

Mock Test Paper - Series II: December, 2025

Date of Paper: 12th December, 2025

Time of Paper: 10 A.M. to 1 P.M.

INTERMEDIATE: GROUP – II

PAPER – 4: COST AND MANAGEMENT ACCOUNTING

Suggested Answers/ Solution

PART I – Case Scenario based MCQs

1. (c) ₹ 10.5 crore

Total cost at 50,000

$$= 50,000 \times ₹ 3,400 = ₹ 17,00,00,000$$

Total cost at 60,000

$$= 60,000 \times ₹ 3,050 = ₹ 18,30,00,000$$

$$\text{Difference in total cost} = 18.3 \text{ crore} - 17 \text{ crore} = ₹ 1,30,00,000$$

$$\text{Difference in output} = 10,000 \text{ units}$$

$$\text{Variable cost per unit} = \frac{1,30,00,000}{10,000}$$

$$= ₹ 1,300$$

Total Fixed Costs

Use total cost at 50,000 units:

$$\text{Total cost} = 50,000 \times 3,400 = ₹ 17,00,00,000$$

$$\text{Variable cost} = 50,000 \times 1,300 = ₹ 6,50,00,000$$

$$\text{Fixed cost} = 17,00,00,000 - 6,50,00,000$$

$$= ₹ 10,50,00,000$$

$$\text{Fixed Costs} = ₹ 10.5 \text{ crore}$$

2. (c) ₹ 9.78 crore

Profit at current sales of 78,000 units

Selling price = ₹ 3,900

Variable cost = ₹ 1,300

Contribution per unit = 3,900 – 1,300
= ₹ 2,600

Revenue = 78,000 × 3,900 = ₹ 30,42,00,000

Variable cost = 78,000 × 1,300 = ₹ 10,14,00,000

Contribution = 30.42 cr – 10.14 cr = ₹ 20,28,00,000

Profit = Contribution – Fixed cost

Profit = 20.28 cr – 10.5 cr
= ₹ 9,78,00,000

Profit = ₹ 9.78 crore

3. (c) 40,385 units and 48.22%

Contribution per unit = ₹ 2,600

Break-even units = $\frac{\text{Fixed cost}}{\text{CPU}}$
= $\frac{10,50,00,000}{2,600}$
= 40,385 units

Break-even point = 40,385 units

Current sales = 78,000 units

Break-even = 40,385 unit

MOS = $\frac{78,000 - 40,385}{78,000} \times 100$
= $\frac{37,615}{78,000} \times 100$
= 48.22%

Margin of safety = 48.22%

4. (b) Increase of ₹ 1 crore

Profit impact of accepting 8,000 vials at ₹ 2,550

Contribution per unit = Selling price – Variable cost

$$= 2,550 - 1,300$$

$$= ₹ 1,250$$

Additional contribution = $8,000 \times 1,250$

$$= ₹ 1,00,00,000$$

Profit increases by ₹ 1 crore

(Within plant capacity: $78,000 + 8,000 = 86,000 < 90,000$)

5. (b) Increase of ₹ 0.32 crore

Domestic sales contribution per unit

Selling price = ₹ 3,900

Variable cost = ₹ 1,300

Contribution = ₹ 2,600 per vial

Export order contribution per unit

Selling price = ₹ 2,500

Variable cost = ₹ 1,300

Contribution = ₹ 1,200 per vial

(i) Contribution gained from export order

$$20,000 \times ₹ 1,200$$

$$= ₹ 2,40,00,000 \text{ (₹ 2.4 crore)}$$

(ii) Contribution lost by reducing domestic sales

$$8,000 \times ₹ 2,600$$

$$= ₹ 2,08,00,000 \text{ (₹ 2.08 crore)}$$

Net Change = Gain – Loss

$$= ₹ 2,40,00,000 - ₹ 2,08,00,000$$

$$= ₹ 32,00,000$$

Net Profit Increase = ₹ 0.32 crore

6. (a) ₹ 96.67

Particular		Amount (₹)
Librarian	₹ 12,000 x 12 x 1 person	1,44,000
Assistant librarians	₹ 8,000 x 12 x 3 persons	2,88,000
Clerk	₹ 5,000 x 12 x 1 person	60,000
Total Staff Cost		4,92,000
Old Books Maintenance	60,000 old books x ₹ 15 per year	9,00,000
Total Annual Cost (excluding new books)		13,92,000

