Skillshort

Self-Study Preparation Pack

CA INTERMEDIATE

Paper 4: Cost and Management Accounting

Mock Test 1 – Full Paper with Detailed Solutions

ICAI new-scheme pattern: 100 marks · 3 hours · Part I 15 MCQs × 2 marks · Part II Q1 compulsory + any 4 of Q2–Q6 (14 marks each) · Original Skillshort questions

Time: 3 hours | Max marks: 100 | No negative marking | All numbers verified in Python | Solutions follow the paper

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This subject pack has 6 parts

1 Chapter-wise notes

2 Important topics & weightage

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Prepared by Skillshort for self-study. Original explanations and questions; not an official ICAI/ICMAI/ICSI publication. Items marked VERIFY should be checked against the latest official material.

Part I – Multiple Choice Questions (30 marks)

Instructions: Each MCQ carries 2 marks. Working notes are not required for MCQs, but work them out on rough sheets.

CASE LAW Case Scenario I – Kavya Appliances Ltd. (MCQs 1–5)

Kavya Appliances Ltd. makes a single model of mixer-grinder. Selling price **₹200** per unit; variable cost **₹120** per unit; fixed costs **₹8,00,000** per year. Budgeted sales for 2026-27 are **15,000 units**. Management is considering a 10% price cut to fight a new competitor.

1. The P/V ratio and break-even point (units) are

(a) 40% and 10,000 units
(b) 60% and 6,667 units
(c) 40% and 6,667 units
(d) 60% and 10,000 units

2. Profit at budgeted sales is

(a) ₹12,00,000
(b) ₹4,00,000
(c) ₹3,20,000
(d) ₹2,00,000

3. The margin of safety as a percentage of budgeted sales is

(a) 25%
(b) 50%
(c) 33.33%
(d) 40%

4. If the price is cut by 10% and volume stays at 15,000 units, profit will be

(a) ₹1,00,000
(b) ₹2,00,000
(c) ₹3,00,000
(d) Loss ₹1,00,000

5. Units to be sold after the price cut to keep the original profit of ₹4,00,000

(a) 18,000
(b) 20,000
(c) 16,667
(d) 22,500

CASE LAW Case Scenario II – Neelgiri Polymers (MCQs 6–10)

Neelgiri Polymers uses **36,000 kg** of a resin per year. Price **₹50** per kg; ordering cost **₹200** per order; carrying cost **20%** of the purchase price per year. Daily usage: maximum 150 kg, normal 120 kg, minimum 90 kg. Lead time: 4 to 6 days (normal 5 days). The supplier offers a **2% discount** on orders of **3,000 kg** or more.

6. The economic order quantity is

(a) 1,000 kg
(b) 1,200 kg
(c) 1,500 kg
(d) 1,800 kg

7. Total of ordering and carrying costs at EOQ is

(a) ₹6,000
(b) ₹12,000
(c) ₹18,000
(d) ₹24,000

8. The re-order level and minimum stock level are

(a) 900 kg and 300 kg
(b) 750 kg and 300 kg
(c) 900 kg and 360 kg
(d) 600 kg and 240 kg

9. The maximum stock level is

(a) 1,740 kg
(b) 2,100 kg
(c) 1,800 kg
(d) 1,560 kg

10. If the 2% discount offer is accepted, the net annual saving compared with ordering the EOQ is

(a) ₹36,000
(b) ₹30,900
(c) ₹21,300
(d) ₹5,100

11. Standard time for a job is 10 hours; a worker completes it in 8 hours. His rate is ₹60 per hour. Earnings under the Halsey and Rowan plans are

(a) ₹540 and ₹576
(b) ₹576 and ₹540
(c) ₹600 and ₹576
(d) ₹540 and ₹600

12. 10,000 units are introduced into a process at a total cost of ₹3,85,000. Normal loss is 5% (scrap value ₹10 per unit). Actual output is 9,300 units. The value of abnormal loss is

(a) ₹7,700
(b) ₹8,000
(c) ₹6,000
(d) ₹2,000

13. Standard: 2 kg per unit at ₹50 per kg. 1,000 units were produced using 2,100 kg bought at ₹48. The material usage variance is

(a) ₹4,200 (F)
(b) ₹800
(A)
(c) ₹5,000
(A)
(d) ₹4,800 (A)

14. Overheads are absorbed at a pre-determined rate of ₹20 per machine hour (budget ₹6,00,000 for 30,000 hours). Actual overheads are ₹6,50,000 and actual hours 32,000. Overheads are

(a) Under-absorbed by ₹50,000
(b) Over-absorbed by ₹40,000
(c) Under-absorbed by ₹10,000
(d) Over-absorbed by ₹10,000

15. Which method of apportioning service department costs fully recognises services rendered by service departments to each other?

