tier **A**, chance of any marks **97% (Very likely)**, of a 7-mark question 95% (Very likely), expected **17.2** marks (7-mark sum / answer + MCQ formulas)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Full variance set (material price / usage, labour rate / efficiency / idle time, variable and fixed overhead, sales) and reconciliation of standard with actual profit or cost. [REPEAT · D23 Q5, D24 Q5, J25 Q5 - 14 marks]
2. Material mix and yield variances (two or three grades, standard loss), or missing variances back-solved from a partial table. [REPEAT+PRACTICE · D25 Q5(a), J26 Q5(a); PTP Q5(a)]
3. Overhead variances: expenditure, capacity, calendar, efficiency, volume (back-solve hours and rate if needed). [REPEAT+PRACTICE · J24 Q5(b), D25 Q5(b); MQP Q5(b), PTP Q5(b)]
4. Labour gang variances: actual gang composition, gang (mix), rate and cost variances; idle time. [PRACTICE · MQP Q5(a); J24 Q5(a) idle time]
5. Planning and operational variances; when to investigate a variance (cost of investigation vs correction, probability). [REPEAT · J23 Q5(a)-(b); MQP Q1(xiii)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Two grades with process loss: cost, price, usage, mix, yield variances	J26 Q5(a) · 7 m · asked in 2 papers	
★★★	Missing material variances with a mix variance, two products	D25 Q5(a) · PTP Q5(a) · 7 m · asked in 2 papers	
★★★	Back-solve overhead expenditure, capacity, efficiency variances, hours, rate	D25 Q5(b) · 7 m · asked in 3 papers	
★★★	Standard cost of actual output by element; Material, labour, overhead variances; Reconcile standard cost with actual cost	J25 Q5(i)(ii)(iii) · 14 m · asked in 3 papers	
★★★	Material, labour (power failure idle time), overhead, sales variances + profit reconciliation	D24 Q5 · 14 m · asked in 3 papers	
★★★	Variable overhead efficiency variance (flexible budget); Variable overhead expenditure variance; Fixed overhead efficiency variance; Fixed overhead capacity variance	J24 Q5(b)(i)(ii)(iii)(iv) · 7 m · asked in 3 papers	
★★★	Material, labour, variable and fixed overhead variances	D23 Q5(a) · 7 m · asked in 3 papers	
★★★	Reconcile actual with standard profit	D23 Q5(b) · 7 m · asked in 3 papers	
★★★	Material variances: traditional vs planning and operational	J23 Q5(a) · MQP Q1(xiii) · 8 m	
★	Budgeted vs actual profit: cost, sales price, sales volume variances	J26 Q5(b) · MQP Q1(v) · 7 m	
★	Two grades of workers, breaks: standard labour cost; Labour cost variance; Labour efficiency variance; Idle time variance	J24 Q5(a)(i)(ii)(iii)(iv) · 7 m	
★	Investigate a variance? Probability at which investigation pays [old 3.8]	J23 Q5(b) · 4 m	
★	Gang composition: actual workers, gang, rate and cost variances	MQP Q5(a) · 7 m	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★★	(v) YEN Ltd., adopting Standard Costing System in its factory, budgets for fixed overhead of ₹ 50,000 and production of 10,000 units for a month of year 2025. Actual production is 9,500 units. If the fixed overhead cost is increased to ₹ 52,000, the fixed overhead volume variance will be (A) ₹ 1,000 (Adv.) (B) ₹ 2,000 (Fav.) (C) ₹ 2,500 (Fav.) (D) ₹ 2,500 (Adv.) [2]	D25 Q1(v) · 2 m · asked in 3 papers	
★★★	(D) ₹ 10,000 (xii) A factory of MONZ Ltd., can make only one of the three products A, B or C in a given production period. The following informations are given: | Per Unit (₹) | A | B | C | | | Selling price | 1,500 | 2,000 | 2,500 |	J24 Q1(iii) · J25 Q1(xi) · 2 m · asked in 3 papers	
★★★	(v) In a factory where standard costing system is followed the production department consumed 1100 kgs of a material @ ₹8 per kg for product X resulting in material price variance of ₹2200(Fav) and material usage variance of ₹1000(Adv). What is the standard material cost of actual production of product X? (A) ₹11,000 (B) ₹20,000 (C) ₹14,000 (D) ₹10,000	D24 Q1(v) · 2 m · asked in 3 papers	

Priority	Question	Asked / marks	Answer in
★★★	(x) A Co. producing output X and Y uses standard costing. The standard overhead contents of each product is: X: ₹ 3 per unit and Y: ₹ 2.25 per unit. The budgeted overhead is ₹ 860 and budgeted time is 3440 hours. Actual Output: X 200 units and Y 100 units. Actual time: 3200 hours Actual overhead: ₹ 875. Compute Overhead Volume variance. (A) ₹ 35 (A) (B) ₹ 35 (F) (C) ₹ 25 (F) (D) ₹ 15 (A)	D23 Q1(x) · MQP Q5(b) · PTP Q1(v) · PTP Q5(b) · 2 m · asked in 3 papers	
★★	(v) AB Ltd. uses standard cost system. The following information pertains to direct labour for Product X for the month of March, 2026: * Standard rate per hour = ₹ 8 * Actual rate per hour = ₹ 8.40 * Standard hours allowed for acual production = 2000 hours * Labour Efficiency variance = ₹ 1,600 (Adverse) What were the actual hours worked? (A) 1,800 (B) 1,810 (C) 2,200 (D) 2,190 [2]	J26 Q1(v) · 2 m · asked in 2 papers	
★★	(viii) BOSAN LTD. using standard costing system provides the following information pertaining to Direct Labour for its product JUM for the month of May, 2023: | Particulars | Value | | Standard Direct Labour Rate per hour: | ₹ 16 | | Actual Direct Labour Rate per hour | ₹ 14.50 | | Labour Rate variance | ₹ 15,000 (Fav) | | Standard hours allowed for Actual production | 8000 hours | | Actual output is 800 units. | | How many Direct Labour hours were worked during the month of May, 2023? (A) 12,000 hours (B) 11,000 hours (C) 10,000 hours (D) None of the above	J23 Q1(viii) · 2 m · asked in 2 papers	
★	(xi) The higher the actual hours worked (A) the lower is the capacity usage ratio. (B) the higher is the capacity usage ratio. (C) the lower is the capacity utilisation ratio. (D) the higher is the capacity utilisation ratio. [2]	J26 Q1(xi) · 2 m	
★	(xiii) Standard Cost and Budgeted Cost are (A) interrelated but not interdependent. (B) interdependent but not interrelated. (C) interrelated and interdependent. (D) None of the above [2]	D25 Q1(xiii) · PTP Q1(xiii) · 2 m	

Problems to solve (20): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: The concepts of Sales Price Planning Variance and Sales Operating Variance are…	SM M5 Illus. 1 · SM p.347	
★★	Green Chemicals produces agriculture fertilizers with following information provided	SM M5 Illus. 2 · SM p.350	
★★	Practical problem: In a company operating on a standard costing system for a given four-week…	SM M5 Illus. 4 · SM p.366	
★★	Practical problem: S.V.Ltd. manufactures BXE by mixing three raw materials	SM M5 Illus. 5 · SM p.373	
★★	Practical problem: A brass foundry making castings which are transferred to the machine shop of…	SM M5 Illus. 6 · SM p.374	
★★	Practical problem: A company manufacturing a special type of fencing tile 12″ × 8″ × 1/2″ used a…	SM M5 Illus. 7 · SM p.376	
★★	Practical problem: One kilogram of product ‘K’ requires two chemicals A and B. The following were…	SM M5 Illus. 8 · SM p.378	
★★	Practical problem: The standard labour component and the actual labour engaged in a week for a job…	SM M5 Illus. 9 · SM p.380	
★★	Practical problem: DM is a denim brand specializing in the manufacture and sale of hand-stitched…	SM M5 Illus. 10 · SM p.381	
★★	Practical problem: Calculate material and labour variances from the following	SM M5 Illus. 11 · SM p.382	
★★	Material cost, price and usage variances for two products using one material	Workbook ch.3 illustration 1 · WB p.42	
★★	Labour cost, rate and efficiency variances for two products	Workbook ch.3 illustration 2 · WB p.42	
★★	Material mix, yield, price and usage variances with normal loss	Workbook ch.3 illustration 3 · WB p.43	

Priority	Problem (what it asks)	Where	Came in the exam
★★	Sales variances for three products from budgeted and actual units and value	Workbook ch.3 illustration 4 · WB p.44	
★★	Sales mix and quantity variances for four products (budget versus actual kg and rates)	Workbook ch.3 illustration 5 · WB p.46	
★★	Year-on-year profit change with 10% price inflation: statement of variances by cost element	Workbook ch.3 illustration 6 · WB p.48	
★★	Profit improvement plan: effect of volume, mix, price, spending and finance changes	Workbook ch.3 illustration 7 · WB p.49	
★★	Labour efficiency variance: sort the excess hours by who is accountable	Workbook ch.3 illustration 8 · WB p.51	
★★	Rebuild the standard cost card from actuals and reported variances	Workbook ch.3 illustration 9 · WB p.54	
★★	Labour rate and efficiency variances and sales price and volume variances, with comments	Workbook ch.3 illustration 10 · WB p.56	

★ **SM exercise (if time):** M5 illustration (list 2) 1 (p.384): Practical problem: 2 Item Budget Actual No. of working days 20 22 Output per man hour 1.0 Units… · M5 illustration (list 2) 13 (p.385): Practical problem: X uses traditional standard costing system · M5 illustration (list 2) 14 (p.385): Practical problem: Compute the missing data indicated by the Question marks from the following · M5 illustration (list 2) 15 (p.387): Practical problem: GLOBAL Ltd. is engaged in marketing of wide range of consumer goods · M5 illustration (list 2) 16 (p.388): Practical problem: (₹ In Lakhs) 31-03-2020 31-03-2021 Sales 120 129.60 Prime Cost of Sales 80… · M5 illustration (list 2) 17 (p.389): The assistant management accountant of your company has been preparing the profit and loss… · M5 illustration (list 2) 18 (p.392): Practical problem: A Company manufactures two products X and Y. Product X requires 8 hours to… · M5 illustration (list 2) 19 (p.393): Practical problem: The following is a flexible budget of FB Co. Ltd. For a production department · M5 illustration (list 2) 20 (p.394): Practical problem: ABC Ltd adopts a standard costing system · M5 illustration (list 2) 21 (p.397): Practical problem: X Ltd. produces and sells a single product · M5 illustration (list 2) 22 (p.400): Practical problem: The summarized results of a company for the two years ended 31st December 2022… · M5 MCQ (not in the bank) 1 (p.411): Practical problem: A manufacturing company uses two types of materials, X and Y, for manufacture… · M5 MCQ (not in the bank) 7 (p.414): Practical problem: XYZ Ltd is a manufacturing company involved in the production of automobiles · M5 MCQ (not in the bank) 8 (p.414): Practical problem: A company uses standard absorbing costing · M5 MCQ (not in the bank) 9 (p.414): Which of the following may be the cause of Material Price Variance · M5 MCQ (not in the bank) 10 (p.415): Variance analysis involves breaking down and analysing the total variance to explain the… · M5 MCQ (not in the bank) 11 (p.415): A standard costing system consists of the following key elements performance · M5 MCQ (not in the bank) 12 (p.415): Which of the following statements is correct · M5 MCQ (not in the bank) 13 (p.415): Which of the following statements is true · M5 MCQ (not in the bank) 14 (p.415): Standard cost and budgeted cost are · M5 essay 1 (p.416): The main objective of variance analysis is to provide insights into the off-standard… · M5 essay 2 (p.416): Primary reasons for cost variances · M5 essay 3 (p.416): Highlight the significance of investigation of Variances · M5 essay 4 (p.416): Planning and Operating Variances · M5 essay 5 (p.416): Controllable and Non-controllable Variances · M5 essay 6 (p.416): Cost Variance Ratios · M5 essay 7 (p.416): Standard Costing and Budgetary Control · M5 essay 8 (p.416): Merits and demerits of Standard Costing · M5 essay 9 (p.416): Merits and demerits of Budgetary Control · M5 essay 10 (p.416): Profit Variance