Cost per member per year

$$= 13,92,000 / 1,200$$

$$= ₹ 1,160$$

Cost per library member per month

$$= 1,160 / 12$$

$$= ₹ 96.67$$

7. (b) ₹ 24.17

Cost per member per year

$$= 13,92,000 / 4,800$$

$$= ₹ 290$$

Cost per library member per month

$$= 290 / 12$$

$$= ₹ 24.17$$

8. (d) ₹ 2,56,800

Total Revenue

Particulars	Amount (₹)
Library fees per month (1,200 members x ₹ 110)	1,32,000
Late fees per month (450 books x 6 days x ₹ 2)	5,400

Total Revenue per month	1,37,400
Total Revenue per year (1,37,400×12)	16,48,800

Net Income per Year

= Total revenue – Total cost

= 16,48,800 – 13,92,000

= ₹ 2,56,800

9. (c) 198 books

Cost per new book	320
Maximum number of new books per annum (₹ 2,56,800 ÷ ₹ 320)	802 nos.
Number of books purchased	1,000 nos.
Excess books purchased (1,000 nos. – 802 nos.)	198 nos.

10. (a) ₹ 63,360

Additional Subsidy Required

= Extra books × cost per book

= 198 × 320

= ₹ 63,360

11. (a) 14,025

Capacity Utilisation Ratio = $\frac{\text{Actual Hours}}{\text{Budgeted Hours}}$

0.85 = $\frac{\text{Actual Hours}}{15,000}$

Actual Hours = 15,000 × 0.85 = 12,750

Efficiency Ratio = $\frac{\text{Standard Hours Allowed}}{\text{Actual Hours Taken}}$

1.10 = $\frac{\text{Standard Hours Allowed}}{12,750}$

Standard Hours Allowed = 12,750 × 1.10 = 14,025

12. (a) 450 units

$$\begin{aligned}
 \text{Maximum level} &= \text{ROL} + \text{ROQ} - [\text{Min. rate of consumption} \times \text{Min. lead time}] \text{ (Refer to working notes 1, 2 and 3)} \\
 &= 300 \text{ units} + 200 \text{ units} - [10 \text{ units per day} \times 5 \text{ days}] \\
 &= 450 \text{ units}
 \end{aligned}$$

Working Notes:

1. Minimum rate of consumption per day

$$\text{Av. rate of consumption} = \frac{\text{Minimum rate of consumption} + \text{Maximum rate of consumption}}{2}$$

$$15 \text{ units per day} = \frac{X \text{ units / day} + 20 \text{ units per day}}{2} \text{ or } X = 10 \text{ units per day.}$$

2. Re-order Quantity (ROQ) or Economic Order Quantity (EOQ)

$$= \sqrt{\frac{2 \times 5,000 \text{ units} \times ₹ 20}{5}} = 200 \text{ units}$$

3. Re-ordering level = Maximum usage per period × Maximum lead time
(ROL) = 20 units per day × 15 days
= 300 units

13. (a) ₹ 93.75 per hour

(i)	Effective working days in a year	305
	Less: Leave days on full pay	25
	Effective working days	280 days
	Total effective working hours (280 days × 8 hours)	2,240 hours
(ii)	Total wages paid in a year (₹)	
	Basic Pay	1,44,000
	D.A.	48,000
	Fringe Benefits	18,000
	Total Wages	2,10,000

(iii) Hourly Rate = ₹ 2,10,000 ÷ 2,240 hours = ₹ 93.75 per hour

14. (b) ₹ 25,000

Cost per setup = 60,000 / 120 = ₹ 500

Cost assigned to Product A = 30 × 500 = ₹ 15,000

Cost per inspection = 40,000 / 200 = ₹ 200

Cost assigned to Product A = 50 × 200 = ₹ 10,000

Total Overhead for Product A = 15,000 + 10,000 = ₹ 25,000

15. (d) ₹ 1,01,180

Direct Material = Material issued — Material returned
= 60,000 - 8,000 = ₹ 52,000

