Skillshort

Self-Study Preparation Pack

CMA INTERMEDIATE

Paper 12: Management Accounting (MA)

Mock Test 1 – Full Paper with Model Answers

ICMAI Syllabus 2022 pattern: 100 marks · 3 hours · Section A – 15 MCQs × 2 (compulsory) · Section B – any 5 of Q2–Q8 (14 marks each) · Original Skillshort questions, numericals verified in Python

Time: 3 hours | Max marks: 100 | No negative marking | Model answers 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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6 Last-week plan & strategy

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.

Section A – Multiple Choice Questions (30 marks)

Q1. Choose the correct option (2 × 15 = 30).

1. Which of the following is not a characteristic of management accounting?
(a) Future orientation
(b) Use of non-financial data
(c) Statutory format prescribed by law
(d) Aid to decision-making

2. Under ABC, the cost driver for purchasing costs is most likely the
(a) Number of purchase orders
(b) Labour hours
(c) Machine hours
(d) Units sold

3. Sales ₹8,00,000; variable cost ₹4,80,000; fixed cost ₹2,00,000. The break-even sales are
(a) ₹4,00,000
(b) ₹5,00,000
(c) ₹6,00,000
(d) ₹6,66,667

4. P/V ratio 25% and margin of safety ₹4,00,000. Profit is
(a) ₹40,000
(b) ₹80,000
(c) ₹1,00,000
(d) ₹1,60,000

5. When the supplying division has spare capacity, the minimum transfer price is
(a) Market price
(b) Full cost
(c) Variable cost
(d) Full cost plus mark-up

6. Zero-base budgeting requires every activity to be
(a) Increased by inflation
(b) Justified afresh from zero each period
(c) Based on last year's actuals
(d) Fixed for five years

7. Profit ₹24 lakh, capital employed ₹1.6 crore, cost of capital 12%. Residual income is
(a) ₹4.8 lakh
(b) ₹5.6 lakh
(c) ₹12 lakh
(d) ₹19.2 lakh

8. Under an 80% learning curve, if the first unit takes 100 hours, the cumulative average time for 4 units is
(a) 51.2 hours
(b) 64 hours
(c) 80 hours
(d) 100 hours

9. Under DuPont analysis, ROI equals
(a) Profit margin × asset turnover
(b) Profit ÷ sales
(c) Sales ÷ assets
(d) Profit margin + asset turnover

10. Standard hours for actual output 9,000; actual hours 10,000; budgeted hours 12,000. The efficiency ratio is
(a) 75%
(b) 83.3%
(c) 90%
(d) 111%

11. A budget that is prepared for several activity levels is a
(a) Fixed budget
(b) Flexible budget
(c) Master budget
(d) Capital budget

12. Standard material cost ₹50,000 and actual ₹52,000; price variance ₹1,500 (A). The usage variance is

(a) ₹500 (A)
(b) ₹500 (F) (A)
(c) ₹3,500
(d) ₹2,000 (A)

13. The main focus of responsibility accounting is on

(a) Products
(b) Persons responsible for costs and revenues
(c) Processes only
(d) Shareholders

14. Payoffs of an act are 50 (best) and 10 (worst). With Hurwicz α = 0.7, the value is

(a) 22
(b) 30
(c) 38
(d) 43

15. The expected value of perfect information equals

(a) Expected value with perfect information − maximum EMV
(b) Maximum EMV
(c) The best payoff
(d) Maximum EMV − minimum EMV

Section A – Answer key with reasons

Q	Ans	Explanation / working
1	(c)	Management accounting has **no statutory format** – reports are need-based.
2	(a)	Purchasing costs vary with the **number of orders**.
3	(b)	P/V = 3,20,000 ÷ 8,00,000 = 40%; BEP = 2,00,000 ÷ 40% = **₹5,00,000**.
4	(c)	Profit = MOS × P/V = 4,00,000 × 25% = **₹1,00,000**.
5	(c)	No contribution is forgone, so the minimum is the **variable (marginal) cost**.
6	(b)	ZBB – every rupee is **justified from scratch** through decision packages.
7	(a)	Capital charge = 12% × 160 = 19.2; RI = 24 − 19.2 = **₹4.8 lakh**.
8	(b)	Doubling twice: 100 × 0.8 × 0.8 = **64 hours**.
9	(a)	ROI = (profit ÷ sales) × (sales ÷ capital employed).
10	(c)	9,000 ÷ 10,000 = **90%**.
11	(b)	**Flexible budget**.
12	(a)	Cost variance 2,000 (A) = price 1,500 (A) + usage → usage **₹500 (A)**.
13	(b)	It holds **managers** accountable for what they control.
14	(c)	0.7 × 50 + 0.3 × 10 = **38**.
15	(a)	EVPI = **EV with perfect information – best EMV**.