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q16, Q55, Q56, Q57, Q58, Q59, Q65, Q66, Q67, Q187, Q189, Q192, Q208, Q235, Q250

5.2 Uniform Costing and Inter-firm Comparison

SM pp. 404–410 · marks per attempt: **J26-2** · Dec'26 forecast: tier **C**, chance of any marks **30% (Unlikely)**, of a 7-mark question 0% (Rare), expected **0.6** marks (MCQ formulas / facts only)

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★	(xiii) Uniform Costing may not be successfully applied in the following case: (A) In a single enterprise having a number of branches, each of which manufactures the same set of products with the same facilities (B) In a number of entities in the same industry bound by a trade association (C) In a number of units across different geographical locations manufacturing one or more of a given set of products (D) In different branches of the same company, each branch making a different product using a unique process [2]	J26 Q1(xiii) · 2 m	

★ **SM exercise (if time):** M5 illustration (list 2) 23 (p.409): Practical problem: The share of total production and the cost-based fair price computed separately... · M5 essay 11 (p.416): Advantages of Uniform Costing · M5 essay 12 (p.416): Need for Interfirm Comparison

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q68, Q233

6.0 Linear Programming

SM pp. 422–455 · marks per attempt: **J26-7 · D25-11 · J24-7 · J23-6** · Dec'26 forecast: tier **B**, chance of any marks **77% (Likely)**, of a 7-mark question 49% (Possible), expected **4.1** marks (MCQ facts + one sum / answer type)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Formulate an LP (product mix with ratios, advertising, loans) and write its dual; read a simplex table. [REPEAT+PRACTICE · J24 Q6(a) = J26 Q6(a) (word for word), D25 Q6(a); MQP Q6(a); PTP Q6(a) simplex]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Bank loan allocation: formulate the LP	J23 Q8(a) · J26 Q6(a) · MQP Q6(a) · 6 m · asked in 3 papers	
★★★	Formulate the LP for two products + write its dual	D25 Q6(a) · 7 m	
★★★	Three products, two materials, labour, ratio 2:3:4 - formulate the LP	J24 Q6(a) · 7 m · asked in 3 papers	
★	Simplex table: optimal? objective? alternate solution? feasibility?	PTP Q6(a) · 7 m	
★	Simplex table interpretation (same as PTP Q6(a))	POSTAL Q11 · 8 m	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★	(vi) If (50, 0), (50, 14), (25, 50) and (13, 50) are the Corner Points of the feasible region of the Linear Programming problem, Maximize Z = 2x_1 + 3x_2, then maximum value of the objective function will be (A) ₹ 200 (B) ₹ 270 (C) ₹ 240 (D) ₹ 120 [2]	D25 Q1(vi) · POSTAL Q7(i) · 2 m	
★	(xi) The shadow price of skilled labour for SD Ltd. is currently ₹ 10 per hour. What does this mean? (A) The cost of obtaining additional skilled labour is ₹ 10 per hour. (B) There is a hidden cost of ₹ 10 for each hour of skilled labour actively worked. (C) Contribution will be increased by ₹ 10 per hour for each extra hour of skilled labour that can be obtained. (D) The total costs will be reduced by ₹ 10 for each additional hour of skilled labour that can be obtained. [2]	D25 Q1(xi) · 2 m	

Problems to solve (29): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: A shopkeeper deals in two items – Wall hangings and Artificial plants	SM M6 Illus. 1 · SM p.427	
★★	Practical problem: A dealer of cement has two warehouses M and N with stocks of 30000 and 20000...	SM M6 Illus. 2 · SM p.427	
★★	(Maximization problem solved by Corner Point Method) One kind of cake requires 200 grams of...	SM M6 Illus. 3 · SM p.429	
★★	(Minimization problem solved by Corner Point Method) Mr. Lal is on a low cholesterol diet	SM M6 Illus. 4 · SM p.431	

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: (Maximization problem solved by Iso-profit Method) Solve graphically the…	SM M6 Illus. 5 · SM p.433	
★★	Practical problem: A firm manufactures and sells two products Alpha and Beta	SM M6 Illus. 6 · SM p.437	
★★	Sri Lanka, the third largest tea producing country has a production share of 9% of the…	SM M6 Illus. 7 · SM p.441	
★★	A company possesses two manufacturing plants each of which can produce three products X, Y and…	SM M6 Illus. 8 · SM p.444	
★★	Practical problem: (Minimization type Primal problem with all the Constraints having greater than…	SM M6 Illus. 9 · SM p.448	
★★	Practical problem: (Maximization type Primal problem with mixed type Constraints) Write the Dual…	SM M6 Illus. 10 · SM p.449	
★★	Practical problem: (Maximization type Primal problem with mixed type Constraint and one variable…	SM M6 Illus. 11 · SM p.450	
★★	Practical problem: A retired person has plans to invest in shares	SM M6 Illus. 12 · SM p.452	
★★	LP formulation: product mix over four machine stages	Workbook ch.4 illustration 1 · WB p.57	
★★	LP formulation: least-cost diet meeting two vitamin minimums	Workbook ch.4 illustration 2 · WB p.58	
★★	LP formulation: nurses per shift over six overlapping periods	Workbook ch.4 illustration 3 · WB p.58	
★★	LP: two products with machine and craftsman hours, maximise weekly profit	Workbook ch.4 illustration 4 · WB p.59	
★★	LP formulation: least-cost chemical mix meeting chloride, nitrate and sulphate needs	Workbook ch.4 illustration 5 · WB p.60	
★★	LP formulation: investment allocation under return, lock-in and risk limits	Workbook ch.4 illustration 6 · WB p.61	
★★	LP formulation: number of male and female workers under head-count and wage limits	Workbook ch.4 illustration 7 · WB p.62	
★★	Write the dual of a minimisation problem with an equality constraint	Workbook ch.4 illustration 8 · WB p.63	
★★	Write the dual of a maximisation problem with an unrestricted variable	Workbook ch.4 illustration 9 · WB p.64	
★★	Solve a two-variable minimisation through its dual by simplex	Workbook ch.4 illustration 10 · WB p.65	
★	An investor is well aware of the fact that maximization of total return on investment is best…	SM M6 exercise sum 1 · SM p.464	
★	For a manufacturing company the following data are relevant to its products A and B…	SM M6 exercise sum 2 · SM p.464	
★	Practical problem: A company buying scrap metal has two types of scrap available to them	SM M6 exercise sum 3 · SM p.465	
★	An engineering company dealing with Combustion Equipment and Furnaces is planning its…	SM M6 exercise sum 4 · SM p.465	
★	Practical problem: A Factory manufactures 3 products which are processed through 3 different…	SM M6 exercise sum 5 · SM p.465	

Priority	Problem (what it asks)	Where	Came in the exam
★	Practical problem: Obtain the Dual from the following Primal	SM M6 exercise sum 6 · SM p.466	
★	A company makes three products X, Y and Z using the raw materials A, B and C, Requirement of…	SM M6 exercise sum 7 · SM p.466	

★ **SM exercise (if time):** M6 MCQ (not in the bank) 2 (p.456): In graphical method of solution of LPP if the Iso-cost line coincide with a side of the… · M6 MCQ (not in the bank) 8 (p.457): The first step in formulating a LPP is – · M6 MCQ (not in the bank) 11 (p.457): Non-negativity condition of Linear Programming implies – · M6 MCQ (not in the bank) 12 (p.457): If the constraints of a Linear Programming problem are x1 + x2 ≤ 1, 3x1 + x2 ≥ 3 and x1 , x2 ≥… · M6 MCQ (not in the bank) 13 (p.458): For any LPP the intermediate solutions must be checked by substituting them back into the · M6 MCQ (not in the bank) 14 (p.458): The feasible solution of any LPP should belong to – · M6 MCQ (not in the bank) 15 (p.458): The true statement related to the graphs of 3x1 + 2x2 ≤ 5 and 6x1 + 4x2 >10 is – · M6 MCQ (not in the bank) 16 (p.458): In which quadrant the bounded region of the inequalities x1 + x2 ≤ 1 and x1 – x2 ≤ 1 is… · M6 MCQ (not in the bank) 17 (p.458): Objective function of LPP is – · M6 MCQ (not in the bank) 18 (p.458): The optimal value of the Objective Function is attained at the poinrs Linear Programming · M6 MCQ (not in the bank) 20 (p.459): The constraints y – x ≤ 1, 3y – x ≤ 9 and x, y ≥ 0 are defined on · M6 MCQ (not in the bank) 21 (p.459): Which of the terms is not used in Linear Programming · M6 MCQ (not in the bank) 22 (p.459): The area of the Feasible Region of the constraints 3x1 + x2 ≥ 3, x1 ≥ 0 and x2 ≥ 0 is – · M6 MCQ (not in the bank) 23 (p.459): For the LPP, Minimize Z = x + y subject to the constraints 5x + 10y ≤ 0, x + y ≥ 1, y ≤ 4, x ≥… · M6 MCQ (not in the bank) 24 (p.459): In a Linear Programming Problem – · M6 MCQ (not in the bank) 25 (p.460): Constraints mean – · M6 MCQ (not in the bank) 26 (p.460): The region which satisfies all the constraints of LPP is known as – · M6 MCQ (not in the bank) 27 (p.460): In LPP while drawing the graph, y values on x axis are always – · M6 MCQ (not in the bank) 28 (p.460): The set of decision variables which satisfies all the constraints of LPP is called – · M6 MCQ (not in the bank) 29 (p.460): The value of the Objective Function is maximum under linear constraints – · M6 MCQ (not in the bank) 30 (p.460): A solution which optimizes the Objective Function is called – Linear Programming · M6 short essay 1 (p.463): Meant by Mathematical Model · M6 short essay 2 (p.463): Term slack is used in case of the variable used for converting a less than equal to type… · M6 short essay 3 (p.463): To convert more than or more than equal to type constraint inequalities into equations Surplus… · M6 short essay 4 (p.463): Two methods of solving LPP are in use – Graphical and Simplex · M6 short essay 5 (p.463): Iso-cost lines are used to solve minimization problems of LPP graphically · M6 short essay 6 (p.464): Name different types of Management problems which can be solved by LP technique · M6 short essay 7 (p.464): Term linear is used in relation to a LPP · M6 essay 1 (p.464): Requirements of Linear Programming · M6 essay 2 (p.464): Advantages and limitations of Linear Programming Models · M6 essay 3 (p.464): Different application areas of Linear Programming · M6 essay 4 (p.464): Terms – Decision Variables, Objective Function, Constraints · M6 essay 5 (p.464): A Linear Programming Problem