Department A Labour = 80 hrs × ₹ 180 = ₹ 14,400

Dept A Overhead = 14,400 × 120% = ₹ 17,280

Department B Labour = 50 hrs × ₹ 150 = ₹ 7,500

Dept B Overhead = 50 hrs × ₹ 200 = ₹ 10,000

Total Job Cost = 52,000 + 14,400 + 17,280 + 7,500 + 10,000 = ₹ 1,01,180

PART II – Descriptive Questions

1. (a)

Memorandum Reconciliation Account

Debit	Amount (₹)	Credit	Amount (₹)
Net loss as per costing books	6,40,000	Transfer fee recorded in financial books	23,000
Goodwill written off not recorded in cost books	38,000	Interest on investment not included in costs	3,00,000
Under valuation of opening stock in cost accounts	32,000	Depreciation overcharge in cost books	1,00,000

Income tax not provided in costs	1,20,000	Under valuation of closing stock (finished goods) in cost accounts	76,000
Net profit as per financial books	45,000	Notional rent charges in cost books	3,20,000
		Factory overheads over recovered in cost books	56,000
Total	8,75,000	Total	8,75,000

(b) Effective Machine hour for four-week period

= Total working hours – unproductive set-up time

= {(48 hours × 4 weeks) – {(4 hours × 4 weeks)}

= (192 – 16) hours = 176 hours.

(i) **Computation of cost of running one machine for a four week period**

		(₹)	(₹)
(A)	Standing charges (per annum)		
	Rent	5,400.00	
	Heat and light	9,720.00	
	Forman's salary	12,960.00	
	Other miscellaneous expenditure	18,000.00	
	Standing charges (per annum)	46,080.00	
	Total expenses for one machine for four week period $\left(\frac{₹46,080}{3 \text{ machines} \times 13 \text{ four-week period}} \right)$		1,181.54
	Wages (48 hours × 4 weeks × ₹ 20 × 3 operators)		11,520.00
	Bonus {(176 hours × ₹ 20 × 3 operators) × 10%}		1,056.00
	Total standing charges		13,757.54

(B)	Machine Expenses		
	Depreciation = $\left(₹52,000 \times 10\% \times \frac{1}{13 \text{ four - week period}} \right)$		400.00
	Repairs and maintenance (₹ 60 × 4 weeks)		240.00
	Consumable stores (₹ 75 × 4 weeks)		300.00
	Power (176 hours × 20 units × ₹ 0 .80)		2,816.00
	Total machine expenses		3,756.00
(C)	Total expenses (A) + (B)		17,513.54

(ii) Machine hour rate = $\frac{₹ 17,513.54}{176 \text{ hours}} = ₹99.51$

(c) (i) Calculation of Economic Order Quantity

$$EOQ = \sqrt{\frac{2AO}{C}} = \sqrt{\frac{2 \times 8,000 \text{ units} \times ₹ 200}{₹ 400 \times 20 / 100}} = 200 \text{ units}$$

(ii) Evaluation of Profitability of Different Options of Order Quantity

(a) When EOQ is ordered

		(₹)
Purchase Cost	(8,000 units × ₹ 400)	32,00,000
Ordering Cost	[(8,000 units/200 units) × ₹ 200]	8,000
Carrying Cost	(200 units × ₹ 400 × ½ × 20/100)	8,000
Total Cost		32,16,000

(b) When Quantity Discount is accepted

		(₹)
Purchase Cost	(8,000 units × ₹ 384*)	30,72,000
Ordering Cost	[(8,000 units/4000 units) × ₹ 200]	400
Carrying Cost	(4000 units × ₹ 384 × ½ × 20/100)	1,53,600
Total Cost		32,26,000

*Unit Cost = ₹ 400

Less: Quantity Discount @ 4% = 16

Purchase Cost = 400 – 16 = ₹ 384

Advise – The total cost of inventory is lower if EOQ is adopted. Hence, the company is advised not to accept the quantity discount.