(a) Direct re-distribution
(b) Step method
(c) Repeated distribution or simultaneous equations
(d) Blanket rate method

Part I – Answer key with reasons

Q	Ans	Explanation / working
1	(a)	Contribution = 200 − 120 = ₹80; P/V = 80/200 = **40%**. BEP = 8,00,000/80 = **10,000 units** (₹20,00,000).
2	(b)	15,000 × 80 − 8,00,000 = **₹4,00,000**.
3	(c)	MOS = 15,000 − 10,000 = 5,000 units; 5,000/15,000 = **33.33%**. Check: profit = MOS × P/V = 10,00,000 × 40% = 4,00,000.
4	(a)	New SP 180; contribution 60; 15,000 × 60 − 8,00,000 = **₹1,00,000**.
5	(b)	(8,00,000 + 4,00,000)/60 = **20,000 units** – a 33.33% rise in volume is needed to compensate for a 10% price cut.
6	(b)	C = 20% × 50 = ₹10. EOQ = √(2 × 36,000 × 200/10) = √14,40,000 = **1,200 kg**.
7	(b)	Orders 36,000/1,200 = 30 × 200 = 6,000; carrying 600 × 10 = 6,000; total **₹12,000** (equal at EOQ).
8	(a)	ROL = max usage × max lead time = 150 × 6 = **900 kg**. Minimum = ROL − (normal usage × normal lead time) = 900 − 600 = **300 kg**.
9	(a)	ROL + ROQ − (min usage × min lead time) = 900 + 1,200 − 360 = **1,740 kg**.
10	(b)	At EOQ: 18,00,000 + 12,000 = 18,12,000. At 3,000 kg (price ₹49, C = ₹9.80): purchase 17,64,000 + ordering 12 × 200 = 2,400 + carrying 1,500 × 9.80 = 14,700 = 17,81,100. Saving **₹30,900** – accept.
11	(a)	Halsey = 8 × 60 + 50% × 2 × 60 = **₹540**. Rowan = 480 + (2/10) × 8 × 60 = 480 + 96 = **₹576**. Rowan pays more when time saved is below 50%.
12	(b)	Cost per unit = (3,85,000 − 5,000)/(10,000 − 500) = ₹40. Abnormal loss = 9,500 − 9,300 = 200 units × 40 = **₹8,000**.
13	(c)	MUV = (SQ − AQ) × SP = (2,000 − 2,100) × 50 = **₹5,000 (A)**. (MPV ₹4,200 F; MCV ₹800 A.)

Q	Ans	Explanation / working
14	(c)	Absorbed = 32,000 × 20 = 6,40,000 vs actual 6,50,000 → **under-absorbed ₹10,000** (small – transfer to Costing P&L A/c or use a supplementary rate).
15	(c)	The **reciprocal** methods – repeated distribution and simultaneous equations – recognise mutual services. The step method recognises them only partly; the direct method ignores them.

Part II – Descriptive Questions (70 marks)

Question 1 is compulsory. Answer any four of the remaining five questions. Working notes form part of the answer.

Q1 (a) (5 marks). From the following data of Arjun Industries for 2025-26 (10,000 units produced, 9,000 units sold), prepare a cost sheet showing raw materials consumed, prime cost, works cost, cost of production, cost of goods sold, cost of sales and sales, if profit is **20% of sales**.

Item	₹	Item	₹
Opening raw materials	50,000	Factory overheads	1,80,000
Purchases of raw materials	4,50,000	Opening WIP	40,000
Closing raw materials	80,000	Closing WIP	60,000
Direct wages	2,30,000	Administration overheads (production-related)	40,000
Direct expenses	50,000	Opening finished goods (1,000 units)	85,000

Selling and distribution overheads: ₹5 per unit sold. Closing finished goods are valued at the current cost of production per unit (FIFO).