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q69, Q70, Q71, Q72, Q73, Q74, Q75, Q76, Q254

7.0 Transportation 7

SM pp. 470–499 · marks per attempt: **J26-7 · J25-7 · D23-2** · Dec'26 forecast: tier **B**, chance of any marks **44% (Possible)**, of a 7-mark question 29% (Unlikely), expected **1.8** marks (MCQ facts + one sum / answer type)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Transportation: VAM initial solution, unbalanced (dummy), optimality test. [REPEAT · J25 Q6(a), J26 Q6(b) (both June)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Trucks to customers: unbalanced transport, VAM initial solution	J26 Q6(b) · 7 m · asked in 2 papers	
★★★	Gas plants to outlets: VAM schedule and total cost	J25 Q6(a) · MQP Q1(vi) · 7 m · asked in 2 papers	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★	(vi) The highest negative opportunity cost value in an unused cell of a Transportation Matrix is chosen to improve the current solution because – (A) It represents maximum possible cost reduction per unit. (B) It ensures no violation of Rim Condition. (C) It represents per unit cost improvement. (D) Either one of the above	D23 Q1(vi) · 2 m	
★	Feasible allocations = m + n - 1	POSTAL Q7(ii) · 2 m	

Problems to solve (21): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: A company dealing with a special type of liquid has three plants P1, P2 & P3…	SM M7 Illus. 1 · SM p.473	
★★	Use data of Illustration 1, to find the Basic Feasible Solution by LCM	SM M7 Illus. 2 · SM p.476	
★★	Use data of Illustration 1, to find the Basic Feasible Solution by VAM	SM M7 Illus. 3 · SM p.479	
★★	Test the Basic Feasible Solution obtained by VAM in the previous Illustration for Optimality	SM M7 Illus. 4 · SM p.483	
★★	Practical problem: The products of two Plants A and B are to be transported to three Warehouses…	SM M7 Illus. 5 · SM p.487	
★★	A multi plant company has three manufacturing plants M1, M2 and M3	SM M7 Illus. 6 · SM p.489	
★★	Practical problem: A manufacturing company has three Pants X, Y and Z which supply to the…	SM M7 Illus. 7 · SM p.494	
★★	Find an Alternative Solution to the Transportation Problem of Illustration 5	SM M7 Illus. 8 · SM p.498	
★★	Transportation: initial solution by the north-west corner rule (3 plants, 3 outlets)	Workbook ch.5 illustration 1 · WB p.67	
★★	Transportation: north-west corner rule, 3 factories and 4 warehouses	Workbook ch.5 illustration 2 · WB p.68	
★★	Transportation: least cost method on the same 3 x 4 problem	Workbook ch.5 illustration 3 · WB p.68	
★★	Transportation: Vogel's approximation method on the same 3 x 4 problem	Workbook ch.5 illustration 4 · WB p.69	
★★	Transportation: VAM initial solution, 4 warehouses and 4 stores	Workbook ch.5 illustration 5 · WB p.70	
★★	Transportation: maximise profit with VAM, 3 plants and 4 warehouses	Workbook ch.5 illustration 6 · WB p.71	
★★	Unbalanced transportation: gravel pits to three building sites, minimum cost	Workbook ch.5 illustration 7 · WB p.73	
★★	Unbalanced transportation: most profitable production and distribution plan (plant costs, freight, regional prices)	Workbook ch.5 illustration 8 · WB p.75	
★★	Transportation with short supply and penalties for unmet demand	Workbook ch.5 illustration 9 · WB p.77	
★★	Transportation: initial solution and optimal schedule, 3 warehouses and 3 customers	Workbook ch.5 illustration 10 · WB p.78	
★	ABC Enterprises are having three Plants, for manufacturing Dry Cells, located at three…	SM M7 exercise sum 1 · SM p.508	
★	A company wishes to determine an Investment Strategy for each of the next four years	SM M7 exercise sum 2 · SM p.509	
★	Practical problem: Consider the problem of scheduling the weekly production of certain items for…	SM M7 exercise sum 3 · SM p.509	

★ **SM exercise (if time):** M7 short essay 1 (p.507): When formulated as LPP, constraints of a Transportation problem are always in the form of… · M7 short essay 2 (p.507): It takes more time to arrive at the optimal solution if the Initial Feasible Solution is… · M7 short essay 3 (p.507): Term “Penalty” as applied to Vogel’s Approximation Method · M7 short essay 4 (p.507): Alternately plus and minus signs are provided (with a plus sign at the starting point), to the… · M7 short essay 5 (p.507): How the loop used for getting an alternative solution is different from the loop for improving… · M7 essay 1 (p.508): On the technique of solving a maximization

problem using Transportation algorithm · M7 essay 2 (p.508): With an example how a Transportation problem can be formulated as LPP · M7 essay 3 (p.508): – (i) Least Cost Method of finding Initial Feasible Solution of a Transportation problem (ii)... · M7 essay 4 (p.508): Different stages of solution where Degeneracy can occur in a Transportation problem · M7 essay 5 (p.508): Meant by Unbalanced problem of Transportation and how such problems are solved

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q77, Q78, Q79, Q80, Q81, Q83, Q84, Q232

8.0 Assignment

SM pp. 514–536 · marks per attempt: **J26-2 · D25-7 · J25-2 · D24-7 · J24-2 · D23-7 · J23-10** · Dec'26 forecast: tier **A**, chance of any marks **82% (Very likely)**, of a 7-mark question 70% (Likely), expected **5.8** marks (7-mark sum / answer + MCQ formulas)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Assignment by the Hungarian method: unbalanced (dummy), maximisation (regret matrix), restrictions; or travelling salesman. [ROTATION · Every December (D23 Q6(a), D24 Q6(a) TSP, D25 Q6(b)); MQP Q6(b), PTP Q6(b), postal Q8(a)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Road repairs: unbalanced assignment, minimum cost, discount for the dropped contractor	D25 Q6(b) · 7 m · asked in 3 papers	similar problem: SM M8 Illus. 4 (SM p.523; solution there)
★★★	Assign 5 jobs to 5 mechanists at least cost	D23 Q6(a) · MQP Q6(b) · PTP Q1(vi) · 7 m · asked in 3 papers	
★★	Travelling salesman, 5 cities, minimum route	J23 Q8(b) · D24 Q6(a) · PTP Q6(b) · POSTAL Q8(a) · 8 m · asked in 2 papers	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★★	(vi) A firm is required to procure three items I, II & III from three vendors \text{V}_1, \text{V}_2 & \text{V}_3 respectively. The quoted prices in Rupees are given in the table below. The management policy clearly states that each item should be procured from only one vendor and each vendor should supply only one item. The minimum total cost of procurement following the principle of Assignment is | ITEMS | \text{V}_1 | \text{V}_2 | \text{V}_3 | | | I | 220 | 240 | 260 | | II | 230 | 280 | 280 | | III | 250 | 290 | 330 | (A) ₹ 750 (B) ₹ 770 (C) ₹ 780 (D) ₹ 790 [2]	J26 Q1(vi) · 2 m · asked in 3 papers	
★★★	(A) 3 (B) 2 (C) 4 (D) None of the above (ix) The break-even point of a manufacturing company is ₹ 1,60,000. Fixed cost is ₹ 48,000. Variable cost is ₹ 12 per unit. The PV ratio will be (A) 20% (B) 40% (C) 30% (D) 25%	J25 Q1(vii) · 2 m · asked in 3 papers	
★★★	(xiii) When a maximisation assignment problem is converted to minimisation problem, the resultant matrix is called: (A) Profit Matrix. (B) Regret Matrix. (C) Cost Matrix. (D) Dummy Matrix. *(2 Marks)*	J24 Q1(xiii) · 2 m · asked in 3 papers	
★★★	Choose the most appropriate answer to the following questions giving justification. 1 mark will be awarded for correct answer and 1 mark for justification. [2 × 2 = 4] Choose the most appropriate answer to the following questions giving justification. 1 mark will be awarded for correct answer and 1 mark for justification. [2 × 2 = 4] (i) Assignment Problem can be considered as a particular case of (A) Transportation problem (B) Sequencing problem (C) Queuing problem (D) All of the above (ii) In PERT CHART, the Activity time distribution is (A) Normal (B) Binomial (C) Beta (D) Poisson	J23 Q7(i) · 2 m · asked in 3 papers	

Problems to solve (26): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★★	Practical problem: A city corporation has decided to carry out road repairs on four main arteries...	SM M8 Illus. 4 · SM p.523	D25 Q6(b) (similar)