Section B – Descriptive Questions (70 marks)

Answer any five of Questions 2 to 8 (14 marks each). Working notes form part of the answer.

Q2 (a) (7 marks). Distinguish between management accounting and cost accounting. List five tools of management accounting.

(b) (7 marks). A firm makes P (10,000 units; direct cost ₹50; 2 labour hours and 1 machine hour per unit) and Q (2,000 units; direct cost ₹80; 5 labour hours and 3 machine hours per unit). Overheads: set-ups ₹1,20,000 (P 20, Q 40 set-ups); purchasing ₹90,000 (P 30, Q 60 orders); machining ₹2,40,000 (machine hours). Compute unit cost under (i) a single labour-hour rate and (ii) ABC, and comment.

Q3 (a) (7 marks). Sales ₹20 lakh give a profit of ₹2 lakh, and sales ₹25 lakh give a profit of ₹4 lakh. Find the P/V ratio, fixed cost, break-even sales, sales for a profit of ₹5 lakh and the margin of safety at ₹25 lakh sales.

(b) (7 marks). Division A (capacity 50,000 units) sells 40,000 units outside at ₹60; variable cost ₹35. Division B needs 15,000 units and can buy outside at ₹55. Find the minimum transfer price A should accept for 15,000 units and the effect on the group of an internal transfer.

Q4 (a) (7 marks). A component costs: material ₹12, labour ₹8, variable overhead ₹4, fixed overhead (allocated) ₹6 per unit; 20,000 units a year. A supplier offers it at ₹26. If bought, the freed space can be rented out for ₹50,000 a year. Make or buy?

(b) (7 marks). Products X, Y, Z: selling price ₹100, ₹120, ₹150; variable cost ₹60, ₹80, ₹90; material per unit 4 kg, 2 kg, 5 kg; demand 1,000 units each. Material is limited to 10,000 kg; fixed cost ₹80,000. Find the optimum mix and profit.

Q5 (a) (7 marks). Standard: 2 labour hours per unit at ₹50. Output 5,000 units; 10,800 hours paid at ₹52, of which 300 hours were idle (abnormal). Compute labour cost, rate, idle-time and efficiency variances.

(b) (7 marks). Budgeted fixed overhead ₹2,40,000 for 12,000 units (24,000 hours). Actual: output 11,000 units, 23,000 hours, fixed overhead ₹2,50,000. Compute the fixed-overhead cost, expenditure, volume, efficiency and capacity variances.

Q6 (a) (7 marks). Prepare a cash budget for January–March: sales Dec ₹1,80,000, Jan ₹2,00,000, Feb ₹2,40,000, Mar ₹3,00,000 (25% cash, balance next month); purchases 60% of the same month's sales, paid the next month; wages ₹30,000 and rent ₹10,000 a month; machine bought in March ₹1,00,000; opening cash 1 January ₹50,000.

(b) (7 marks). Budget: A 1,000 units at ₹50, B 2,000 units at ₹40. Actual: A 1,200 units at ₹48, B 1,600 units at ₹42. Compute sales value, price, volume, mix and quantity variances.

Q7 (a) (7 marks). Division X earns ₹18 lakh on assets of ₹90 lakh; Division Y ₹10 lakh on ₹40 lakh; cost of capital 15%. Each is offered a project costing ₹20 lakh that earns ₹4 lakh a year. Compare ROI and RI decisions.

(b) (7 marks). The first unit of a new product needs 200 labour hours; 80% learning curve. Material ₹5,000 per unit; labour ₹40 and variable overhead ₹20 per hour. Find the variable cost of the first 8 units and of a repeat order of 8 more.

Q8 (a) (7 marks). A firm can build a large plant (₹50 lakh) or a small plant (₹25 lakh). Demand: high 0.6, low 0.4. PV of inflows – large: high ₹120 lakh, low ₹40 lakh; small: high ₹60 lakh, low ₹45 lakh. If demand is high, the small plant can be expanded after two years for ₹30 lakh, raising the high-demand PV to ₹110 lakh. Draw the decision tree and advise.

