

Mock Test Paper - Series II: August, 2026

Date of Paper: 14th August 2026

Time of Paper: 10 AM - 1 PM

INTERMEDIATE: GROUP – II

PAPER – 4: COST AND MANAGEMENT ACCOUNTING

Part I MCQs

ANSWERS/HINTS

1. (b) BOXE
2. (a) ₹ 37,000 Profit
3. (c) 20:4:1:5
4. (d) ₹ 4,267 Profit
5. (c) ₹ 55,000 Profit

- (1) Statement of Profitability of an Oil Mill
(after Carrying out further processing)
(for the quarter ending March 2026)

Product's name	Sales Value after further processing	Share of joint cost	Further processing cost	Total cost after split off	Profit (Loss)
(a)	(b)	(c)	(d)	(e) = (c) + (d)	(f = (b) – (e))
	₹	₹	₹	₹	₹
AOXE	1,72,500	98,667	43,000	1,41,667	30,833
BOXE	15,000	19,733	9,000	28,733	(13,733)
COXE	6,000	4,933	-	4,933	1,067
DOXE	45,000	24,667	1,500	26,167	18,833
Total	2,38,500	1,48,000	53,500	2,01,500	37,000

Working Notes

1. Sales Value at split off point for:
AOXE = 8,000 x ₹ 15 = 1,20,000

$$\text{BOXE} = 4,000 \times ₹ 6 = 24,000$$

$$\text{COXE} = 2,000 \times ₹ 3 = 6,000$$

$$\text{DOXE} = 4,000 \times ₹ 7.50 = 30,000$$

The ratio between the sale values of AOXE: BOXE: COXE: DOXE: 20: 4:1: 5.

2. Share of joint cost of AOXE, BOXE, COXE and DOXE has been determined by dividing the total joint cost viz ₹ 1,48,000 in the ratio 20:4:1: 5

$$\text{AOXE} = ₹ \frac{1,48,000}{30} \times 20 = ₹ 98,667$$

$$\text{BOXE} = ₹ \frac{1,48,000}{30} \times 4 = ₹ 19,733$$

$$\text{COXE} = ₹ \frac{1,48,000}{30} \times 1 = ₹ 4,933$$

$$\text{DOXE} = ₹ \frac{1,48,000}{30} \times 5 = ₹ 24,667$$

**(2) Statement of Profitability of an Oil Mill
(At the split off point)**

(for the quarter ending March 2026)

Product's name	Selling price at split off point	Output In units	Sales value at split off point	Share of joint cost	Profit at split off point
(0)	(1)	(2)	(3) = (1) x (2)	(4)	(5) = (3) – (4)
	₹	₹	₹	₹	₹
AOXE	15	8,000	1,20,000	98,667	21,333
BOXE	6	4,000	24,000	19,733	4,267
COXE	3	2,000	6,000	4,933	1,067
DOXE	7.50	4,000	30,000	24,667	5,333
	Total		1,80,000	1,48,000	32,000

- (3) Product BOXE should be sold without further processing. This will maximize the profit.

6. (b)

Total support cost	(₹)
Cartons returned	5,76,000
Delivery	1,20,96,000
Ordering	74,88,000
Shelf stocking	82,94,400
Customer support (₹ 49,15,200 x 3)	1,47,45,600
Total support cost	4,32,00,000
	(₹)
Fancy fans	2,88,00,000
Home decors	7,20,00,000
Assembled furniture	4,32,00,000
Total cost of goods sold (COGS)	14,40,00,000

Percentage of support cost to the cost of goods sold (COGS):

$$= \frac{\text{Total support cost}}{\text{Total cost of goods sold (COGS)}} \times 100$$

$$= \frac{4,32,00,000}{14,40,00,000} \times 100 = 30\%$$

7. (c)

Particulars	Fancy Fans (₹)	Home Decors (₹)	Assembled Furniture (₹)
Revenue: (A)	3,80,88,000	10,08,28,800	5,80,75,200
Cost of Goods sold (COGS): (B)	2,88,00,000	7,20,00,000	4,32,00,000
Support cost (30% of COGS): (C) (as Calculated in i. above)	86,40,000	2,16,00,000	1,29,60,000
Total cost: (D) = {(B) + (C)}	3,74,40,000	9,36,00,000	5,61,60,000
Operating income: E= {(A)-(D)}	6,48,000	72,28,800	19,15,200
Operating income as a percentage of revenues: (E/A) × 100	1.70%	7.17%	3.30%

8. (a)

Activity (1)	Total cost (₹) (2)	Cost allocation base (3)	Cost driver rate (4) = [(2) ÷ (3)]
Delivery	1,20,96,000	6,300 deliveries	₹ 1,920 per delivery
Ordering	74,88,000	3,120 purchase orders	₹ 2,400 per purchase order
Shelf-stocking	82,94,400	17,280 hours of shelf-stocking time	₹ 480 per stocking hour
Customer support	1,47,45,600	1,47,45,600 items sold	₹ 1 per item sold (given)