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: A computer centre has three expert programmers and needs to develop three…	SM M8 Illus. 1 · SM p.515	
★★	An equipment under breakdown has five repair jobs to make it operative again	SM M8 Illus. 2 · SM p.516	
★★	Practical problem: Five Salesmen are to be assigned to five Districts	SM M8 Illus. 3 · SM p.520	
★★	Above has multiple optimum solutions and the procedure to get those is shown below	SM M8 Illus. 3 · SM p.526	
★★	Use the data of Illustration 3 above to find all the possible optimum solutions	SM M8 Illus. 5 · SM p.526	
★★	Practical problem: A company has taken on rent three floors (1st, 2nd and 3rd) of a multi storied…	SM M8 Illus. 6 · SM p.528	
★★	Practical problem: A travelling salesman has to visit five cities	SM M8 Illus. 7 · SM p.530	
★★	(Case Study involving assignment of three items) Sugarcane is a globally important commercial…	SM M8 Illus. 8 · SM p.532	
★★	Assignment: five operations to five machines, minimum cost	Workbook ch.6 illustration 1 · WB p.80	
★★	Assignment: four programmers to four programs, minimum time	Workbook ch.6 illustration 2 · WB p.82	
★★	Assignment: surplus cities to deficit cities, minimum distance	Workbook ch.6 illustration 3 · WB p.83	
★★	Assignment: four repairmen to four jobs, minimum man-hours	Workbook ch.6 illustration 4 · WB p.85	
★★	Assignment: pair bus routes to crews to minimise layover time	Workbook ch.6 illustration 5 · WB p.88	
★★	Assignment: products to plants to maximise profit from revenue and cost tables	Workbook ch.6 illustration 6 · WB p.91	
★★	Unbalanced assignment: six operators and five jobs, minimum time	Workbook ch.6 illustration 7 · WB p.93	
★★	Unbalanced assignment with restrictions: four machines to five locations	Workbook ch.6 illustration 8 · WB p.96	
★★	Assignment: salesmen to areas, minimum cost (4 x 4)	Workbook ch.6 illustration 9 · WB p.98	
★★	Assignment: salesmen to territories, minimum cost (4 x 4)	Workbook ch.6 illustration 10 · WB p.99	
★★	Maximisation assignment: batsmen to batting positions, most runs	Workbook ch.6 illustration 11 · WB p.101	
★★	Maximisation assignment: jobs to machines, most profit	Workbook ch.6 illustration 12 · WB p.103	
★	A Methods Engineer wants to assign four new methods to three work centres	SM M8 exercise sum 1 · SM p.544	
★	Practical problem: Consider a problem of assigning four junior assistants to four tasks	SM M8 exercise sum 2 · SM p.545	

Priority	Problem (what it asks)	Where	Came in the exam
★	Practical problem: A company has four zones open and four salesmen available for assignment	SM M8 exercise sum 3 · SM p.545	
★	Practical problem: Average time taken by an operator on a specific machine is tabulated below	SM M8 exercise sum 4 · SM p.545	
★	An air-line operates seven days a week has time-table shown below	SM M8 exercise sum 5 · SM p.546	

★ **SM exercise (if time):** M8 MCQ (not in the bank) 6 (p.537): Dummy row or column is added in an assignment problem – · M8 MCQ (not in the bank) 13 (p.538): The assignment problem will have alternative solutions when it has ____ Assignment · M8 short essay 1 (p.544): Is it necessary to cross out the zeros of the corresponding rows and columns of a solution... · M8 short essay 2 (p.544): Where from the name Hungarian is derived for the method of solution of Assignment problems · M8 short essay 3 (p.544): Beginning step of solution of an unbalanced problem of Assignment · M8 short essay 4 (p.544): Can an Assignment problem ever be a non-degenerate transportation problem · M8 short essay 5 (p.544): Examples of two areas of application of Assignment problem · M8 essay 1 (p.544): An example to show that an Assignment problem can be formulated as a Linear Programming Problem · M8 essay 2 (p.544): How will you handle the following situations in an Assignment problem · M8 essay 3 (p.544): Assignment problem

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q82, Q85, Q86, Q87, Q88, Q89, Q90, Q91, Q92, Q93, Q94, Q95, Q96, Q97, Q98, Q99, Q100, Q101, Q102, Q103, Q104, Q105, Q106, Q107, Q201

9.0 Game Theory

SM pp. 550–563 · marks per attempt: **J26-7 · D25-2 · J25-2 · D24-7 · J24-2 · D23-2 · J23-8** · Dec'26 forecast: tier **B**, chance of any marks **74% (Likely)**, of a 7-mark question 49% (Possible), expected **3.9** marks (MCQ facts + one sum / answer type)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Game with dominance then a 2x2 mixed strategy: optimal strategies and value. [REPEAT+PRACTICE · J26 Q7(a), D24 Q8(a); PTP Q7(a), postal Q8(b)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Market-share game 4x4: dominance, optimal strategy, value	J26 Q7(a) · 7 m · asked in 3 papers	
★★★	Advertising game: dominance, mixed strategies, value	D24 Q8(a) · 7 m · asked in 3 papers	
★★★	Coin game: pay-off matrix, dominance, strategies, value	J23 Q9(a) · PTP Q7(a) · POSTAL Q8(b) · 8 m · asked in 3 papers	similar problem: SM M9 Illus. 3 (SM p.558; solution there)

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★★	(vii) The pay-off matrix of a game for the Company S and Company T is given below: \text{Company S} \begin{bmatrix} 25 & 12 & 10 & 30 \\ 15 & 13 & 6 & 8 \\ 30 & 5 & 8 & 6 \end{bmatrix} \text{(Columns represent Company T)} Using Maximin-Minimax principle what will be the value of the game? (A) 15 (B) 12 (C) 10 (D) None of the above [2]	D23 Q1(xi) · D25 Q1(vii) · MQP Q1(vii) · PTP Q1(vii) · 2 m · asked in 4 papers	
★★★	(B) 10 (C) 12 (D) None of the above (xi) In a factory where standard costing system is followed, the production department consumed 1100 kgs of material @ ₹ 8 per kg for product X resulting in material price variance of ₹ 2,200 (Fav) and material usage variance of ₹ 1,000 (Adv). What is the standard material cost of actual production of product X? (A) ₹ 11,000 (B) ₹ 20,000 (C) ₹ 14,000	J25 Q1(x) · 2 m · asked in 4 papers	
★★★	(v) The Pay-off Matrix of a game is given below: \text{Player A} \quad \begin{pmatrix} 3 & -1 & 4 \\ -1 & 8 & 2 \\ 16 & 8 & 6 \end{pmatrix}^{\text{Player B}} What is the value of Game to Player A (using Maximin–Minimax Principle)? (A) 6 (B) 8 (C) 16 (D) None of the above *(2 Marks)*	J24 Q1(v) · 2 m · asked in 4 papers	

Problems to solve (12): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★★	Solve the Game using Dominance Principle 1 3 12 8 6 2 □□	SM M9 Illus. 3 · SM p.558	J23 Q9(a) (similar)
★★	Solve the Game with the Payoff Matrix 1 5 4 2 □□	SM M9 Illus. 1 · SM p.555	
★★	The Management of a company is negotiating with its Union for revision of hourly wages of its…	SM M9 Illus. 2 · SM p.556	
★★	Joy Givers and Milan Toys are the two toy manufacturers who always compete with each other to…	SM M9 Illus. 4 · SM p.559	
★★	Solve the Game represented by the payoff matrix :- 1 3 12 8 6 2 □□	SM M9 Illus. 5 · SM p.562	
★	Practical problem: Find the optimal strategies of the Players for the game having payoff matrix	SM M9 exercise sum 1 · SM p.570	
★	Solve the game Game Theory	SM M9 exercise sum 2 · SM p.570	
★	Practical problem: Reduce the following game by Dominance Rules and Solve it	SM M9 exercise sum 3 · SM p.571	
★	Solve the game using Graphical method	SM M9 exercise sum 4 · SM p.571	
★	In the suburban area of a large city there are two stores Laxmi Bhandar and Goswami Stores who…	SM M9 exercise sum 5 · SM p.571	
★	Two competing firms (A and B) produce consumer goods of different kind	SM M9 exercise sum 6 · SM p.571	
★	Using the data of the above problem prepare the Payoff Matrix for A when you are supplied with…	SM M9 exercise sum 7 · SM p.572	

★ **SM exercise (if time):** M9 MCQ (not in the bank) 9 (p.565): When the sum of the gains of one player is equal to the sum of the losses to another player… · M9 MCQ (not in the bank) 10 (p.565): When no saddle point is found in the payoff matrix of a game, the value of the game is found by · M9 MCQ (not in the bank) 11 (p.565): A saddle point exists when · M9 MCQ (not in the bank) 12 (p.565): In a pure strategy game · M9 MCQ (not in the bank) 13 (p.565): In a mixed strategy game · M9 MCQ (not in the bank) 14 (p.566): Game theory is the study of · M9 MCQ (not in the bank) 15 (p.566): If the value of the game is zero, then the game is known as · M9 MCQ (not in the bank) 16 (p.566): The games with saddle points are · M9 MCQ (not in the bank) 17 (p.566): When the game is played on a predetermined course of action, which does not change throughout… · M9 MCQ (not in the bank) 18 (p.566): If the losses of Player A are the gains of Player B, then it is called · M9 MCQ (not in the bank) 19 (p.566): Incorrect one Game Theory · M9 MCQ (not in the bank) 20 (p.567): In case there is no saddle point in a game then the game is · M9 MCQ (not in the bank) 22 (p.567): When there is dominance in a game then · M9 MCQ (not in the bank) 23 (p.567): A game is played when · M9 MCQ (not in the bank) 24 (p.567): In a game the list of the courses of action with each player is · M9 MCQ (not in the bank) 25 (p.567): When the game is having a saddle point then the method used to solve the game is · M9 MCQ (not in the bank) 26 (p.568): Linear Programming method should be used to determine the value of the game when the size of… · M9 MCQ (not in the bank) 27 (p.568): If there are more than two persons in a game then the game is known as · M9 MCQ (not in the bank) 28 (p.568): A competitive situation is known as · M9 MCQ (not in the bank) 29 (p.568): Which one of the following is an assumption of Game Theory · M9 MCQ (not in the bank) 30 (p.568): For the Payoff Matrix the maximising player always uses State True or False

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q108, Q109, Q110, Q111, Q112, Q113, Q114, Q115, Q242, Q251

10.0 Simulation

SM pp. 576–588 · marks per attempt: **J26-2 · D25-7 · J25-7 · D24-9 · J24-9 · D23-9** · Dec'26 forecast: tier **A**, chance of any marks **88% (Very likely)**, of a 7-mark question 76% (Likely), expected **7** marks (7-mark sum / answer + MCQ formulas)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Simulation with random numbers: arrivals and service (waiting, idle time), or inventory / newsstand / bakery profit, or profit from uncertain price, cost and volume. [ROTATION · Every December (D23, D24, D25 Q6(b)/Q7(a)); none as a long question in J26; MQP Q7(a), postal Q9(a)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Laptop service centre: simulate 7 days, laptops held over	D25 Q7(a) · 7 m · asked in 3 papers	

Priority	Question	Asked / marks	Answer in
★★★	Travel agency: simulate arrivals and service, waiting, idle time	D23 Q6(b) · J24 Q6(b)(i)(ii) · 7 m · asked in 3 papers	same problem: Workbook ch.7 illustration 8 (WB p.115; solution there) · same problem: SM M10 Illus. 6 (SM p.587; solution there)
★	Simulate average profit from price, variable cost, volume (5 trials)	J25 Q6(b) · 7 m	same problem: Workbook ch.7 illustration 8 (WB p.115; solution there) · same problem: SM M10 Illus. 4 (SM p.584; solution there)
★	Bakery: simulate 10 days' profit with penalties for unsold / unmet demand	D24 Q6(b) · MQP Q7(a) · POSTAL Q9(a) · 7 m	same problem: SM M10 Illus. 6 (SM p.587; solution there)