2. (a) (i) **Statement of equivalent production : Process A**

Particulars	Input Units	Particulars	Output Units	Equivalent Production			
				Material		Labour & OH	
				%	Units	%	Units
Opening WIP	2,000	Completed Units	7,000	100	7,000	100	7,000
Units Introduced	8,000	Normal Loss [(2,000+8,000) x 10%]	1,000	---	---	---	---
		Abnormal Loss (Bal. Fig.)	500	100	500	100	500
		Closing WIP	1,500	100	1,500	60	900
Total	10,000	Total	10,000		9,000		8,400

(ii) **Statement showing cost for each element: Process A**

Particulars	Material	Labour & OH	Total
Cost of Opening WIP	4,50,000	1,44,000	5,94,000
Cost of Completed Units	18,00,000	5,70,000	23,70,000
Less: Realizable Value (1,000 x 90)	(90,000)	----	(90,000)
Total Cost	21,60,000	7,14,000	28,74,000
Equivalent Units	9,000	8,400	
Cost per EQ Unit	240	85	325

(iii) **Statement of distribution of cost: Process A**

Particulars	EQ Units	Cost per EQ Unit	Amount
Completed Units	7,000	325	22,75,000
Abnormal Loss	500	325	1,62,500
Closing WIP:			
Material	1,500	240	3,60,000
Labour & Overheads	900	85	76,500
			4,36,500

(iv) **Sale proceeds of WR fabrics:**

Out of 7,000 units of Process A (woolen threads), only 5,500 units were further processed in Process B and sold as woolen garments. Thus balance 1,500 units of woolen threads were sold in the market.

	Units	Selling price p.u. (Refer Working note)	Amount in Rs.
Process A	1,500	390	5,85,000
Woolen Threads:			
Process B:			
Woolen Garments	5,500	1,200	66,00,000
		Total Sales	71,85,000

Working Notes:

Further Processing: Process B

Particulars	Units	Computation	Amount
Transferred from Process A	5,500	5,500 x 325	17,87,500
Material			30,25,000
Labour & Overheads			6,87,500
Total	5,500		55,00,000
Woolen Garment Cost per Unit		55,00,000/5,500	1,000

Sale Price of Woolen Thread = ₹ 325 per unit + 20% = ₹ 390 per unit

Sale Price of Woolen Garment = ₹ 1,000 per unit + 20% = ₹ 1,200 per unit

(b) (a) **Calculation of Total wages and average wages per worker per month.**

(i) **When Current system of wages and incentive payment system is followed:**

Standard hours per Month = (9 hrs x 4 days + 4 hrs) x 4 = 196 hours

Standard production per worker = 196 hours x 3 units = 588 units

Standard production for 132 workers = 588 x 132 = 77,616 units

Particulars	Worst Case	Optimal Case	Best Case
I. Standard Production (units) (588 units x 132 workers)	77,616	77,616	77,616

II. Actual Production (units)	36,900	73,800	1,10,700
III. Efficiency (%) (II ÷ I × 100)	47.54%	95.08%	142.63%
IV. Applicable Piece Rate	₹ 14.40 (₹ 18 × 0.8)	₹ 14.40 (₹ 18 × 0.8)	₹ 22.50 (₹ 18 × 1.25)
V. Total Wages (II × IV)	₹ 5,31,360	₹ 10,62,720	₹ 24,90,750
VI. Average Wage per Worker (V ÷ 132)	₹ 4,025.45	₹ 8,050.91	₹ 18,869.32

(ii) When workers' demand for time rate wages and Halsey premium plan is accepted:

Particulars	Worst Case	Optimal Case	Best Case
I. Actual Production (units)	36,900	73,800	1,10,700
II. Standard Units per hour	3	3	3
III. Standard Hours Required (I ÷ II)	12,300	24,600	36,900
IV. Actual working hours (132 workers × 196 hrs)	25,872	25,872	25,872
V. Time Saved (III – IV)	—	—	11,028
VI. Time Wages (IV × ₹ 65)	₹ 16,81,680	₹ 16,81,680	₹ 16,81,680
VII. Halsey Bonus (50% × Time Saved × 65)	—	—	₹ 3,58,410
VIII. Total Wages (VI + VII)	₹ 16,81,680	₹ 16,81,680	₹ 20,40,090
IX. Average Wage per Worker (VIII ÷ 132)	₹ 12,740	₹ 12,740	₹ 15,455.23