(b) (7 marks). Explain the types of responsibility centres and the measure used to evaluate each.

Model Answers – Section B

SOLUTION Q2(a) Management accounting vs cost accounting

Basis	Cost accounting	Management accounting
Scope	Ascertainment and control of cost	Wider – cost, financial and non-financial data for all decisions
Focus	Mainly historical and standard costs	Future-oriented – planning and decisions
Data	Monetary, cost-related	Monetary and non-monetary
Rules	Cost records rules, CAS where applicable	No prescribed rules; need-based
Users	Cost managers	All levels of management

Tools: budgetary control, standard costing, marginal costing and CVP, ratio and fund-flow analysis, responsibility accounting, ABC, decision theory, management reporting.

SOLUTION Q2(b) Traditional vs ABC

Traditional: total overhead 4,50,000 ÷ 30,000 labour hours = ₹15 per hour. P = 50 + 2 × 15 = **₹80**; Q = 80 + 5 × 15 = **₹155**.

Activity rates: set-up 1,20,000 ÷ 60 = ₹2,000; purchasing 90,000 ÷ 90 = ₹1,000; machining 2,40,000 ÷ 16,000 = ₹15 per machine hour.

Activity	P (₹)	Q (₹)
Set-ups	40,000	80,000
Purchasing	30,000	60,000
Machining	1,50,000	90,000
Total overhead	2,20,000	2,30,000
Overhead per unit	22	115
Unit cost	**72**	**195**

Comment: the labour-hour rate over-costs the high-volume product P by ₹8 and under-costs the low-volume, set-up-intensive Q by ₹40. ABC removes this cross-subsidy; Q's price should be reviewed.

SOLUTION Q3(a) CVP

P/V = Δprofit ÷ Δsales = 2 ÷ 5 = **40%**. Fixed cost = 20 × 40% − 2 = **₹6 lakh**. BEP = 6 ÷ 40% = **₹15 lakh**. Sales for ₹5 lakh profit = (6 + 5) ÷ 40% = **₹27.5 lakh**. MOS at ₹25 lakh = 25 − 15 = **₹10 lakh** (40%).

SOLUTION Q3(b) Transfer price with partial spare capacity

Spare capacity = 10,000 units → minimum TP ₹35 (variable cost). The other 5,000 units displace outside sales → minimum TP = 35 + (60 − 35) = ₹60.

Minimum TP for 15,000 units = (10,000 × 35 + 5,000 × 60) ÷ 15,000 = **₹43.33** a unit. B's maximum is ₹55.

Group effect: buying outside costs 15,000 × 55 = ₹8,25,000; the relevant cost of internal supply is ₹6,50,000 → internal transfer **saves the group ₹1,75,000**. Any price between ₹43.33 and ₹55 makes both divisions better off.

SOLUTION Q4(a) Make or buy

Relevant make cost = 12 + 8 + 4 = ₹24 (fixed overhead is allocated and continues). Buying costs 20,000 × (26 − 24) = ₹40,000 more, but rent of ₹50,000 is earned → **buy; net saving ₹10,000**. Consider supplier reliability and quality before deciding.

SOLUTION Q4(b) Key factor – material

Product	Contribution per unit	kg per unit	Contribution per kg	Rank
X	40	4	10	III
Y	40	2	20	I
Z	60	5	12	II

Material: Y 1,000 × 2 = 2,000 kg; Z 1,000 × 5 = 5,000 kg; X gets 3,000 kg = 750 units.

Contribution = 40,000 + 60,000 + 30,000 = 1,30,000; less fixed cost 80,000 → **profit ₹50,000**.

SOLUTION Q5(a) Labour variances

Standard cost = 5,000 × 2 × 50 = 5,00,000; actual = 10,800 × 52 = 5,61,600.

Variance	Working	₹
Cost	5,00,000 − 5,61,600	61,600 (A)
Rate	(50 − 52) × 10,800	21,600 (A)
Idle time	300 × 50	15,000 (A)
Efficiency	(10,000 − 10,500) × 50	25,000 (A)

Check: 21,600 + 15,000 + 25,000 = 61,600 (A).

SOLUTION Q5(b) Fixed-overhead variances

Rates: ₹20 per unit, ₹10 per hour. Absorbed = 11,000 × 20 = 2,20,000; standard hours = 22,000.