9. (d)

	Fancy Fans (₹)	Home decors (₹)	Assembled furniture (₹)
Revenues: (A)	3,80,88,000	10,08,28,800	5,80,75,200
Cost & Goods sold	2,88,00,000	7,20,00,000	4,32,00,000
Carton return costs (Directly attributable to Fancy fans)	5,76,000	0	0
Delivery cost (₹ 1,920 per delivery)	11,52,000 (600 x ₹ 1,920)	84,09,600 (4,380 x ₹ 1,920)	25,34,400 (1,320 x ₹ 1,920)
Ordering cost (₹ 2,400 per purchase order)	17,28,000 (720 x ₹ 2,400)	40,32,000 (1,680 x ₹ 2,400)	17,28,000 (720 x ₹ 2,400)
Shelf stocking cost (₹ 480 per stocking hour)	5,18,400 (1,080 x ₹ 480)	51,84,000 (10,800 x ₹ 480)	25,92,000 (5,400 x ₹ 480)
Customer Support cost (₹ 1 per item sold)	12,09,600 (12,09,600 x ₹ 1)	1,05,98,400 (1,05,98,400 x ₹ 1)	29,37,600 (29,37,600 x ₹ 1)
Total Cost: (B)	3,39,84,000	10,02,24,000	5,29,92,000
Operating income: (C) = (A) - (B)	41,04,000	6,04,800	50,83,200

10. (b)

	Fancy Fans (₹)	Home decors (₹)	Assembled furniture (₹)
Operating income (from iv. Above) (A)	41,04,000	6,04,800	50,83,200
Revenues (B)	3,80,88,000	10,08,28,800	5,80,75,200
Operating income as a percentage of revenues: (A/B) × 100)	10.78%	0.60%	8.75%

11. (c) Calculation of total earnings:

As per Halsey 50% plan

= Time taken × Time rate + (50% of Time saved × Time rate)

= 5 hrs. × ₹ 100 + [1/2 × (5 hrs. × ₹ 100)]

= ₹ 500 + ₹ 250 = ₹ 750

As per Rowan Premium plan

= Time taken × Rate per hour + $\left(\frac{\text{Time Saved}}{\text{Time Allowed}}\right) \times \text{Time taken} \times \text{Rate per hour}$

= 5 hours × ₹ 100 + $\left[\left(\frac{5 \text{ Hours}}{10 \text{ Hours}}\right) \times 5 \text{ hours} \times ₹ 100\right]$

= ₹ 500 + ₹ 250 = ₹ 750

When the actual time taken is 50% of the time allowed, the earnings under Halsey and Rowan Plans are equal.

12. (b) ₹ 900 per room day

Total Revenue (2,66,11,200/80%) = 3,32,64,000

Calculation of Room Days:

	Deluxe	Premium
Summer	120 rooms x 80% x 30 days x 8 months = 23,040	80 rooms x 80% x 30 days x 8 months = 15,360
Winter	120 rooms x 60% x 30 days x 4 months = 8,640	80 rooms x 60% x 30 days x 4 months = 5,760
Total room days	31,680	21,120

Let's assume the room rent of Deluxe room be 'x'

Then rent of Premium room will be '2x'

Therefore: $31,680x + 42,240x = 3,32,64,000$

$X = 450$

Rent of Premium room will be $450 \times 2 = ₹ 900$ per room day

13. (b) 1,90,000 units

	Units
Sales budget	2,00,000
Add: Closing Inventory (25,000 x 0.6)	15,000
Less: Opening Inventory	(25,000)
Production Budget	1,90,000

14. (a) 400 (A) and 2,600 (F)

Variable overhead cost variance: Standard Variable overheads - Actual variable overheads

$8,000/2,500 \times 3,000 - 10,000 = 400A$

Fixed overhead cost variance: Standard fixed overheads - Actual fixed overheads

$12,000/2,500 \times 3,000 - 11,800 = 2,600F$

15. (a) 58,000 under-absorbed

Particulars	Amount (₹)
Absorption rate	15
Actual hours	60,000
Absorbed Overheads	9,00,000
Actual overheads (11,00,000 - 26,000)	10,74,000
Under absorption	1,74,000
1/3 of 1,74,000	58,000

PART – II: Descriptive Answers

1. (a) Working Note 1:

Primary distribution of Rent amongst Production Department and Service Department:

$$\text{Production Department} = (36,000/45000) \times 40,000 = 32000$$

$$\text{Service Department} = (36,000/45000) \times 5000 = 4,000$$

Working Note 2:

Total of Overheads:

Works Manager's salary	₹ 50,000
Wages of caretakers, sweepers	₹ 7,000
Other factory overhead charges	₹ 53,000
Add: Share of Rent from Primary Distribution	₹ 4000
Total	₹ 1,14,000

The total amount of factory overhead charges for this work order:

$$\text{Total Rent for this shop floor} = (32,000/40,000) \times 3,000 = ₹2,400$$

$$\begin{aligned} \text{Share of rent (In proportion to wages in this shop)} &= (2,400/1,60,000) \times 10,000 \\ &= ₹ 150 \end{aligned}$$

$$\begin{aligned} \text{Share of other overheads (In proportion to total wages)} &= (1,14,000/4,80,000) \\ &\times 10,000 = ₹ 2,375 \end{aligned}$$

$$\text{Total Overheads for this Work order} = ₹ 2,525 (150 + 2,375)$$

(b) Working Note 1:

Risk of being out of stock

Delivery Time	Percentage of currency (%)	Cumulative percentage of occurrence (%)	Risk Of non Occurrence (%)
12 days	70	70	30
13 days	10	80	20
14 days	10	90	10
15 days	5	95	5
16 days	5	100	0

Working Note 2:

(a) Ordering cost per order (O) - ₹ 35,000

(b) Cost per liter of Chemical - A

Rate per liter ₹ 900

Add: import duty@10% $\frac{₹ 90}{₹ 990}$

Carrying cost per liter per annum of Chemical-A

1.7676% (1.5% + 0.2676%) of 990 = ₹17.50

(i) Economic Order Quantity (E.O.Q)

$$\sqrt{\frac{2AC}{C}} = \sqrt{\frac{2 \times 36,000 \text{ Ltrs.} \times ₹ 35,000}{₹ 17.50}} = 12,000 \text{ litres}$$

(ii) Safety Stock at 10% risk of being out of stock

Safety stock required for two days i.e. for 13th and 14th day

Per day consumption $\frac{36,000 \text{ Ltr.}}{360 \text{ days.}} = 100 \text{ litres}$

Safety stock = 100 × 2 days = 200 litres

Re-Order Point = Safety Stock + Average lead time × Average consumption

= 200 + 12 × 100

= 1400 liters.

(iii) At 5% risk of being out stock, safety stock will be safety stock for three days

100 liters × 3 days = 300 liters

Total Ordering cost = $\frac{36,000 \text{ Ltr.}}{12,000 \text{ Ltr.}} \times ₹ 35,000 = ₹ 1,05,000$

Total Carrying cost of inventory = (Safety stock. + Average inventory) × Carrying cost per liter per annum

$$= (300 + \frac{1}{2} \times 12,000 \text{ Ltr.}) ₹ 17.50 = ₹ 1,10,250$$

∴ Total cost of ordering & carrying inventory = 1,05,000 + 1,10,250 = ₹ 2,15,250

[Note: Amount of ₹ 1,75,000 incurred on making agreement for material supply will be apportioned over the entire quantity of 36,000 ltr and included with cost

of Chemical-A. However, for the purpose of calculating carrying cost i.e. storage cost and insurance cost, only invoice cost of material is taken. Invoice cost consists of cost per liter of chemical-A plus import duty.]

(c) Working Note:

Actual Hours (AH) = $22 \times 8 \times 100 = 17600$ Hrs.

Standard Hours (SH) = $(1200 \times 8 + 800 \times 12) = 19,200$ Hrs.

Budgeted Hours (BH) = $1,86,000/12 = 15,500$

$$\text{i. Capacity Ratio} = \frac{\text{Actual Hours (worked)}}{\text{Budgeted Hours}} \times 100$$

$$= (17600 \div 15,500) \times 100 = \mathbf{113.55\%}$$

$$\text{ii. Activity Ratio} = \frac{\text{Standard Hours (for actual production)}}{\text{Budgeted Hours}} \times 100$$

$$= (19,200 \div 15,500) \times 100 = \mathbf{123.87\%}$$

$$\text{iii. Efficiency Ratio} = \frac{\text{Standard Hours (for actual production)}}{\text{Actual Hours (worked)}} \times 100$$

$$= (19,200 \div 17,600) \times 100 = \mathbf{109.09\%}$$

2. (a) a. Statement of Equivalent Production

Process I

Input Details	Units	Output Particulars	Units	Equivalent Production					
				Material- A		Labour		Overhead	
				%	Units	%	Units	%	Units
Opening WIP	2,400	Work on Op. WIP	2,400	-	-	40	960	40	960
Introduced	27,600	Introduced & completed during the month	21,300	100	21,300	100	21,300	100	21,300
		Normal loss (8% of 30,000 units)	2,400	-	-	-	-	-	-
		Closing WIP	2,700	100	2,700	70	1,890	70	1,890
		Abnormal Loss	1,200	100	1,200	80	960	80	960
	30,000		30,000		25,200		25,110		25,110