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★	(vii) The daily demand for a product follows the distribution below: | Demand (units) | 0 | 1 | 2 | 3 | 4 | | | Probability | 0.10 | 0.20 | 0.30 | 0.20 | 0.20 | Random number intervals are assigned as below: | 00-09 | 10-29 | 30-59 | 60-79 | 80-99 | | | 0 | 1 | 2 | 3 | 4 | A simulation is run for 4 days using the random numbers: 14, 67, 85, 33 What is the average simulated demand over these 4 days? (A) 2 units (B) 2.25 units (C) 2.50 units (D) None of the above [2]	J26 Q1(vii) · 2 m · asked in 2 papers	same problem: Workbook ch.7 illustration 8 (WB p.115; solution there) · same problem: Workbook ch.7 illustration 7 (WB p.114; solution there)
★★	(ix) The drive-up window of a fast-food operation was being studied using simulation for a variety of operating characteristics. As part of the study, data was collected on Order Processing Time as given in the following table. Using the first two digits of the Random Numbers, determine the processing time that would be used to simulate the fifth sample. | Processing time (Minutes) | 1 | 2 | 3 | 4 | | | Probability | 0.30 | 0.45 | 0.20 | 0.05 | | Customer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | Random No | 1048 | 2236 | 2413 | 4216 | 3757 | 1501 | 4657 | 4836 | 93	D23 Q1(ix) · 2 m · asked in 2 papers	same problem: SM M10 exercise sum 4 (SM p.598; solution there)
★	(xv) Children's Park in a city with various signals and crossing is the simulated model of city traffic. This is a type of (A) Analogue Simulation (B) Computer Simulation (C) Monte Carlo Simulation (D) Both (A) and (C) of the above	D24 Q1(xv) · 2 m	
★	(xiv) The important step(s) required for simulation approach in solving a problem is/are: (A) Test and validate the Model (B) Design the experiment (C) Conduct the experiment (D) All of the above *(2 Marks)*	J24 Q1(xiv) · 2 m	

Problems to solve (20): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★★	Practical problem: A Small retailer has studied the weekly receipts and payments over the past 200…	SM M10 Illus. 4 · SM p.584	D25 Q1(i) · J25 Q6(b)
★★★	Practical problem: A businessman is considering taking over a certain new business	SM M10 Illus. 6 · SM p.587	D23 Q6(b) · D24 Q6(b)
★★★	Practical problem: A book store wishes to carry ‘Ramayana’ in stock	SM M10 exercise sum 4 · SM p.598	D23 Q1(ix)
★★★	Inventory simulation over ten days with random demand, lead time and a reorder rule: total inventory cost	Workbook ch.7 illustration 7 · WB p.114	D24 Q3(b) · J26 Q1(vii)
★★★	Simulate weekly cash receipts and payments for a quarter and the average balance	Workbook ch.7 illustration 8 · WB p.115	D24 Q3(b) · D25 Q1(i) · D23 Q6(b) · J25 Q6(b) · J26 Q1(vii)
★★	Generate a string of 12 pseudo random numbers by Mixed type Residue Method when it is given…	SM M10 Illus. 1 · SM p.580	
★★	Practical problem: The past data of demand per week (in '00 kgs.) of a confectionery item is given…	SM M10 Illus. 2 · SM p.580	

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: The manager of a book store has to decide the number of copies of a particular…	SM M10 Illus. 3 · SM p.582	
★★	Patients arriving at a village dispensary are treated by a doctor on a first-come-first-served…	SM M10 Illus. 5 · SM p.586	
★★	Simulate car-rental demand for five days from random numbers	Workbook ch.7 illustration 1 · WB p.107	
★★	Simulate daily cookie demand for ten days and the average demand	Workbook ch.7 illustration 2 · WB p.108	
★★	Simulate six days of supply and demand of a perishable item; earnings with a shortage penalty	Workbook ch.7 illustration 3 · WB p.109	
★★	Simulate daily truck output against a train of fixed size: trucks left waiting and empty places	Workbook ch.7 illustration 4 · WB p.110	
★★	Simulate weekly confectionery demand for 15 weeks and the average	Workbook ch.7 illustration 5 · WB p.111	
★★	Simulate component making and assembly times and idle time	Workbook ch.7 illustration 6 · WB p.113	
★★	Queue simulation at a counter: waiting times and whether a second counter is needed	Workbook ch.7 illustration 9 · WB p.117	
★★	Simulate profit of a new product from random price, variable cost and volume (same figures as the Jun'25 exam Q6(b))	Workbook ch.7 illustration 10 · WB p.119	
★	Practical problem: An automobile production line turns out about 100 cars a day, but deviations…	SM M10 exercise sum 1 · SM p.596	
★	After observing heavy congestion of customers over a period of time in a petrol station, Mr.…	SM M10 exercise sum 2 · SM p.596	
★	The Tit-Fit Scientific Laboratories is engaged in producing different types of high class…	SM M10 exercise sum 3 · SM p.597	

★ **SM exercise (if time):** M10 MCQ (not in the bank) 9 (p.590): Simulation uses logical relationship and mathematical expressions of the – · M10 MCQ (not in the bank) 10 (p.590): While assigning random numbers in Monte Carlo Simulation, it is – · M10 MCQ (not in the bank) 12 (p.590): Simulation can keep track of several different kinds of information, including orders,… · M10 MCQ (not in the bank) 13 (p.591): Monte Carlo Simulation ensures that – · M10 MCQ (not in the bank) 14 (p.591): What should a Project Manager do when his preliminary task estimate differs from Monte Carlo… · M10 MCQ (not in the bank) 15 (p.591): What can be expected at the end of a Monte Carlo Simulation exercise · M10 MCQ (not in the bank) 16 (p.591): Analytical results are taken into consideration before a simulation study so as to - · M10 MCQ (not in the bank) 17 (p.591): Which of the following statements are applicable for Pseudo Random Numbers · M10 MCQ (not in the bank) 18 (p.591): Large complicated simulation models are appreciated because – · M10 MCQ (not in the bank) 19 (p.592): Simulation should not be applied in all cases because it – · M10 MCQ (not in the bank) 20 (p.592): Simulation is defined as – computers · M10 MCQ (not in the bank) 21 (p.592): Few causes of simulation analysis failure are – · M10 MCQ (not in the bank) 22 (p.592): To make simulation more popular – · M10 MCQ (not in the bank) 24 (p.592): The general purpose system simulation language – Simulation · M10 MCQ (not in the bank) 25 (p.593): An advantage of simulation as opposed to optimization is that – · M10 MCQ (not in the bank) 26 (p.593): The purpose of using simulation technique is to – · M10 MCQ (not in the bank) 27 (p.593): As simulation is not an analytical model, its solution should be viewed as – · M10 MCQ (not in the bank) 28 (p.593): All of the following are advantages of simulation except – · M10 MCQ (not in the bank) 30 (p.594): Practical problem: The drive up window of a fast food centre was being studied using simulation… · M10 short essay 1 (p.596): Children's Park in a city" is the example of what type of simulation · M10 short essay 2 (p.596): Simulation generates a near optimal solution of a real life problem related to any process"–… · M10 short essay 3 (p.596): Name five application areas of Simulation · M10 essay 1 (p.596): Advantages of Simulation · M10 essay 2 (p.596): Limitations of Simulation · M10 essay 3 (p.596): Methods of generation of Pseudo Random Numbers

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q116, Q117, Q118, Q119, Q120, Q121, Q122, Q123, Q124, Q205, Q249, Q281

11.0 Network Analysis – PERT, CPM

SM pp. 600–625 · marks per attempt: **J26-7 · J25-16 · D24-18 · J24-16 · D23-9 · J23-10** · Dec'26 forecast: tier **A**, chance of any marks **90% (Very likely)**, of a 7-mark question 82% (Very likely), expected **8** marks (7-mark sum / answer + MCQ formulas)

OUR DEC'26 CALLS FOR THIS TOPIC

1. PERT: expected times and variances, critical path, probability of finishing by a date, duration for 95% confidence (or the project hit by a fire / revised estimates). [REPEAT+PRACTICE · J24 Q7, J25 Q7, J26 Q7(b) (= MQP Q7(b) data), D23 Q7(a) (= PTP Q7(b))]
2. Crashing: cost slope = (crash cost - normal cost) / (normal time - crash time); crash the critical path step by step to a target duration; % rise in cost. [REPEAT · D24 Q7 (December)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Network with EST/LST, critical path, probability of 38 weeks, 95% duration	J26 Q7(b) · 7 m · asked in 5 papers	
★★★	Expected activity times; PERT network and paths; Critical path, expected time, SD; Probability of finishing in 54 days; Revised extreme estimates: new probability	J25 Q7(i)(ii)(iii)(iv)(v) · 14 m · asked in 5 papers	
★★★	Network, critical path, % cost increase to finish in 21 days	D24 Q7 · 14 m	
★★★	Audit programme: PERT network	J23 Q11(i) · J24 Q7(i)(ii)(iii)(iv) · MQP Q7(b) · PTP Q7(b) · 2 m · asked in 5 papers	
★★★	Fire after day 15: new duration, critical path, probability of finishing on time	D23 Q7(a) · 7 m · asked in 5 papers	
★★★	Critical path and expected time	J23 Q11(ii) · 2 m · asked in 5 papers	
★★★	Duration with 95% confidence	J23 Q11(iii) · 2 m · asked in 5 papers	
★★★	Effect of a longer activity F on the 95% duration	J23 Q11(iv) · 2 m · asked in 5 papers	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★★	(xiv) A PERT Network has four activities on its Critical Path. The Standard Deviation of each activity on the Critical path is 4 days. What will be the standard deviation of the CRITICAL PATH? (A) 8 days (B) 4 days (C) 2 days (D) None of the above (xv) SONT Ltd., has fixed costs of ₹ 5,00,000 and variable costs are 70% of the selling price. To realize profits of ₹ 1,00,000 from sales of 400000 units, the selling price per unit must be	J25 Q1(xiv) · 2 m · asked in 3 papers	
★★★	(ix) Optimistic and pessimistic time of an activity respectively are 4 days and 16 days. Variance of the duration of the activity will be:— (A) 4 days (B) 2 days (C) 3 days (D) None of the above	D24 Q1(ix) · 2 m · asked in 3 papers	
★★★	(xv) The expected time for an activity of Project LM is 20 days. If the most likely and pessimistic time are 19 days and 28 days, what will be the variance of the activity? (A) 1.36 (B) 1.78 (C) 4 (D) 0 *(2 Marks)* --- □SECTION – B *Answer any Five Questions. Each question carries 14 Marks.* [14 × 5 = 70]	J24 Q1(xv) · 2 m · asked in 3 papers	
★	(x) The normal duration and normal cost of an activity of project BOZ are 12 days and ₹400 respectively. The cost slope is ₹80 per day, if the crash cost of the activity is ₹560, what will be the crash duration of the activity ? (A) 12 Days (B) 10 Days (C) 8 Days (D) 6 Days	D24 Q1(x) · 2 m	
★	(xii) The slack time of tail event of activity Z of a project is 2 days. If the Total Float and Free float of the activity Z are 10 days and 7 days respectively, the Independent float of activity Z will be: (A) 5 days (B) 6 days (C) 7 days (D) 2 days	D23 Q1(xii) · 2 m	
★	Choose the most appropriate answer to the following questions giving justification. 1 mark will be awarded for correct answer and 1 mark for justification. [2 × 2 = 4] Choose the most appropriate answer to the following questions giving justification. 1 mark will be awarded for correct answer and 1 mark for justification. [2 × 2 = 4] (i) Assignment Problem can be considered as a particular case of (A) Transportation problem (B) Sequencing problem (C) Queuing problem (D) All of the above (ii) In PERT CHART, the Activity time distribution is (A) Normal (B) Binomial (C) Beta (D) Poisson	J23 Q7(ii) · POSTAL Q10(b) · 2 m	