(b) Calculation of gain or loss in the current monthly income of Mr. R:

1. Under Current Piece-Rate System

Standard production = 588 units

Production in December = 900 units

Efficiency = $900 \div 588 \times 100 = 153.06\%$

Rate = ₹ 22.50

Total wages = $900 \times 22.50 = ₹ 20,250$

2. Under Proposed Time Rate + Halsey Plan

Standard hours = 900 units ÷ 3 units = 300 hours

Actual hours available = 196 hours

Time saved = 300 – 196 = 104 hrs , so bonus = 0

Time wages = 196 × ₹ 65 = ₹ 12,740

Halsey Bonus (50% × Time Saved × 65) = 104 hrs x 50% x 65 = ₹3,380

Total expected wages = ₹ 16,120

3. Loss To Mr. R

Loss = 20,250 – 16,120 = ₹ 4,130

Supporting the demand of colleague workers will cost ₹ 4,130 in the next month to Mr. R.

3. (a) (i) Material Purchase Budget

(in quantities and value)

Particulars	Total
Material Consumption (Kg.)	
A (2,082 units × 6 kg = 12,492)	12,492
B (2,614 units × 2.5 kg = 6,535)	6,535
Total	19,027
Add: Closing Balance of Material (Kg.) (W.N. 3)	3,513
Less: Anticipated Opening Balance of Material (Kg.)	2,800
Total Quantity of Material (Kg.) to be purchased	19,740
Total Value of Material to be purchased (19,740 kg × ₹ 14)	₹ 2,76,360

(ii) Direct Workers Wages Budget

(Showing hours required and wages paid)

Particulars	Total
Standard Hours for Budgeted Production	
A (2,082 units × 6 hrs = 12,492)	12,492
B (2,614 units × 5 hrs = 13,070)	13,070
Total Standard Hours for Budgeted Production	25,562

Standard Hours for Budgeted Production at Targeted Efficiency Ratio (W.N. 4)	30,072.94
Add: Non-Productive Downtime (15% × 30,072.94 hours)	4,510.94
Total Labour Hours Required	34,583.88
Less: Normal Labour Hours (48 workers × 13 weeks × 5 days × 8 hours)	24,960
Difference (Overtime hours)	9,624
Wages for normal hours (24,960 hours × ₹ 9)	₹ 2,24,640.00
Overtime Wages (9,624 hrs × ₹ 14.40)	₹ 1,38,585.60
Total Wages	₹ 3,63,225.60

Working Notes:

1. **Computation of Closing Stock Balance of Products A and B**

Budgeted Period of Sales (In days) = 13 weeks × 5 days = **65 days**

Closing stock of Product A (Units) (18 days' sales)

$$= \frac{2,100}{65} \times 18 = \mathbf{582 \text{ units}} \text{ (rounded up)}$$

Closing stock of Product B (Units) (22 days' sales)

$$= \frac{2,700}{65} \times 22 = \mathbf{914 \text{ units}} \text{ (rounded up)}$$

2. **Production Budget (Units)**

Particulars	Product A	Product B
Sales in units (65 days)	2,100	2,700
Add: Closing Stock (W.N. 1)	582	914
Total	2,682	3,614
Less: Anticipated Opening Balance	600	1,000
Total Number of Units to be produced	2,082	2,614

3. **Closing Balance of Material (Kg.)**

Total material consumption for production = 12,492 kg (A) + 6,535 kg (B)
= 19,027 kg

$$\text{Daily consumption} = \frac{19,027}{65} = 292.72 \text{ kg/day}$$

Closing stock of material (12 days consumption) = $292.72 \times 12 = 3,513$ kg (rounded up)

4. **Standard Hours for Budgeted Production at targeted 85% efficiency ratio**

Total standard hours for production = $(2,082 \times 6) + (2,614 \times 5) = 25,562$ hrs

Productive hours required = Standard hours $\div$ Efficiency

$$= \frac{25,562}{0.85} = 30,072.94 \text{ hrs}$$

Non-productive downtime = 15% of productive hours = $0.15 \times 30,072.94 = 4,510.94$ hrs

Total labour hours required = $30,072.94 + 4,510.94 = 34,583.88$ hrs

(b) 1. **Assembly Department – Standard Cost Centre**

The Assembly Department operates with fixed input–output norms, and standard quantities of materials and labour are established for each unit. Any deviation (variance) in cost is measured and analysed into controllable and uncontrollable cost. Since its output is measurable and the input-output relationship is clearly defined, it qualifies as a Standard Cost Centre, where the manager is responsible for controlling costs and complying with established standards.