Working note:

Production units = Opening units + Units Introduced - Closing Units - Units Scrapped

= 2,400 units + 27,600 units – 2,700 units - 3600 units

= 23,700 units (Opening WIP 2,400 + Introduced and completed 21,300)

b. Statement of Cost

	Cost (₹)	Equivalent units	Cost per equivalent units (₹)
Material Cost	1,104,00		
Less: Scrap value of normal loss (2,400 units x ₹ 4)	(9,600)		
	1,00,800	25,200	4.00
Labour	50,220	25,110	2.00
Overheads	25,110	25,110	1.00

c. Statement of apportionment of process cost

		Amount (₹)
Opening WIP (2400 units)		12,000
Completed opening WIP (960 units x ₹ 3)	Labour + Overheads (2 + 1)	2,880
Introduced & Completed- 21,300 units x ₹ 7	Material + Labour + Overheads (4 + 2 + 1)	1,49,100
Total cost of 23,700 finished goods units		163,980
Closing WIP units- 2700	Material (2,700 units x ₹ 4) Labour (1890 units x Rs 2.00) Overheads (1,890 units x ₹ 1.00)	10,800 3,780 <u>1,890</u> 16,470
Abnormal Loss- 1,200 Units	Material (1,200 units x ₹ 4) Labour (960 units x ₹ 2.00) Overheads (960 units x ₹ 1.00)	4,800 1,920 <u>960</u> 7,680

d. **Process I A/c**

Particulars	Units	Amount ₹	Particulars	Units	Amount ₹
To Balance b/d	2400	12,000	By Normal loss	2,400	9,600
To Units Introduced	27,600	1,10,400	Finished By goods	23,700	1,63,980
To Wages		50,220	By Closing WIP	2,700	16,470
To Overheads		25,110	By Abnormal Loss		
				<u>1,200</u>	<u>7,680</u>
	30,000	1,97,730		30,000	1,97,730

(b) (i) **Statement showing the Operating Cost per Passenger-km.**

	Yearly (₹)	Monthly (₹)
(A) Standing Charges:		
Insurance Charge ₹. 20,00,000 × 3%	60,000	5,000
Road Tax	36,000	3,000
Depreciation (20,00,000/5)	4,00,000	33,333.33
Total	4,96,000	41,333.33
(B) Maintenance Charges:		
Annual Repairs	50,000	4166.67
Office and administration overheads	3,18,000	26,500
Total	3,68,000	30666.67
(C) Running Cost/Charges:		
Driver's Salary	2,40,000	20,000
Conductor's Salary	1,80,000	15,000
Diesel & Oil $\left(60,000 \times \frac{1,500}{100} \right)$	9,00,000	75,000
Total	13,20,000	41,333.33
Total (A+B+C) Cost before commission and profit	21,84,000	1,82,000
Commission (33,60,000 × 10%) (working note 2)	3,36,000	28,000
Profit (33,60,000 × 25%) (working note 2)	8,40,000	70,000
Takings (working note 1)	33,60,000	2,80,000

$$(ii) \quad \text{Fare per Passenger-km.} = \frac{\text{Total Collection/Takings}}{\text{Total Passenger-km (Working note 3)}}$$

$$= \frac{33,60,000}{24,00,000} = ₹ 1.40$$

OR

$$\text{Fare per Passenger-km. (monthly)} = \frac{2,80,000}{2,00,000} = ₹ 1.40$$

Working note:

1. Cost before commission (10%) and profit (25%) is 21,84,000 which is 65% of total takings. So total takings is $(21,84,000 \div 65) \times 100 = ₹ 33,60,000$
2. Commission is 10% of ₹ 33,60,000 = ₹ 3,36,000 and Profit is 25% of ₹ 33,60,000 = ₹ 8,40,000
3. Total Km is $(4 \text{ Round Trips} \times \text{Days in a month} \times \text{Month}) = (4 \times 2 \times 25 \times 25 \times 12) = 60,000 \text{ km}$

Passenger km is 60,000 km $\times$ 40 passenger = 24,00,000

3. (a) (i) Profit as per financial records
(For the year ended March 31, 2026)

	₹		₹
To Opening stock of Finished Goods	53,125	By Sales	22,80,000
To Work-in-process	46,000	By Closing stock of finished Goods	45,650
To Raw materials consumed	8,40,000	By Work-in-Process	41,200
To Direct labour	6,10,000	By Rent received	46,000
To Factory overheads	4,22,000	By Interest received	38,000
To Administration overheads	1,98,000		
To Selling & distribution overheads	72,000		
To Bad debts	18,000		
To Dividend paid	1,22,000		
To Profit	69,725		
	24,50,850		24,50,850