Problems to solve (11): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: The following table gives the activities and other relevant information related...	SM M11 Illus. 1 · SM p.608	
★★	Practical problem: Activity Preceded by Elapsed Time (Minutes) A - Weigh ingredients - 1 B - Mix...	SM M11 Illus. 2 · SM p.610	
★★	XYZ Auto-manufacturing Co. has to prepare a design of its latest model of motorcycle	SM M11 Illus. 3 · SM p.611	
★★	Practical problem: A civil engineering firm has to bid for the construction of a dam	SM M11 Illus. 4 · SM p.613	
★★	The following table gives data on normal time & cost as well as crash time & cost for a project	SM M11 Illus. 5 · SM p.618	
★★	Practical problem: Consider the following problem of project scheduling to obtain a schedule which...	SM M11 Illus. 6 · SM p.622	
★	Practical problem: Information about a project are given as follows Activity A B C D E F G H I J K...	SM M11 exercise sum 1 · SM p.633	
★	[Case Study] M/S Ramswarup Limited is a renowned trader of Steel Structural with head office...	SM M11 exercise sum 2 · SM p.633	
★	Practical problem: The following table gives the activities and other relevant data for a project...	SM M11 exercise sum 3 · SM p.634	
★	Practical problem: Activity P is followed by Activity Q which in turn, is followed by Activity R....	SM M11 exercise sum 4 · SM p.634	
★	Practical problem: A project has four activities P, Q, R and S as shown below	SM M11 exercise sum 5 · SM p.635	

★ **SM exercise (if time):** M11 MCQ (not in the bank) 6 (p.626): Which of the following statement is not true · M11 MCQ (not in the bank) 24 (p.629): Which of the following is true when a project is scheduled by Critical Path Analysis · M11 MCQ (not in the bank) 25 (p.629): Total Project Cost versus Duration curve is – · M11 MCQ (not in the bank) 26 (p.630): Activities P, Q and R are the immediate successors of the activity N · M11 MCQ (not in the bank) 27 (p.630): Activity in a Network diagram is represented by – · M11 MCQ (not in the bank) 29 (p.630): Among the following, critical path and slack time analysis mostly help State True or False · M11 short essay 1 (p.632): A Path in a Network diagram · M11 short essay 2 (p.632): Crash Duration of an Activity · M11 short essay 3 (p.632): Expected Duration of a PERT Activity · M11 short essay 4 (p.632): Difference between AOA Diagram and AON Diagram in Network · M11 short essay 5 (p.632): Looping error in Network Diagram · M11 short essay 6 (p.632): Cost Slope in relation to Crashing of a project Network · M11 short essay 7 (p.632): Event and Merge Event in a Network · M11 essay 1 (p.632): PERT and CPM · M11 essay 2 (p.632): Following terms in PERT – (a) Optimistic Time, (b) Pessimistic Time, (c) Most Likely Time, (d)... · M11 essay 3 (p.632): – Total Float, Free Float, Independent Float, Head Slack and Tail Slack · M11 essay 4 (p.632): Meaning of Crashing in Network techniques · M11 essay 5 (p.633): Network Analysis and when it is used

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q125, Q126, Q127, Q128, Q129, Q130, Q131, Q132, Q133, Q134, Q135, Q136, Q137, Q138, Q139, Q140, Q141, Q142, Q143, Q144, Q145, Q146, Q147, Q207, Q211, Q222, Q224, Q226, Q228, Q261, Q272, Q273, Q282

12.0 Learning Curve

SM pp. 638–652 · marks per attempt: **J26-2 · D25-9 · J25-2 · D24-2 · J24-2 · D23-9 · J23-8** · Dec'26 forecast: tier **A**, chance of any marks **88% (Very likely)**, of a 7-mark question 64% (Likely), expected **6.1** marks (7-mark sum / answer + MCQ formulas)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Learning curve pricing: average and incremental cost for further orders (80% / 90%), price at cost plus mark-up; learning rate needed for a target. [ROTATION · D23 Q7(b), D25 Q7(b) (both December); J23 Q10(a)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Fire alarms: price per unit for two orders, 80% curve, 25% mark-up	D25 Q7(b) · 7 m · asked in 2 papers	
★★★	Boats at variable cost + 20%: average and separate prices (90% curve)	D23 Q7(b) · 7 m · asked in 2 papers	
★	Labour cost of the 8th batch (90% curve)	J23 Q10(a)(i) · 3 m	
★	Lifetime contribution	J23 Q10(a)(ii) · 2 m	

Priority	Question	Asked / marks	Answer in
★	Learning rate needed for a target contribution	J23 Q10(a)(iii) · 3 m	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★★	(viii) An operation of KON Ltd. has a Learning Curve 90% and the first unit produced took 30 minutes. The labour cost is ₹ 120 per hour. How much should the second unit labour cost? (A) None of the below options (B) ₹ 60 (C) ₹ 54 (D) ₹ 48 [2]	D25 Q1(viii) · 2 m · asked in 4 papers	
★★★	(xiii) When 24 hours is required to produce a condenser of a particular type then the time required to produce the 16th unit with 85% Learning Curve is (A) between 9 and 10 hours. (B) between 12 and 14 hours. (C) between 15 and 17 hours. (D) between 18 and 20 hours.	J25 Q1(xiii) · 2 m · asked in 4 papers	
★★★	(vii) DOXT Ltd., a manufacturing company, is preparing a quotation for a new product-D. The time taken for the first unit is 30 hours. The company expects 85% learning curve (Index is -0.2345). The company desires that the quotation should be based on the time taken for the final output within the Learning period which is expected to end after the company has produced 200 units. What will be the time per unit of product to be used for the quotation? [Given: 199^{-0.2345} = 0.28901, 200^{-0.2345} = 0.28867 and 201^{-0.2345} = 0.28834] (A) 6.63 hours (B) 10.34 hours (C) 11.50 hours (D) None of the above *(2 Marks)*	J24 Q1(vii) · 2 m · asked in 4 papers	
★★★	(viii) An employee of ROB Ltd. took 200 minutes to complete the first set up on a new machine. Using a 90% incremental unit time learning model indicates that the second set up on the new machine is expected to take- (A) 160 minutes (B) 120 minutes (C) 100 minutes (D) 80 minutes	D23 Q1(viii) · MQP Q1(viii) · PTP Q1(viii) · 2 m · asked in 4 papers	
★★	(viii) Ross Ltd., has developed a new product and just completed the manufacture of first four units of the product. If the first unit took 4 hours to manufacture and the first 4 units together took 11.56 hours to produce, the Learning Curve (LC) rate would be (A) 69.50 % (B) 75.00 % (C) 80.10 % (D) 85.00 % [2]	D24 Q1(xiii) · J26 Q1(viii) · 2 m · asked in 2 papers	

Problems to solve (13): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: The usual Learning Curve model is Y = axb where Y is the average time per unit…	SM M12 Illus. 1 · SM p.645	
★★	The Learning Curve in management accounting has now become or is going to become an accepted…	SM M12 Illus. 2 · SM p.646	
★★	Z.P.L.C experiences difficulty in its budgeting process because it finds it necessary to…	SM M12 Illus. 3 · SM p.646	
★★	Practical problem: A firm received an order to make and supply eight units of standard product…	SM M12 Illus. 4 · SM p.648	
★★	Practical problem: A manager wants to determine an appropriate learning percentage for a new type…	SM M12 Illus. 5 · SM p.649	
★★	Practical problem: XYZ Co. does not have any costing department	SM M12 Illus. 6 · SM p.649	
★★	An automobile manufacturer is conducting a product recall after it was discovered that a…	SM M12 Illus. 7 · SM p.650	
★	A tool manufacturing company wants to sell 49 units to a customer	SM M12 exercise sum 1 · SM p.659	
★	Assume that the first unit of a very special product takes 15 labour hours to produce and the…	SM M12 exercise sum 2 · SM p.659	
★	Practical problem: A lot of 20 units is to be produced	SM M12 exercise sum 3 · SM p.659	
★	The organisation to which you belong is a regular supplier of Indian Railways	SM M12 exercise sum 4 · SM p.659	

Priority	Problem (what it asks)	Where	Came in the exam
★	A firm has a training program for an operation	SM M12 exercise sum 5 · SM p.659	
★	Practical problem: The vendor of an automobile company is approached by the principals to build a...	SM M12 exercise sum 6 · SM p.659	

★ **SM exercise (if time):** M12 MCQ (not in the bank) 5 (p.653): The Learning Curve remains valid – · M12 MCQ (not in the bank) 6 (p.653): Practical problem: A 100% Learning Curve implies that – · M12 MCQ (not in the bank) 7 (p.654): Which of the following statement is true · M12 MCQ (not in the bank) 9 (p.654): For organisations with wide variety of product range which of the following statement is... · M12 short essay 1 (p.656): Should the learning percentage be higher in an Automatic process than in Manual process · M12 short essay 2 (p.656): What would a learning of 95 percent mean · M12 short essay 3 (p.656): If the learning phenomenon applies to all human activities, why the effect is not noticeable... · M12 short essay 4 (p.656): Phases of Learning Curve · M12 short essay 5 (p.656): Meant by Learning Curve ratio · M12 short essay 6 (p.656): Learning process · M12 essay 1 (p.656): Learning Curve and why it is important · M12 essay 2 (p.656): Limitations of Learning Curve · M12 essay 3 (p.656): Various uses of Learning Curve · M12 MCQ (not in the bank) 1 (p.656): After studying the activities of the employees of one department of a large retail outlet, the... · M12 MCQ (not in the bank) 4 (p.657): How long will it take to produce the fifth unit with 85% learning rate, if the third unit took... · M12 MCQ (not in the bank) 7 (p.658): Practical problem: A builder requires 4000 hours to complete his first house · M12 MCQ (not in the bank) 8 (p.658): Using the data of the above question what is the total time required to complete the first 4... · M12 MCQ (not in the bank) 10 (p.658): To determine the Learning Curve for an assembly activity in a factory, time study is carried... · M12 MCQ (not in the bank) 11 (p.658): Practical problem: A manufacturing unit has 95% Learning Curve