Q1 (b) (5 marks). Shakti Ltd. has three production departments (P1, P2, P3) and two service departments (S1, S2). Primary distribution: P1 ₹2,00,000; P2 ₹1,60,000; P3 ₹1,40,000; S1 ₹70,000; S2 ₹52,000. Services are rendered as follows:

From	P1	P2	P3	S1	S2
S1	30%	30%	20%	–	20%
S2	20%	40%	20%	20%	–

Re-apportion the service department costs using the **simultaneous equation method**.

Q1 (c) (4 marks). Standard: 5 labour hours per unit at ₹80 per hour. Actual production 800 units. Workers were paid for 4,200 hours at ₹82 per hour, of which **300 hours were idle** due to a power failure (abnormal). Calculate labour cost, rate, idle time and efficiency variances.

Q2 (a) (8 marks). Hotel Sagar Vista has **50 single rooms** and **30 double rooms**, open 360 days a year. Expected occupancy: single rooms 80%, double rooms 60%. Rent of a double room is to be **1.5 times** that of a single room. Annual costs: staff salaries ₹48,00,000; repairs and maintenance ₹7,20,000; depreciation of building and furniture ₹12,00,000; interior decoration and furnishing ₹4,02,000; lighting and fixed power ₹6,00,000. Variable costs per occupied room-day: electricity ₹100 and laundry ₹50. Calculate the rent per room-day for single and double rooms to earn a profit of **25% on rent**.

Q2 (b) (6 marks). A company needs 24,000 units of a component per year, made in batches. Set-up cost is ₹1,200 per batch and carrying cost ₹1.60 per unit per year. Calculate (i) economic batch quantity, (ii) number of batches, (iii) total set-up and carrying cost; and (iv) state two assumptions of the EBQ model.

Q3 (a) (8 marks). Product Z passes through Process I and Process II.

Particulars	Process I	Process II
Input	20,000 units at ₹20	Transfer from Process I
Labour	₹1,80,000	₹1,24,400
Overheads	₹1,50,000	₹1,00,000
Normal loss (% of input)	10%	5%
Scrap value per unit	₹5	₹10
Output	17,600 units	16,900 units

Prepare Process I and II accounts and the Abnormal Loss and Abnormal Gain accounts.

Q3 (b) (6 marks). Only **12,000 kg** of a material is available. Fixed costs are ₹1,50,000.

Product	Contribution per unit (₹)	Material per unit (kg)	Maximum demand (units)
X	80	4	1,000
Y	120	8	800
Z	60	2	2,000

Determine the optimum product mix and the maximum profit.

Q4 (a) (9 marks). Pragati Ltd. forecasts quarterly sales (units): Q1 10,000; Q2 12,000; Q3 15,000; Q4 11,000; Q1 of next year 13,000. Closing finished stock is kept at **20% of next quarter's sales** (opening stock Q1: 2,000 units). Each unit needs **3 kg** of material at ₹40. Closing material stock is **25% of next quarter's production requirement**; production in Q1 of next year is 12,000 units; opening material stock is at the same policy level. Prepare (i) quarterly production budget and (ii) material purchase budget (kg and ₹).

Q4 (b) (5 marks). Profit as per cost accounts is ₹3,40,000. Prepare a reconciliation statement from: works overheads under-recovered in cost accounts ₹12,000; administration overheads over-recovered ₹8,000; depreciation charged in financial accounts ₹45,000 and in cost accounts ₹40,000; interest received ₹10,000 and dividend received ₹4,000 not recorded in cost accounts; loss on obsolescence ₹6,000 charged only in financial accounts; closing stock valued at ₹1,20,000 in cost accounts and ₹1,10,000 in financial accounts.

Q5 (a) (8 marks). Compute the machine hour rate. Machine cost ₹12,00,000; life 10 years; scrap ₹1,20,000. Annual hours 2,000 of which 200 are for maintenance (productive hours 1,800). Power 10 units per productive hour at ₹8 per unit. Repairs ₹36,000 p.a.; insurance 1% of cost; share of shop overheads ₹60,000 p.a.; supervisor's salary ₹2,16,000 p.a. shared equally by 4 machines; an operator paid ₹30,000 per month spends **half his time** on this machine.