Profit as per costing records
(For the year ended March 31, 2026)

	(₹)
Sales revenue (12,615 units)	22,80,000
Cost of sales:	
Opening stock (625 units x ₹ 120)	75,000
Add: Cost of production of 12,405 units (Refer to working note 2)	21,84,960
Less: Closing stock ₹ 21,84,960 ÷ 415 units	<u>73,096</u>
12,405 units	
Cost of production of goods sold (12,615 units)	21,86,864
Add: Selling & distribution overheads (12,615 units x ₹ 2)	<u>25,230</u>
Cost of sales	22,12,094
Profit	67,906

(ii) Statement of Reconciliation

(Reconciling the profit as per costing records with the profit as per financial records)

	(₹)	(₹)
Profit as per Cost Accounts		67,906
Add: Administration overheads over absorbed (₹ 3,64,160 – ₹ 1,98,000)	1,66,160	
Opening stock overvalued (₹ 75,000 – ₹ 53,125)	21,875	
Interest received	38,000	
Rent received	46,000	
		3,39,941
Less:		
Factory overheads under recovered (₹ 3,66,000 – ₹ 4,22,000)	56,000	

Selling & distribution overheads under recovery (₹ 72,000 – ₹ 25,230)	46,770	
Closing stock overvalued (₹ 73,096 – ₹ 45,650)	27,446	
Dividend	1,22,000	
Bad debts	18,000	<u>(2,70,216)</u>
Profit as per financial accounts		69,725

Working notes:		
1. Number of units produced		Units
Sales		12,615
Add: Closing stock		415
Total		13,030
less: Opening stock		<u>625</u>
Number of units produced		12,405
2. Cost Sheet		(₹)
Raw materials consumed		8,40,000
Direct labour		<u>6,10,000</u>
Prime cost		14,50,000
Factory overheads (60% of direct wages)		<u>3,66,000</u>
Factory cost		18,16,000
Add: Opening work-in-process		46,000
Less: Closing work-in-process		<u>41,200</u>
Factory cost of goods produced		18,20,800
Administration overheads (20% of factory cost)		<u>3,64,160</u>
Cost of production of 12,405 units (Refer to working note 1)		21,84,960

3. Cost of production per unit:

$$\frac{\text{Total cost of Production}}{\text{No. of units produced}} = \frac{₹21,84,960}{12,405 \text{ units}} = ₹176.14$$

(b) i. **Casual worker and outworker**

A worker who is appointed for a short duration to carry on normal business activities in place of a regular but temporarily absent worker. Such a worker is also known as daily wager or 'badlies'. A casual worker does not enjoy the facilities available to a regular worker.

A worker who does not work in the factory premises but either he works in his home or at a site outside the factory is known as an outworker. An outworker who works in a home is usually compensated on the basis of his output. He is supplied with raw materials and tools necessary for carrying out the job. An outworker (outside to factory) is usually engaged on specialized jobs/contract work.

ii. **Job and Batch Costing**

Job Costing: The objective under this method of costing is to ascertain the cost of each job order. A job card is prepared for each job to accumulate costs. The cost of the job is determined by adding all costs against the job it is incurred. This method of costing is used in printing press, foundries and general engineering workshops, advertising etc.

Batch Costing: This system of costing is used where small components/parts of the same kind are required to be manufactured in large quantities. Here batch of similar products is treated as a job and cost of such a job is ascertained as discussed under 1, above. For Example, if in a cycle manufacturing unit, rims are produced in batches of 2,500 units each, then the cost will be determined in relation to a batch of 2,500 units.

4. (a) **Working Notes:**

1. **Standard hours** = $10,000 \times 3 = 30,000$ hours

The capacity is 60%

So at 100 % capacity the total hours would be = $30,000 / 60\% = 50,000$ hours

Budgeted hours = 50,000

2. **Budgeted Fixed Overheads** = Actual Fixed overheads – Expenditure
Variance(A)

$\text{₹ } 3,00,000 - \text{₹ } 50,000 = \text{₹ } 2,50,000$

3. **Standard Fixed overhead rate** = $2,50,000 / 50,000 = \text{₹ } 5$ per hour or $\text{₹ } 15$
per unit (As time taken is 3 hrs. per unit)