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q148, Q149, Q150, Q151, Q152, Q153, Q154, Q155, Q197, Q212, Q213, Q227, Q240, Q253, Q262, Q264, Q275, Q278

13.0 Business Application of Maxima and Minima | 13

SM pp. 662–675 · marks per attempt: **J26-7 · D25-7 · J25-9 · D24-2 · J24-9 · D23-7 · J23-6** · Dec'26 forecast: tier **A**, chance of any marks **85% (Very likely)**, of a 7-mark question 76% (Likely), expected **6.7** marks (7-mark sum / answer + MCQ formulas)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Demand and cost functions: profit-maximising output and price (MR = MC), maximum profit; does maximum revenue give maximum profit? With a per-unit tax. [REPEAT+PRACTICE · D23, J24, D25, J26 Q8(a); MQP Q8(a); PTP Q8(a)]
2. Price discrimination between two sub-markets: output and price in each, maximum profit. [REPEAT · J25 Q8(a)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Does maximum profit coincide with maximum revenue?	J26 Q8(a) · 7 m · asked in 4 papers	
★★★	Maximum-profit quantity and profit (price and cost as functions of X)	D25 Q8(a) · 7 m · asked in 4 papers	
★★★	Monopolist with two sub-markets: maximum profit under price discrimination	J25 Q8(a) · 7 m	
★★★	Monopolist: profit-maximising output per week; Monopoly price; Total cost and profit at the optimum	J24 Q8(a)(i)(ii)(iii) · 7 m · asked in 4 papers	
★★★	Dolls: profit-maximising quantity, price, profit	D23 Q8(a) · MQP Q8(a) · PTP Q8(a) · 7 m · asked in 4 papers	
★	Profit-maximising output and price with a per-unit tax	J23 Q10(b) · 6 m	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★★	(x) The pay-off matrix of game for Firm A and Firm B is given below: \begin{array}{cc} & \text{FIRM B} \\ \text{FIRM A} & \begin{bmatrix} 30 & 15 & 12 & 35 \\	J25 Q1(viii) · 2 m · asked in 3 papers	
★★★	(vii) The average cost function for a product is given by AC = \frac{1}{3}x^2 + x + 8, in terms of output x. If the marginal cost is ₹23 what will be the number of units (Output)? (A) 3 (B) 4 (C) 5 (D) 0	D24 Q1(vii) · 2 m · asked in 3 papers	

Priority	Question	Asked / marks	Answer in
★★★	(xii) Total Revenue of ZOM Ltd., from the Sales of the quantity (units) is given by the equation R = \frac{1}{3}x^3 - x^2 + 10x + 5. If the Marginal revenue is 25, what will be number of quantity (in units)? (A) 6 (B) 4 (C) 5 (D) None of the above *(2 Marks)*	J24 Q1(xii) · 2 m · asked in 3 papers	

Problems to solve (20): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★	The demand (rides per day) of Roller Coaster Ride in an Entertainment Park in one of the metro…	SM M13 Illus. 1 · SM p.663	
★★	Assume the Cost (₹) of manufacturing x numbers of a product per day is C(x) = 14400 + 550x +…	SM M13 Illus. 2 · SM p.664	
★★	Practical problem: A company produces two products x and y	SM M13 Illus. 3 · SM p.665	
★★	Find the Critical Points for the function f(x,y) = x2y – 2xy2 + 3xy + 4	SM M13 Illus. 4 · SM p.666	
★★	A firm has the Cost function C = x3/3 – 7x2 + 111x + 50 and Demand function x = 100 – p	SM M13 Illus. 5 · SM p.669	
★★	Practical problem: A manufacturer produces a liquid commodity at two different Plants located in…	SM M13 Illus. 6 · SM p.670	
★★	Practical problem: A discriminating Monopolist is able to separate its customers into two markets…	SM M13 Illus. 7 · SM p.671	
★★	Practical problem: Suppose a firm produces TV Sets at two different locations which produced x1…	SM M13 Illus. 8 · SM p.674	
★★	Points of maximum and minimum of a cubic function	Workbook ch.8 illustration 1 · WB p.121	
★★	Price per ride that maximises revenue from a linear demand function	Workbook ch.8 illustration 2 · WB p.121	
★★	Profit-maximising output and price from a cubic cost function and linear demand	Workbook ch.8 illustration 3 · WB p.122	
★★	Output that minimises average cost; minimum average and total cost	Workbook ch.8 illustration 4 · WB p.123	
★★	Two-product profit function: outputs that maximise profit (second-order check)	Workbook ch.8 illustration 5 · WB p.124	
★★	Two products with linked demand functions: outputs and prices that maximise revenue	Workbook ch.8 illustration 6 · WB p.125	
★★	Show that marginal cost keeps falling as output rises	Workbook ch.8 illustration 7 · WB p.128	
★	Practical problem: A manufacturing company selling two wheelers (x) and three wheelers (y) has the…	SM M13 exercise sum 1 · SM p.680	
★	The Production function of a Firm is given as Q = f(K,L) = K0.5L0.25 and the prices of Capital…	SM M13 exercise sum 2 · SM p.680	
★	Practical problem: A manufacturer estimates his Annual Sales (in units) as a function of the…	SM M13 exercise sum 3 · SM p.680	
★	Practical problem: A monopolist offers 2 products which have the demand functions given as q1 = 14…	SM M13 exercise sum 4 · SM p.680	
★	If the relation between Total Cost (y) and Output (x) is y = 3x (x + 7 x + 5) + 5, prove…	SM M13 exercise sum 5 · SM p.680	

★ **SM exercise (if time):** M13 MCQ (not in the bank) 6 (p.676): In unconstrained optimization with single variable the sufficient condition for maximization… · M13 MCQ (not in the bank) 7 (p.677): In case of unconstrained optimization involving two variables the

necessary condition is – · M13 MCQ (not in the bank) 11 (p.677): In the expression D = AC – B2 used for describing the sufficient conditions for a dual… · M13 MCQ (not in the bank) 13 (p.677): Use of Lagrange's Multiplier is seen while – · M13 MCQ (not in the bank) 14 (p.678): For a firm the total cost function is C(x) = - 0.5x2 + 11x + 600 · M13 short essay 1 (p.679): Term – Multi-plant Monopolist · M13 short essay 2 (p.679): Using only the 1st Derivatives prove that MC = MR for any firm in Equilibrium · M13 short essay 3 (p.679): If the Lagrangian of an optimization problem is L = 8x2 – 70x – 4xy – 50y + 5y2 + λ(x + y –… · M13 essay 1 (p.680): Steps involved in optimization of an Objective Function subject to an equality constraint · M13 essay 2 (p.680): Down the necessary and sufficient conditions of unconstrained optimization of an Objective… · M13 essay 3 (p.680): Down the necessary and sufficient conditions of Equilibrium of the following types of…

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q156, Q157, Q158, Q159, Q160, Q161, Q162, Q163, Q252

14.0 Business Forecasting Models (Time Series and Regression Analysis) 14

SM pp. 682–710 · marks per attempt: **J26-7 · D25-7 · J25-7 · D24-9 · J24-7 · D23-9** · Dec'26 forecast: tier **A**, chance of any marks **86% (Very likely)**, of a 7-mark question 82% (Very likely), expected **7.5** marks (7-mark sum / answer + MCQ formulas)

OUR DEC'26 CALLS FOR THIS TOPIC

1. Seasonal indices by the trend-ratio method or a multiplicative forecast from a trend equation and seasonal indices. [ROTATION · D24 Q8(b), D25 Q8(b) (both December); PTP Q8(b)]
2. Least-squares straight-line trend and forecast for given years (odd / even number of years). [REPEAT+PRACTICE · D23 Q8(b), J24 Q8(b); MQP Q8(b) (= D23 halved)]
3. Exponential smoothing with a given coefficient, period by period. [REPEAT+PRACTICE · J25 Q8(b), J26 Q8(b) (both June); postal Q10(a)]

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	Exponential smoothing (0.1) forecasts May-October	J26 Q8(b) · 7 m · asked in 2 papers	same problem: SM M14 Illus. 10 (SM p.708; solution there)
★★★	Monthly seasonal indices by the trend-ratio method	D25 Q8(b) · 7 m · asked in 2 papers	
★★★	Ship unloading: exponential smoothing (0.1), forecast Q1 2025	J25 Q8(b) · POSTAL Q10(a) · 7 m · asked in 2 papers	similar problem: SM M14 exercise sum 1 (SM p.717; solution there)
★★★	Quarterly forecast from a trend equation and seasonal indices (multiplicative)	D24 Q8(b) · PTP Q8(b) · 7 m · asked in 2 papers	same problem: SM M14 Illus. 9 (SM p.706; solution there)
★★★	Least-squares trend of exports; forecast 2025	J24 Q8(b) · 7 m · asked in 2 papers	
★★★	Least-squares trend of zinc sales; forecast 2019 and 2025	D23 Q8(b) · MQP Q8(b) · 7 m · asked in 2 papers	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★	(xiv) In Simple Exponential Smoothing forecast to give higher weightage to recent demand information, the smoothing constant must be close to (A) -1 (B) 0 (C) 0.3 (D) 1	D24 Q1(xiv) · 2 m	
★	(xv) Which of the following is not a part of qualitative type of forecasting techniques? (A) Survey Technique (B) Barometric Technique (C) Exponential Smoothing (D) Delphi Technique	D23 Q1(xv) · 2 m	

Problems to solve (25): SM illustrations, SM exercise sums, ICMAI workbook

Priority	Problem (what it asks)	Where	Came in the exam
★★★	Practical problem: On the basis of quarterly Sales (in ₹ Lakhs) of a certain commodity for the…	SM M14 Illus. 9 · SM p.706	D24 Q8(b)
★★★	M/S B.P.Leathers, a shoe manufacturer has modern outlook and they depend heavily on Business…	SM M14 Illus. 10 · SM p.708	J26 Q8(b)
★★★	Practical problem: A company dealing in logistics business has a business wing named Ship Unloading	SM M14 exercise sum 1 · SM p.717	J25 Q8(b) (similar)