Q5 (b) (6 marks). Aarohi Ltd. makes products A and B. Activity costs: machine set-ups ₹1,20,000 (60 set-ups); inspections ₹80,000 (400); purchase orders ₹60,000 (300). Product A: 40 set-ups, 100 inspections, 120 orders. Product B: 20 set-ups, 300 inspections, 180 orders. Calculate activity overheads for each product using ABC and state why the result may differ from a single labour-hour rate.

Q6 (a) (5 marks). Explain the treatment of idle time and overtime premium in cost accounts.

Q6 (b) (5 marks). What is zero-based budgeting? Explain the steps in its implementation.

Q6 (c) (4 marks). Distinguish between job costing and process costing.

OR

Q6 (c) (4 marks). What is a cost driver? Give examples for four activities.

Solutions – Part II

SOLUTION Q1 (a) Cost sheet of Arjun Industries for 2025-26

Particulars	₹
Opening raw materials	50,000
Add: purchases	4,50,000
Less: closing raw materials	(80,000)
Raw materials consumed	**4,20,000**
Direct wages	2,30,000
Direct expenses	50,000
Prime cost	**7,00,000**
Factory overheads	1,80,000
Add: opening WIP	40,000
Less: closing WIP	(60,000)
Works cost	**8,60,000**
Administration overheads (production-related)	40,000
Cost of production (10,000 units; ₹90 per unit)	**9,00,000**
Add: opening finished goods (1,000 units)	85,000
Less: closing finished goods (2,000 units × ₹90)	(1,80,000)
Cost of goods sold (9,000 units)	**8,05,000**
Selling and distribution overheads (9,000 × ₹5)	45,000
Cost of sales	**8,50,000**
Profit (20% on sales = 25% on cost)	2,12,500
Sales	**10,62,500**

Closing finished units = 1,000 + 10,000 − 9,000 = 2,000.

SOLUTION Q1 (b) Simultaneous equations

Let X = total cost of S1 and Y = total cost of S2.

X = 70,000 + 0.20Y and Y = 52,000 + 0.20X. Substituting: X = 70,000 + 10,400 + 0.04X → 0.96X = 80,400 → **X = ₹83,750**; Y = 52,000 + 16,750 = **₹68,750**.

Particulars	P1	P2	P3
Primary distribution	2,00,000	1,60,000	1,40,000
S1 (30% : 30% : 20% of 83,750)	25,125	25,125	16,750
S2 (20% : 40% : 20% of 68,750)	13,750	27,500	13,750
Total	**2,38,875**	**2,12,625**	**1,70,500**

Check: 2,38,875 + 2,12,625 + 1,70,500 = 6,22,000 = total primary overheads (5,00,000 + 70,000 + 52,000). ✓

SOLUTION Q1 (c) Labour variances

Standard hours for actual output = 800 × 5 = 4,000. Hours worked = 4,200 − 300 = 3,900.

Variance	Working	₹
Labour rate	AH paid × (SR − AR) = 4,200 × (80 − 82)	8,400 (A)
Idle time	Idle hours × SR = 300 × 80	24,000 (A)
Labour efficiency	(SH − AH worked) × SR = (4,000 − 3,900) × 80	8,000 (F)
Labour cost	SC − AC = 3,20,000 − 3,44,400	**24,400 (A)**

Check: 8,400 A + 24,000 A − 8,000 F = 24,400 A ✓

SOLUTION Q2 (a) Room rent – Hotel Sagar Vista

Room-days occupied: single 50 × 360 × 80% = 14,400; double 30 × 360 × 60% = 6,480; total 20,880.

Equivalent single room-days = 14,400 + 6,480 × 1.5 = **24,120**.

Cost	₹
Staff salaries	48,00,000
Repairs and maintenance	7,20,000
Depreciation	12,00,000
Interior decoration and furnishing	4,02,000
Lighting and fixed power	6,00,000
Electricity and laundry (20,880 × ₹150)	31,32,000
Total cost	**1,08,54,000**
Profit 25% on rent (= 1/3 of cost)	36,18,000
Total rent required	**1,44,72,000**

Rent per equivalent single room-day = 1,44,72,000/24,120 = **₹600** (single room); double room = 600 × 1.5 = **₹900** per day.