4. Total Overhead rate = ₹ 10 per hour
So, **Variable overhead rate per hour** = ₹ 10-₹5 = ₹ 5per hour or ₹ 15 per unit.
5. Labour Rate Variance = (Standard Rate per hour × Actual hours) – (Actual cost)
₹ 50,000 = (20 × Actual Hours – ₹ 6,50,000)
Actual Hours = 35,000 (₹7,00,000/20)
1. **Actual Material cost incurred:**
Material Cost Variance = Standard cost of Standard Quantity for Actual output – Actual cost
Actual cost = Standard cost of Standard Quantity for Actual output - Material Cost Variance
Material Cost Variance = ₹ 50,000(A)
(10,000 units × 2 units × ₹ 15) + ₹50,000
= ₹ 3,00,000 + ₹50,000 = ₹ **3,50,000**
2. **Standard Cost of material consumed:**
Material price Variance = [Standard Price (S.P) – Actual Price (A.P)] × Actual Quantity
Standard Cost of material consumed = (Actual Price (A.P) × Actual Quantity) + Material price Variance
Material price Variance = ₹ 70,000(A)
= 3,50,000 – 70,000 = ₹ **2,80,000**
3. **Labour Efficiency Variance**
[Standard Hours – Actual Hours (W. N -5)] × Standard Rate per hour
(10,000× 3 - 35000) × 20
(600,000 - 7,00,000) = ₹ **1,00,000(A)**
4. **Variable Overhead Efficiency Variance**
Variable Overhead Efficiency Variance

= (Standard hours for Actual Output – Actual Hours) × Standard variable rate per hour (W. N.4)

$$(30,000 - 35,000) \times 5 = \text{₹}25,000 \text{ (A)}$$

5. **Variable Overhead Expenditure Variance:**

Variable Overhead Expenditure Variance= (Budgeted Variable Overheads for Actual Hours) – (Actual Variable Overheads)

$$= (5 \times 35,000 - \text{₹} 2,00,000) = \text{₹} 25,000 \text{ (A)}$$

6. **Fixed Overhead Efficiency Variance:**

Fixed Overhead Efficiency Variance= (Standard hours for Actual output – Actual Hours) × Standard Fixed overhead rate per hour

$$(30,000 - 35,000) \times 5 = \text{₹}25,000 \text{ (A)}$$

7. **Fixed Overhead Capacity Variance:**

Fixed Overhead Capacity Variance= (Actual Hours – Budgeted Hours) × Standard Fixed overhead rate per hour

$$(35,000 - 50,000) \times 5 = \text{₹} 75,000 \text{ (A)}$$

8. **Fixed Overhead Volume Variance:**

Fixed Overhead Volume Variance= (Actual output – Budgeted output) × Standard Fixed overhead rate per unit

$$(10,000 - 50,000/3 \text{ hrs.}) \times 15 = \text{₹} 1,00,000 \text{ (A)}$$

(b) **Budgeted Cost Sheet for the year 2026**

Particulars			Amount ₹
Direct material consumed		12,00,000	
Add: 44% due to increased output		<u>5,28,000</u>	
		17,28,000	
Less: 6% for decline in price		<u>1,03,680</u>	16,24,320
Direct wages (manufacturing)		7,00,000	
Add: 60% increase		<u>4,20,000</u>	<u>11,20,000</u>
Prime cost			<u>27,44,320</u>
Manufactured Overhead:			
Fixed	3,60,000		

Add: 20% increase	<u>72,000</u>		
		4,32,000	
Variable	2,50,000		
Add: 60% increase	<u>3,26,000</u>		
		5,76,000	<u>10,08,000</u>
Cost of production			37,52,320
Add: 1/9 of Cost or 10% on selling price			4,16,924
Selling price			41,69,244

Working Note:

- Production will increase by 60% but efficiency will decline by 10%.
 $160 - 10\% \text{ of } 160 = 144\%$
 So, increase by 44%.
- Variable overhead once will change because of increase in production by 60% (from 2,50,000 to 4,00,000) then with efficiency declining by 10% it shall be 3,60,000 and then again as mentioned in point No. (iii) of this question it will increase by 60% then variable overhead shall be ₹ 3,60,000 × 160% = ₹ 5,76,000.

5. (a) (1) **Profit for the period at the current capacity of 10,000 tests:**

Particulars	Amount (₹)
Fee per test	2,500
Less: Variable costs:	
Direct Materials	1,800
Technician fees	180
Other Variable expenses	45
Contribution per test	475
Total contribution (₹ 475 × 10,000 tests)	47,50,000
Less: Fixed Cost	
(₹ 200 × 10,000)	20,00,000
Profit	27,50,000

(2) **Statement of Profit for expected 15,000 tests, with additional shift:**

Particulars	Amount (₹)	Amount (₹)
Fees (15,000 tests x ₹ 2,500)		3,75,00,000
Less: Variable Costs:		
Direct materials [(90% of 1,800) x 15,000 tests]		2,43,00,000
Technician's fee		
10,000 tests @ ₹ 180	18,00,000	
5,000 tests @ ₹ (150% of 180)	13,50,000	31,50,000
Other Variable expenses (₹ 45 x 15,000 tests)		6,75,000
Contribution		93,75,000
Less: Fixed costs		
(20,00,000 + 5,00,000)		25,00,000
Profit		68,75,000