Priority	Problem (what it asks)	Where	Came in the exam
★★	Practical problem: There are two variables that need to be studied – Exports of raw cotton and…	SM M14 Illus. 1 · SM p.688	
★★	Practical problem: In order to find out the effect of Educational Qualification and Experience on…	SM M14 Illus. 2 · SM p.691	
★★	The CNC Machine Shop mentioned in the problem above is going to bid for few very critical…	SM M14 Illus. 3 · SM p.693	
★★	Practical problem: (Moving Average trend with EVEN Period) Find trend values of the following year…	SM M14 Illus. 4 · SM p.697	
★★	Practical problem: (Mathematical Curve fitting with data for ODD number of years given) The…	SM M14 Illus. 5 · SM p.699	
★★	Practical problem: (Mathematical Curve fitting with data for EVEN number of years given) From the…	SM M14 Illus. 6 · SM p.700	
★★	Practical problem: Calculate the Seasonal Indices for the following quarterly data in certain units	SM M14 Illus. 7 · SM p.702	
★★	Practical problem: Calculate Seasonal Fluctuation from the following Time Series data obtained…	SM M14 Illus. 8 · SM p.703	
★★	Regression of imports on exports and a forecast	Workbook ch.9 illustration 1 · WB p.129	
★★	Regression of tyre sales on motor registrations and a forecast	Workbook ch.9 illustration 2 · WB p.130	
★★	Regression line from means, standard deviations and r; most likely yield	Workbook ch.9 illustration 3 · WB p.132	
★★	Least-squares trend line from ten years of sales; trend values and what they mean	Workbook ch.9 illustration 4 · WB p.132	
★★	Least-squares trend with a missing year; forecast sales	Workbook ch.9 illustration 5 · WB p.134	
★★	Trend by 3-year moving averages	Workbook ch.9 illustration 6 · WB p.136	
★★	Trend by 4-year (centred) moving averages	Workbook ch.9 illustration 7 · WB p.136	
★★	Exponential smoothing week by week from a first forecast	Workbook ch.9 illustration 8 · WB p.138	
★★	Exponential smoothing of quarterly tonnage and a next-quarter forecast	Workbook ch.9 illustration 9 · WB p.139	
★★	Exponential smoothing with two alphas; which forecast is better	Workbook ch.9 illustration 10 · WB p.140	
★	Practical problem: The number of quarterly traffic accidents in a Metro city during 2021-2023 are…	SM M14 exercise sum 2 · SM p.718	
★	Practical problem: For the following series of observations verify that the 4 yearly Centred…	SM M14 exercise sum 3 · SM p.718	
★	Practical problem: In the following dataset consider y as the Response Variable and x1 and x2 as…	SM M14 exercise sum 4 · SM p.718	
★	Practical problem: While calculating the Coefficient of Correlation between two variables x and y,…	SM M14 exercise sum 5 · SM p.718	

★ **SM exercise (if time):** M14 MCQ (not in the bank) 4 (p.711): The number of averaging period in the Simple Moving Average Method of forecasting is increased… · M14 MCQ (not in the bank) 6 (p.711): Which of the following is not a part of Quantitative type

of Forecasting Model · M14 MCQ (not in the bank) 7 (p.712): Which of the following Forecasting technique uses three types of participants: Decision… · M14 MCQ (not in the bank) 8 (p.712): Practical problem: Sales data for the numbers sold for a particular product during January to May… · M14 MCQ (not in the bank) 9 (p.712): The Time Series forecasting method that gives equal weightage to each of the N most recent… · M14 MCQ (not in the bank) 10 (p.712): Which of the following is not a forecasting technique · M14 MCQ (not in the bank) 12 (p.712): Which of the following is not true for forecasting · M14 MCQ (not in the bank) 13 (p.713): In which of the following forecasting technique, data obtained from past experience is analysed · M14 MCQ (not in the bank) 15 (p.713): Short term regular variations related to the calendar or time of the day is known as – · M14 MCQ (not in the bank) 19 (p.713): Which of the following is not a Qualitative Forecasting technique · M14 MCQ (not in the bank) 20 (p.714): Which of the following is not one of the four types of variation that is estimated in the Time… · M14 MCQ (not in the bank) 21 (p.714): In Time Series Analysis which source of variation can be estimated by the ratio to trend method · M14 MCQ (not in the bank) 22 (p.714): A qualitative forecast · M14 MCQ (not in the bank) 23 (p.714): The first step in Time Series analysis is to – · M14 MCQ (not in the bank) 25 (p.714): Practical problem: From the first two supplied values of a Time Series and its corresponding… · M14 MCQ (not in the bank) 26 (p.715): Practical problem: For the Regression Equations y = 0.516x + 33.73 and x = 0.512y + 32.52, the… · M14 MCQ (not in the bank) 27 (p.715): For a bivariate dataset (x,y), if the Means, Standard Deviations and Correlation Coefficient… · M14 MCQ (not in the bank) 28 (p.715): The data about Sales and Advertisement Expenditure of a firm is given below Sales (₹ Crores)… · M14 MCQ (not in the bank) 29 (p.715): Given the Regression Lines x + 2y – 5 = 0 and 2x + 3y – 8 = 0 and Var (X) = 12 · M14 MCQ (not in the bank) 30 (p.715): The equations of the two lines of Regression are 4x + 3y + 7 = 0 and 3x + 4y + 8 = 0 · M14 short essay 1 (p.717): Secular Trend in Time Series · M14 short essay 2 (p.717): Regression · M14 short essay 3 (p.717): Demand Forecasting · M14 short essay 4 (p.717): Name the different models of Qualitative Forecasting · M14 short essay 5 (p.717): Speciality of Delphi technique · M14 short essay 6 (p.717): To deseasonalise time series data firstly trend component of it needs to be removed" – discuss · M14 essay 1 (p.717): Limitations of Business Forecasting · M14 essay 2 (p.717): Assumptions on which Input – Output Model is established · M14 essay 3 (p.717): Different models of time series data · M14 essay 4 (p.717): SLR and MLR · M14 essay 5 (p.717): Importance of Business Forecasting in different areas of an organisation

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q164, Q165, Q166, Q167, Q168, Q169, Q170, Q171, Q172, Q173, Q204, Q218

15.0 Introduction to Tools for Data Analytics

SM pp. 722–746 · marks per attempt: **J26-2 · D25-2 · J25-4 · D24-4 · J24-4 · D23-4 · J23-6** · Dec'26 forecast: tier **B**, chance of any marks **79% (Likely)**, of a 7-mark question 0% (Rare), expected **2.6** marks (MCQ formulas / facts only)

Long questions and sums asked (past papers and ICMAI practice papers)

Priority	Question	Asked / marks	Answer in
★★★	9. (b) (i) What do you mean by Business Intelligence (BI) software? (ii) Discuss in brief what are the features of R Programming Language. [2 + 4 = 6]	J23 Q9(b)(i)(ii) · 6 m · asked in 3 papers	
★	Types of data analysis tools	POSTAL Q9(b) · 6 m	

MCQs asked on this topic

Priority	Question	Asked / marks	Answer in
★★★	(ix) QuickBooks is primarily used for: (A) Data visualization and dashboard creation (B) Accounting and financial management (C) Statistical analysis and modeling (D) Database management [2]	J26 Q1(ix) · 2 m · asked in 5 papers	
★★★	(ix) Which of the following is / are feature(s) of Zoho Analytics Tools? (A) BI and Analytics platform (B) Deployable in the cloud as well as on premises server (C) Both (A) and (B) of the above (D) Rich Accounting Solution for small business [2]	D25 Q1(ix) · 2 m · asked in 5 papers	
★★★	(C) Predictive sales analysis (D) All of the above (v) Python can be used on Linux, Windows, Macintosh, Solaris and many more. What category of language features of Python it comes under? (A) Robust (B) Embeddable (C) High Level Language	J25 Q1(iv) · 2 m · asked in 5 papers	
★★★	(D) Platform Independent (vi) AON Ltd., a manufacturer of doors using a Throughput Costing System, is experiencing a bottleneck in its plant. Set up time at one of its Work Stations has been identified as the offender. The Manager (Finance) has proposed a plan to reduce the set up time at a cost of ₹ 5,24,000. The change will result in 500 additional doors. The Direct Labour costs are ₹ 2,400 per door and the cost of Direct Materials is ₹ 8,000 per door. All units produced can be sold. If the change will result in an increase in the Throughput Contribution of ₹ 56,50,000, what will be the selling price per door? (A) ₹ 19,300 (B) ₹ 18,500 (C) ₹ 13,700	J25 Q1(v) · 2 m · asked in 3 papers	
★★★	(xii) # Script Ends – is related to which type of Programming Language ? (A) SPSS (B) Python (C) SAS (D) R Programming	D24 Q1(xii) · 2 m · asked in 3 papers	

Priority	Question	Asked / marks	Answer in
★★★	(ix) Which of the following is/are not the features of Jedox tool? (A) Deployable in the cloud as well as on premise server or Hybrid. (B) BI and Analytics platform. (C) Allows users to easily create and share powerful reports within minutes. (D) (B) and (C) only *(2 Marks)*	J24 Q1(ix) · 2 m · asked in 5 papers	
★★★	(xiv) Which of the following is/are the Financial analytics tools? (A) Hypper Anna (B) Jedox (C) Net Suite (D) All of the above	D23 Q1(xiv) · 2 m · asked in 5 papers	
★★	(xiii) Which of the following has no relation to Business Intelligence? (A) A set of business analytics solutions to retrieve, analyse and transform data into useful business sights. (B) Visualisation Tools are primarily BI Tools. (C) ABS Glue is a tool used for the purpose of Business Intelligence. (D) Embedded Analytics is an important part of any Business Intelligence tool.	D23 Q1(xiii) · 2 m · asked in 2 papers	
★	(xi) Which one of the following is not a Spread Sheet ? (A) Quip (B) MS Excel (C) E views (D) Google Sheets	D24 Q1(xi) · 2 m	
★	(x) Analysis of a dataset has revealed the fact that profit of a business has reduced for the financial year 2022-23. What category of data analytics it comes under? (A) Descriptive Analytics (B) Predictive Analytics (C) Diagnostic Analytics (D) Prescriptive Analytics *(2 Marks)*	J24 Q1(x) · 2 m	
★	SPSS = easiest enterprise statistical tool	MQP Q1(ix) · 2 m	
★	ETL vs ELT tools	PTP Q1(ix) · 2 m	

★ **SM exercise (if time):** M15 short essay 1 (p.749): Which type of Data Analytics is necessary to know why there is a decline in certain business · M15 short essay 2 (p.749): Data Mining is nothing but Data Discovery" – discuss · M15 essay 1 (p.749): Different types of Data Analysis Tool · M15 essay 2 (p.749): – Exploratory and Confirmatory Data Analytics, Embedded Analytics facility of BI Tools

MCQ bank for this topic (ICMAI MCQ bank question numbers): Q174, Q175, Q176, Q177, Q178, Q179, Q180, Q181, Q182, Q183, Q263, Q267