Check: 14,400 × 600 + 6,480 × 900 = 86,40,000 + 58,32,000 = 1,44,72,000 ✓

SOLUTION Q2 (b) Economic batch quantity

(i) EBQ = √(2 × 24,000 × 1,200/1.60) = √3,60,00,000 = **6,000 units**. (ii) Batches = 24,000/6,000 = **4**. (iii) Set-up 4 × 1,200 = 4,800; carrying 6,000/2 × 1.60 = 4,800; total **₹9,600**.

(iv) Assumptions: demand is known and uniform; set-up cost per batch and carrying cost per unit are constant; production is instantaneous with no stock-outs; no quantity discounts.

SOLUTION Q3 (a) Process accounts

Process I: total cost 4,00,000 + 1,80,000 + 1,50,000 = 7,30,000. Normal loss 2,000 units × ₹5 = 10,000. Normal output 18,000. Cost per unit = (7,30,000 − 10,000)/18,000 = **₹40**. Abnormal loss = 18,000 − 17,600 = 400 units.

Process I – Dr	Units	₹	Cr	Units	₹
Materials	20,000	4,00,000	Normal loss	2,000	10,000
Labour	–	1,80,000	Abnormal loss (@ ₹40)	400	16,000
Overheads	–	1,50,000	Process II (@ ₹40)	17,600	7,04,000
Total	20,000	7,30,000	**Total**	20,000	7,30,000

Process II: total cost 7,04,000 + 1,24,400 + 1,00,000 = 9,28,400. Normal loss 5% × 17,600 = 880 units × ₹10 = 8,800. Normal output 16,720. Cost per unit = (9,28,400 − 8,800)/16,720 = **₹55**. Actual output 16,900 → abnormal gain **180 units**.

Process II – Dr	Units	₹	Cr	Units	₹
From Process I	17,600	7,04,000	Normal loss	880	8,800
Labour	–	1,24,400	Finished stock (@ ₹55)	16,900	9,29,500
Overheads	–	1,00,000			
Abnormal gain (@ ₹55)	180	9,900			
Total	17,780	9,38,300	**Total**	17,780	9,38,300

Abnormal Loss A/c: Dr Process I 16,000; Cr Bank/debtors (scrap 400 × 5) 2,000; Cr Costing P&L **14,000**.

Abnormal Gain A/c: Dr side – Normal Loss A/c (scrap not realised, 180 × ₹10) 1,800 and Costing P&L A/c (balance) **8,100**; Cr side – Process II 9,900.

SOLUTION Q3 (b) Key factor – material

Product	Contribution per kg (₹)	Rank	Units	Kg used	Contribution (₹)
Z	60/2 = 30	I	2,000	4,000	1,20,000
X	80/4 = 20	II	1,000	4,000	80,000
Y	120/8 = 15	III	500 (balance)	4,000	60,000
Total				**12,000**	**2,60,000**

Less fixed costs 1,50,000 → **maximum profit ₹1,10,000**. Y has the highest contribution per unit but the lowest per kg of the scarce material – rank by **contribution per unit of the key factor**.

SOLUTION Q4 (a) (i) Production budget (units)

Particulars	Q1	Q2	Q3	Q4	Year
Sales	10,000	12,000	15,000	11,000	48,000
Add: closing stock (20% of next quarter)	2,400	3,000	2,200	2,600	2,600
Less: opening stock	(2,000)	(2,400)	(3,000)	(2,200)	(2,000)
Production	**10,400**	**12,600**	**14,200**	**11,400**	**48,600**

SOLUTION Q4 (a) (ii) Material purchase budget

Particulars	Q1	Q2	Q3	Q4	Year
Material required (production × 3 kg)	31,200	37,800	42,600	34,200	1,45,800
Add: closing stock (25% of next quarter's need)	9,450	10,650	8,550	9,000	9,000
Less: opening stock	(7,800)	(9,450)	(10,650)	(8,550)	(7,800)
Purchases (kg)	**32,850**	**39,000**	**40,500**	**34,650**	**1,47,000**
Purchases (₹ @ 40)	13,14,000	15,60,000	16,20,000	13,86,000	**58,80,000**

Q4 closing stock = 25% × (12,000 × 3) = 9,000 kg; Q1 opening = 25% × 31,200 = 7,800 kg.