Variance	Working	₹
Cost	2,20,000 − 2,50,000	30,000 (A)
Expenditure	2,40,000 − 2,50,000	10,000 (A)
Volume	2,20,000 − 2,40,000	20,000 (A)
Efficiency	(22,000 − 23,000) × 10	10,000 (A)
Capacity	(23,000 − 24,000) × 10	10,000 (A)

Check: expenditure + volume = cost; efficiency + capacity = volume.

SOLUTION Q6(a) Cash budget (₹)

Item	January	February	March
Opening balance	50,000	87,000	1,37,000
Cash sales (25%)	50,000	60,000	75,000
Collections from debtors (75% of last month)	1,35,000	1,50,000	1,80,000
Total receipts	**1,85,000**	**2,10,000**	**2,55,000**
Creditors (60% of last month's sales)	1,08,000	1,20,000	1,44,000
Wages	30,000	30,000	30,000
Rent	10,000	10,000	10,000
Machine	–	–	1,00,000
Total payments	**1,48,000**	**1,60,000**	**2,84,000**
Closing balance	**87,000**	**1,37,000**	**1,08,000**

SOLUTION Q6(b) Sales variances

Budgeted sales ₹1,30,000 (average price 1,30,000 ÷ 3,000 = ₹43.33); actual ₹1,24,800. Revised standard mix of 2,800 actual units: A 933.33, B 1,866.67.

Variance	Working	₹
Sales value	1,24,800 − 1,30,000	5,200 (A)
Price	(48 − 50) × 1,200 + (42 − 40) × 1,600	800 (F)
Volume	(1,200 − 1,000) × 50 + (1,600 − 2,000) × 40	6,000 (A)
Mix	(1,200 − 933.33) × 50 + (1,600 − 1,866.67) × 40	2,667 (F)
Quantity	(2,800 − 3,000) × 43.33	8,667 (A)

Check: price + volume = value (800 F − 6,000 A = 5,200 A); mix + quantity = volume.

SOLUTION Q7(a) ROI vs RI

Item	Division X	Division Y
Present ROI	18 ÷ 90 = 20%	10 ÷ 40 = 25%
ROI with project	22 ÷ 110 = 20%	14 ÷ 60 = 23.3%
Present RI (₹ lakh)	18 − 13.5 = 4.5	10 − 6 = 4.0
RI of project (₹ lakh)	4 − 3 = +1.0	4 − 3 = +1.0

The project earns 20% against a 15% cost of capital, so it adds value. Under ROI, **Y's manager would reject it** (ROI falls from 25% to 23.3%) and X is indifferent; under RI both **accept** – RI gives goal congruence.

SOLUTION Q7(b) Learning curve

Cumulative units	Average hours	Total hours
1	200	200
2	160	320
4	128	512
8	102.4	819.2
16	81.92	1,310.72

First 8 units: material 40,000 + 819.2 hours × ₹60 (labour + variable overhead) 49,152 = **₹89,152**.

Repeat order of 8: hours = 1,310.72 − 819.2 = 491.52; cost = 40,000 + 491.52 × 60 = **₹69,491** (about ₹8,686 a unit against ₹11,144 for the first batch).

SOLUTION Q8(a) Decision tree (₹ lakh)

- Large plant: EMV = 0.6 × 120 + 0.4 × 40 − 50 = **38**.
- Small plant without expansion: 0.6 × 60 + 0.4 × 45 − 25 = 29.
- Small plant, expand if demand is high: at the second decision node choose expansion (110 − 30 = 80 > 60). EMV = 0.6 × 80 + 0.4 × 45 − 25 = **41**.

Tree: ☐ build → large (○ high 0.6: 120; low 0.4: 40) or small (○ high 0.6 → ☐ expand 110 − 30 or not 60; low 0.4: 45). Roll back: **build the small plant and expand if demand is high** (EMV 41 > 38). The expansion option is worth 41 − 29 = 12.

SOLUTION Q8(b) Responsibility centres

Centre	Manager responsible for	Measure
Cost centre (standard or discretionary)	Controllable costs	Cost variances against flexible budget
Revenue centre	Sales revenue	Sales price and volume variances
Profit centre	Revenue and costs	Controllable profit, contribution
Investment centre	Profit and assets employed	ROI, RI, EVA

Each centre needs a defined manager, a budget for controllable items and timely reports comparing actual with budget.