2. **Corporate R&D Lab – Discretionary Cost Centre**

The R&D Lab focuses on product innovation, and its output cannot be measured in financial terms. The performance of this department is evaluated only against the budget allocated. Because the input-output ratio cannot be defined and the cost cannot be directly linked to output, it is classified as a Discretionary Cost Centre.

3. **West Zone Sales Department – Revenue Centre**

This department is responsible for generating revenue and achieving sales targets but has no control over production or administrative costs, except for selling expenses like commissions. As its primary responsibility is revenue generation, it is classified as a Revenue Centre, where performance is measured based on revenue achieved.

4. **Global Operations Division – Investment Centre**

The Global Operations Division has authority over revenue, cost, and capital investment decisions. Its performance is evaluated on profitability as well as

Return on Investment (ROI). Therefore, it is classified as an Investment Centre, where managers are not only responsible for profitability but also have the authority to make capital investment decisions.

4. (a) If the company limits the manufacture to just one product, the monthly production will be as follows:

Products	Units	Weights
P	60,000	5
Q	75,000	4
R	1,00,000	3
S	3,00,000	1

Statement showing calculation of weighted Production

Products	Weights	Actual Production (in units)	Weighted Production
P	5	7,000	35,000
Q	4	17,500	70,000
R	3	45,000	1,35,000
S	1	1,60,000	1,60,000
		Total	4,00,000

Factory overhead recovery rate = Factory Overhead / Weighted Production
= ₹ 10,00,000 / ₹ 4,00,000 = ₹ 2.50 per unit

Overhead recovery rate and Factory overhead allocated to each brand will be:

Product	Overhead Recovery rate per unit	Factory overhead allocation in ₹
P	2.50 x 5 = ₹ 12.50	₹ 12.50 x 7,000 = ₹ 87,500
Q	2.50 x 4 = ₹ 10.00	₹ 10 x 17,500 = ₹ 1,75,000
R	2.50 x 3 = ₹ 7.50	₹ 7.50 x 45,000 = ₹ 3,37,500
S	2.50 x 1 = ₹ 2.50	₹ 2.5 x ₹ 1,60,000 = ₹ 4,00,000

Cost Sheet of XYZ Ltd for April 2025

Particulars	P (in ₹)	Q (in ₹)	R (in ₹)	S (in ₹)
Direct Material Cost	3,50,000	4,75,000	5,80,000	9,60,000

Add: Direct Wages	1,05,000	1,40,000	1,70,000	2,65,000
Prime Cost	4,55,000	6,15,000	7,50,000	12,25,000
Add: Factory Overheads	87,500	1,75,000	3,37,500	4,00,000
Works Cost	5,42,500	7,90,000	10,87,500	16,25,000
Office Overheads (Balancing figure)	73,500	1,48,000	1,12,500	71,000
Cost of Goods Sold	6,16,000	9,38,000	12,00,000	16,96,000
Add: Selling Overheads in ratio of 1:2:3:4	56,000	1,12,000	1,68,000	2,24,000
Cost of Sales	6,72,000	10,50,000	13,68,000	19,20,000
Profit @ 25% on cost (1/5 the of sales)	1,68,000	2,26,500	3,42,000	4,80,000
Sales (Sales units X Selling price p.u.)	8,40,000	13,12,500	17,10,000	24,00,000

(b) Overhead Allocation Rate -

Activity	Total Costs (₹)	Quantity of Cost Allocation Base	Overhead Allocation Rate (₹)
Ordering	15,600	156 Purchase Orders	100.00
Delivery	25,200	315 Delivering Orders	80.00
Shelf Stocking	17,280	864 Self Stocking Hours	20.00
Customer Support	30,720	1,53,600 Items Sold	0.20