- (b) (a) Sales: ₹ 5,00,000
- Variable Cost: ₹ 2,50,000
- Contribution: ₹ 2,50,000
- Contribution % = 50%
- Desired Contribution = Fixed Cost + Desired Profit
- = ₹ 25,000 + ₹ 20,000
- = ₹ 45,000
- Therefore, Sales = ₹ 90,000 (45,000/50%)**
- (b) P/V Ratio % = 40%
- Desired Contribution = Fixed Cost + Desired Profit
- = ₹ 40,000 + ₹ 30,000
- = ₹ 70,000
- Therefore, Sales = ₹ 1,75,000 (70,000/40%)**

(c)	Selling Price:	₹ 20
	Variable Cost per unit:	₹ <u>12</u>
	Contribution:	₹ 8
	Contribution %	= 40%
	Desired Profit	= ₹ 2
	Contribution Per unit	= Fixed Cost per unit + Desired Profit per unit
	₹ 8	= X + ₹ 2
	Fixed Cost per unit (X)	= ₹ 6
	Total Fixed Cost	= ₹ 60,000
	No. of units sold	= 10,000 (60,000/6)
	Therefore, Sales	= ₹ 2,00,000 (10,000 × 20)
(d)	Sales:	₹ 4,00,000
	Variable Cost:	₹ <u>2,40,000</u>
	Contribution:	₹ 1,60,000
	Contribution %	= 40%
	Contribution	= Fixed Cost + Desired Profit
	Contribution%	= Fixed Cost% + 15%
	40%	= Fixed Cost% + 15%
	Fixed Cost%	= 40% - 15%
		= 25%
	Fixed cost ₹ 80,000	
	Therefore, Sales	= ₹ 3,20,000 (80,000/25%)

6. (a) **Treatment of by-product Cost in Cost Accounting:**

By-Product cost can be dealt in Cost Accounting in the following ways:

(a) **When they are of small total value:** When the by-products are of small total value, the amount realized from their sale **may be dealt in any one the following two ways:**

1. The sales value of the by-products may be **credited to the Costing**

Profit and Loss Account and no credit be given in the Cost Accounts. The credit to the Costing Profit and Loss Account here is treated either as miscellaneous income or as additional sales revenue.

2. The sale proceeds of the by-product may be **treated as deductions from the total costs**. The sale proceeds in fact should be deducted either from the production cost or from the cost of sales.

(b) **When the by-products are of considerable total value:** Where by-products are of considerable total value, **they may be regarded as joint products rather than as by-products**. To determine exact cost of by-products the costs incurred up to the point of separation, should be apportioned over by-products and joint products by using a logical basis. In this case, the joint costs may be divided over joint products and by-products by using relative market values; physical output method (at the point of split off or ultimate selling prices (if sold)).

(c) **Where they require further processing:** In this case, the net realisable value of the by-product at the split-off point may be arrived at by subtracting the further processing cost from the realisable value of by-products.

If total sales value of by-products at split-off point is small, it may be treated as per the provisions discussed above under (a).

In the contrary case, the amount realised from the sale of by-products will be considerable and thus it may be treated as discussed under (b).

(b) **Type of costs categorised based on its use in Managerial Decision Making:**

- (i) **Pre-determined Cost** - A cost which is computed in advance before production or operations start, on the basis of specification of all the factors affecting cost, is known as a pre-determined cost.
- (ii) **Standard Cost** - A pre-determined cost, which is calculated from managements 'expected standard of efficient operation' and the relevant necessary expenditure. It may be used as a basis for price fixation and for cost control through variance analysis.
- (iii) **Marginal Cost** - The amount at any given volume of output by which aggregate costs increases if the volume of output is increased or decreased by one unit.

- (iv) **Estimated Cost** - Kohler defines estimated cost as “the expected cost of manufacture, or acquisition, often in terms of a unit of product computed on the basis of information available in advance of actual production or purchase”. Estimated costs are prospective costs since they refer to prediction of costs.
- (v) **Differential Cost** - (Incremental and decremental costs). It represents the change (increase or decrease) in total cost (variable as well as fixed) due to change in activity level, technology, process or method of production, etc. For example, if any change is proposed in the existing level or in the existing method of production, the increase or decrease in total cost or in specific elements of cost as a result of this decision will be known as incremental cost or decremental cost.
- (vi) **Imputed Costs** - These costs are notional costs which do not involve any cash outlay. Interest on capital, the payment for which is not actually made, is an example of imputed cost. These costs are similar to opportunity costs.
- (vii) **Capitalized Costs** - These are costs which are initially recorded as assets and subsequently treated as expenses. Example, installation expenses on the erection of a machine are added to the cost of a machine.
- (viii) **Product Costs** - These are the costs which are associated with the purchase and sale of goods (in the case of merchandise inventory). In the production scenario, such costs are associated with the acquisition and conversion of materials and all other manufacturing inputs into finished product for sale. Hence, under marginal costing, variable manufacturing costs and under absorption costing, total manufacturing costs (variable and fixed) constitute inventoriable or product costs.
- (ix) **Opportunity Cost** - This cost refers to the value of sacrifice made or benefit of opportunity foregone in accepting an alternative course of action. For example, a firm financing its expansion plan by withdrawing money from its bank deposits. In such a case the loss of interest on the bank deposit is the opportunity cost for carrying out the expansion plan.
- (x) **Out-of-pocket Cost** - It is that portion of total cost, which involves cash outflow. This cost concept is a short-run concept and is used in decisions relating to fixation of selling price in recession, make or buy, etc. Out-of-pocket costs can be avoided or saved if a particular proposal under consideration is not accepted.