SOLUTION Q4 (b) Reconciliation statement

Particulars	₹
Profit as per cost accounts	3,40,000
Add: administration overheads over-recovered	8,000
Add: interest received (not in cost accounts)	10,000
Add: dividend received	4,000
Less: works overheads under-recovered	(12,000)
Less: excess depreciation in financial accounts (45,000 − 40,000)	(5,000)
Less: loss on obsolescence	(6,000)
Less: closing stock valued lower in financial accounts	(10,000)
Profit as per financial accounts	**3,29,000**

SOLUTION Q5 (a) Machine hour rate

Standing charges (per year)	₹
Depreciation (12,00,000 − 1,20,000)/10	1,08,000
Repairs	36,000
Insurance 1% × 12,00,000	12,000
Shop overheads	60,000
Supervisor 2,16,000/4	54,000
Operator 30,000 × 12 × 50%	1,80,000
Total standing charges	**4,50,000**

Standing charges per productive hour = 4,50,000/1,800 = ₹250. Machine expenses: power 10 × ₹8 = ₹80 per hour. **Machine hour rate = ₹330**.

Maintenance hours are non-productive, so annual costs are spread over the **1,800 productive hours**. Power is incurred only when the machine runs.

SOLUTION Q5 (b) Activity based costing

Cost driver rates: set-up ₹2,000 per set-up; inspection ₹200; purchase order ₹200.

Activity	Product A	Product B
Set-ups (40 / 20 × 2,000)	80,000	40,000
Inspections (100 / 300 × 200)	20,000	60,000
Purchase orders (120 / 180 × 200)	24,000	36,000
Total	**1,24,000**	**1,36,000**

A single labour-hour rate spreads overheads by volume. ABC charges overheads by **activities consumed**. A low-volume product that needs many set-ups or inspections is under-costed under traditional absorption, and ABC corrects this.

SOLUTION Q6 (a) Idle time and overtime premium

Idle time. (i) *Normal idle time* (tea breaks, tool change) is unavoidable; its cost is included in the labour rate or charged to **factory overheads**. (ii) *Abnormal idle time* (power failure, strikes, machine breakdown) is **excluded from cost** and charged to the **Costing P&L A/c**. (iii) Idle time due to a customer's request is charged to that job.

Overtime premium. (i) Overtime at the **customer's request** – charged to that **job** as a direct cost. (ii) Overtime due to a **general pressure of work** – charged to **production overheads**. (iii) Overtime due to **abnormal conditions** (flood, fire) – **Costing P&L A/c**. (iv) Overtime to make up a backlog caused by the department's own inefficiency is charged to that department's overheads.

SOLUTION Q6 (b) Zero-based budgeting

Meaning: every activity is justified **afresh from zero**, as if it were new, rather than adding an increment to last year's budget. It forces managers to rank activities and fund them by cost-benefit.

Steps: (1) identify the objectives of the budget; (2) identify **decision units** and the activities in each; (3) develop **decision packages** (alternative ways and levels of doing each activity with cost and benefit); (4) evaluate and **rank** the packages by cost-benefit; (5) allocate resources to packages in rank order until funds run out; (6) monitor and review.

SOLUTION Q6 (c) Job costing vs process costing

Basis	Job costing	Process costing
Production	Specific orders, non-standard	Continuous, standard output
Cost unit	Each job	Each process/period
Cost collection	Job-wise	Process-wise for a period
WIP	May or may not exist at period end	Always present; equivalent units needed
Transfers	None between jobs	Output of one process is input of the next
Control	Difficult – each job differs	Easier – standardised operations

SOLUTION Q6 (c) OR Cost drivers

A cost driver is the **factor that causes the cost of an activity** and measures how much of the activity a product uses. Examples: machine set-ups – number of set-ups; purchasing – number of purchase orders; quality inspection – number of inspections; material handling – number of material movements; despatch – number of deliveries.