Store Support Cost -

Particulars	Cost Driver	Pineapple	Orange	Litchi	Total
Bottle Returns	Direct	1,200	0	0	1,200
Ordering	Purchase Orders	3,600	8,400	3,600	15,600
Delivery	Deliveries	2,400	17,520	5,280	25,200
Self -Stocking	Hours of time	1,080	10,800	5,400	17,280
Customer Support	Items Sold	2,520	22,080	6,120	30,720
Grand Total		10,800	58,800	20,400	90,000

Operating Income-

Particulars	Pineapple	Orange	Litchi	Total
Revenue	79,350	2,10,060	1,20,990	410,400
Less: Cost of Goods Sold	60,000	1,50,000	90,000	300,000
Less: Store Support Cost	10,800	58,800	20,400	90,000
Operating Income	8,550	1,260	10,590	20,400
Operating Income (%)	10.78	0.60	8.75	4.97

5. (a) (i) Material variances:

(a) **Direct Material Cost Variance** = Standard Cost – Actual Cost
= (Actual output × Std qty per unit × Std price) – (Actual qty used × Actual price)
= (51,200 units × 6 kg × ₹ 5.00) – (296,000 kg × ₹ 5.20)
= ₹ 15,36,000 – ₹ 15,39,200 = ₹ **3,200 (A)**

(b) **Material Price Variance** = Actual Qty used × (Std Price – Actual Price)
= 2,96,000 kg × (₹ 5.00 – ₹ 5.20)
= 2,96,000 × (–₹ 0.20) = ₹ **59,200 (A)**

(Material variances are calculated on the basis of consumption)

(c) **Material Usage (Quantity) Variance** = Std Price × (Std Qty for actual output – Actual Qty used)
= ₹ 5.00 × (51,200 × 6 – 2,96,000)
= ₹ 5.00 × (3,07,200 – 2,96,000)
= ₹ 5.00 × 11,200 = ₹ **56,000 (F)**

(ii) Labour variances and Factory Overhead variance:

(a) **Labour Cost Variance** = Standard Cost – Actual Cost
= (Std hrs allowed for actual output × Std rate) – Actual labour cost
Std hrs allowed = 51,200 units × 2.5 hrs = 1,28,000 hrs

$$= (1,28,000 \times ₹ 4.50) - ₹ 6,40,000$$

$$= ₹ 5,76,000 - ₹ 6,40,000 = ₹ 64,000 \text{ (A)}$$

(b) **Labour Rate Variance** = Actual Hours × (Std Rate – Actual Rate)

$$\text{Actual rate} = \text{Actual labour cost} / \text{Actual hours}$$

$$= ₹ 6,40,000 / 1,25,000 = ₹ 5.12 / \text{hr}$$

$$= 1,25,000 \times (₹ 4.50 - ₹ 5.12) = 125,000 \times (-₹ 0.62) = ₹ 77,500 \text{ (A)}$$

(c) **Labour Efficiency Variance** = Std Rate × (Std Hours – Actual Hours)

$$= ₹ 4.50 \times (1,28,000 - 1,25,000) = ₹ 4.50 \times 3,000 = ₹ 13,500 \text{ (F)}$$

(d) **Total Factory Overhead Variance** = Factory Overhead Absorbed – Actual Factory Overhead

$$\text{Factory overhead absorbed} = \text{Actual hours} \times \text{Std FOH rate}$$

$$= 1,25,000 \times ₹ 2.00 = ₹ 2,50,000$$

$$\text{Actual FOH incurred} = ₹ 2,80,000$$

$$\text{FOH variance} = ₹ 2,50,000 - ₹ 2,80,000 = ₹ 30,000 \text{ (A)}$$

(iii) **Preparation of Income Statement**

Calculation of unit selling price

Standard manufacturing cost per unit = ₹ 46.25 (given)