- (xi) **Shut down Costs** - Those costs, which continue to be, incurred even when a plant is temporarily shut-down e.g. rent, rates, depreciation, etc. These costs cannot be eliminated with the closure of the plant. In other words, all fixed costs, which cannot be avoided during the temporary closure of a plant, will be known as shut down costs.
- (xii) **Sunk Costs** - Historical costs incurred in the past are known as sunk costs. They play no role in decision making in the current period. For example, in the case of a decision relating to the replacement of a machine, the written down value of the existing machine is a sunk cost and therefore, not considered.
- (xiii) **Absolute Cost** - These costs refer to the cost of any product, process or unit in its totality. When costs are presented in a statement form, various cost components may be shown in absolute amount or as a percentage of total cost or as per unit cost or all together. Here the costs depicted in absolute amount may be called absolute costs and are base costs on which further analysis and decisions are made.
- (xiv) **Discretionary Costs** – Such costs are not tied to a clear cause and effect relationship between inputs and outputs. They usually arise from periodic decisions regarding the maximum outlay to be incurred. Examples include advertising, public relations, executive training etc.
- (xv) **Period Costs** - These are the costs, which are not assigned to the products but are charged as expenses against the revenue of the period in which they are incurred. All non-manufacturing costs such as general & administrative expenses, selling and distribution expenses are recognised as period costs.
- (xvi) **Engineered Costs** - These are costs that result specifically from a clear cause and effect relationship between inputs and outputs. The relationship is usually personally observable. Examples of inputs are direct material costs, direct labour costs etc. Examples of output are cars, computers etc.
- (xvii) **Explicit Costs** - These costs are also known as out-of-pocket costs and refer to costs involving immediate payment of cash. salaries, wages, postage and telegram, printing and stationery, interest on loan etc. are some examples of explicit costs involving immediate cash payment.
- (xviii) **Implicit Costs** - These costs do not involve any immediate cash payment. They are not recorded in the books of account. They are also known as economic costs.

* Any 5 Points

(c) **Objectives of Budgetary Control System**

1. **Portraying with precision the overall aims of the business** and determining targets of performance for each section or department of the business.
2. **Laying down the responsibilities** of each of the executives and other personnel so that everyone knows what is expected of him and how he will be judged. Budgetary control is one of the few ways in which an objective assessment of executives or department is possible.
3. **Providing a basis for the comparison** of actual performance with the predetermined targets and investigation of deviation, if any, of actual performance and expenses from the budgeted figures. This naturally helps in adopting corrective measures.
4. **Ensuring optimum use of available resources** to maximise profit or production, subject to the limiting factor. Since budgets cannot be properly drawn up without considering all aspects, usually there is good co-ordination when a system of budgetary control operates.
5. **Co-ordinating various activities** of the business, and centralising control and yet enabling management to decentralise responsibility and delegate authority in the overall interest of the business.
6. **Engendering a spirit of careful forethought**, assessment of what is possible and an attempt at it. It leads to dynamism without being reckless. Of course, much depends on the objectives of the firm and the dynamism of its management.
7. **Providing a basis for revision** of current and future policies.
8. **Drawing up long range plans** with a fair measure of accuracy.
9. **Providing a yardstick** against which actual results can be compared.

* Any Four Points

Or

(c) **Practical applications of Marginal costing:**

- (i) **Pricing Policy:** Since marginal cost per unit is constant from period to period, firm decisions on pricing policy can be taken particularly in short term.

- (ii) **Decision Making:** Marginal costing helps the management in taking a number of business decisions like make or buy, discontinuance of a particular product, replacement of machines, etc.
- (iii) **Ascertaining Realistic Profit:** Under the marginal costing technique, the stock of finished goods and work-in-progress are carried on marginal cost basis and the fixed expenses are written off to profit and loss account as period cost. This shows the true profit of the period.
- (iv) **Determination of production level:** Marginal costing helps in the preparation of break-even analysis which shows the effect of increasing or decreasing production activity on the profitability of the company.