Selling price per unit = ₹ 46.25 ÷ 0.75 = ₹ 61.6667

Income Statement

Particulars	Amount (₹)
Sales (50,000 units × ₹ 61.6667)	30,83,333
Less: Standard cost of goods sold (50,000 × ₹ 46.25)	23,12,500
Standard gross margin	7,70,833
Less: Adverse variances:	
Material Price variance	59,200
Labour Rate variance	77,500
Factory Overhead variance	30,000
Total Adverse variances	1,66,700

Add: Favourable variances:	
Material Usage variance	56,000
Labour Efficiency variance	13,500
Total Favourable variances	69,500
Actual gross margin = 7,70,833 – 1,66,700 + 69,500	6,73,633

(iv) **Bonus under incentive scheme**

Standard labour hours for actual output = 51,200 × 2.5 = 1,28,000 hrs

Actual labour hours worked = 1,25,000 hrs

Labour hours saved = 1,28,000 – 1,25,000 = 3,000 hrs

Bonus rate = 60% of standard direct labour rate per hour
= 60% × ₹ 4.50
= ₹ 2.70 / hr

Bonus payable = Hours saved × ₹ 2.70 = 3,000 × 2.70 = ₹ 8,100

(b) (i) **Calculation of total cost per batch:**

Particulars	Amount (₹)
(i) Auditorium hire charges (₹ 3,75,000 × 4 months)	15,00,000
(ii) Teachers' remuneration (₹ 3,000 × 2 hours × 3 days × 4 weeks × 4 months)	2,88,000
Total cost	17,88,000

(ii) **Computation of minimum fee per student per batch:**

Minimum fee to be charged = $\frac{\text{Total Cost}}{\text{No. of students}} = \frac{\text{₹ 17,88,000}}{150 \text{ students}} = \text{₹ 11,920/-}$

(iii) **Fee to be charged per student** = $\frac{\text{Total Cost + Profit}}{\text{No. of students}}$
= $\frac{\text{₹ 17,88,000 + ₹ 8,94,000}}{125 \text{ students}}$
= $\frac{\text{₹ 26,82,000}}{125 \text{ students}} = \text{₹ 21,456}$

6. (a) 1. Identification of Capacities

Capacity Type	Definition	Units (per product)
Installed (Rated or Theoretical) Capacity	It refers to the maximum capacity of producing goods or providing services.	50,000 units
Practical (Operating) Capacity	It is defined as actually utilised capacity of a plant after considering planned losses such as preventive maintenance, setup times, holidays, and training	45,000 units
Normal Capacity	Normal capacity is the volume of production or services achieved or achievable on an average over a period under normal circumstances taking into account the reduction in capacity resulting from planned maintenance.	42,000 units
Actual Capacity	It is the Capacity actually achieved during a given period	40,500 units

2. Role of Practical Capacity in Overhead Absorption

- It reflects the **available productive capacity** after accounting for planned downtime, allowing management to allocate overhead costs fairly and accurately to products.
- Using practical capacity **avoids over- or under-absorbing overheads** that would occur if installed capacity (theoretical maximum) or actual capacity were used.

(b) The following steps are useful for minimizing labour turnover:

- Exit interview:* An interview to be arranged with each outgoing employee to ascertain the reasons of his leaving the organization.
- Job analysis and evaluation:* to ascertain the requirement of each job.
- Organization should make use of a scientific system of recruitment, placement and promotion for employees.

- (d) Organization should create healthy atmosphere, providing education, medical and housing facilities for workers.
- (e) Committee for settling workers grievances.

(c)

Method	Circumstances
Net Realisable Value (NRV) at Split-off Point Method	When the realisable value of joint products at split-off is not known.
Technical Estimates	When the result obtained by Net Realisable Value (NRV) at Split-off Point Method does not match with the resources consumed by joint products.
Market value at the point of separation	Where further processing costs are incurred disproportionately.
Market value after further processing	Where further processing costs after the point of separation are proportionate and all the joint products are subject to further processing.

OR

(c) **Suitability for flexible budget:**

1. Seasonal fluctuations in sales and/or production, for example in soft drinks industry;
2. a company which keeps on introducing new products or makes changes in the design of its products frequently;
3. industries engaged in make-to-order business like ship building;
4. an industry which is influenced by changes in fashion; and
5. general changes in sales.