Mock Test Paper - Series II: April, 2026

Date of Paper: 8th April, 2026

Time of Paper: 10 A.M. – 1 P.M.

INTERMEDIATE: GROUP – II

PAPER – 4: COST AND MANAGEMENT ACCOUNTING

ANSWERS

Part 1

1. (C) 35%

Working Notes

Standard production for 28 days = 22,400 tonnes

Standard production Per day = 22,400 ÷ 28 = 800 tonnes

For 25 days:

Standard = 800 × 25 = 20,000 tonnes

Actual production = 27,000 tonnes

Excess production = 27,000 − 20,000 = 7,000 tonnes

% Excess Production = $\frac{7,000}{20,000} \times 100 = 35\%$

2. (B) ₹ 84,00,000, ₹ 28,00,000, ₹ 21,00,000 & ₹ 7,00,000 respectively.

General Incentive

Total incentive = 7,000 × 2,000 = ₹ 1,40,00,000

Group	%	Amount (₹)
Direct	60%	84,00,000
Inspection	20%	28,00,000
Maintenance	15%	21,00,000
Supervisory	5%	7,00,000

3. (C) ₹ 16,00,000

Special Bonus (Direct Employees)

115% of standard = 20,000 × 115% = 23,000 tonnes

Eligible production = 27,000 − 23,000 = 4,000 tonnes

Bonus = 4,000 × 400 = ₹ 16,00,000

4. (A) ₹ 4,75,000 & ₹ 1,87,500 respectively

Penalties

Inspection Staff:

Allowed rejection = 3% × 27,000 = 810 tonnes

Excess rejection = 1,000 − 810 = 190 tonnes

Penalty = 190 × 2,500 = ₹4,75,000

Maintenance Staff:

Penalty = 75 × 2,500 = ₹ 1,87,500

5. (D) ₹ 1,49,37,500

Net Aggregate Bonus

Total Incentives = General (1,40,00,000) + Special (16,00,000)

= ₹ 1,56,00,000

Total Penalties = 4,75,000 + 1,87,500 = ₹ 6,62,500

Net Bonus = 1,56,00,000 − 6,62,500 = ₹ 1,49,37,500

6. (A) Total Cost ₹ 47,000; Avg ₹ 1,175

7. (D) Total Cost ₹ 79,000; Avg ₹ 987.5

8. (A) Total Cost ₹ 1,14,000; Avg ₹ 950

9. (C) Total Cost ₹ 1,52,800; Avg ₹ 848.9

Flexible Budget

Level of participants	40	80	120	180
Variable Costs (₹)				
Breakfast @ ₹ 80	3,200	6,400	9,600	14,400
Lunch @ ₹ 200	8,000	16,000	24,000	36,000
Evening Snacks @ ₹ 70	2,800	5,600	8,400	12,600
Training Material Kit @ ₹ 150	6,000	12,000	18,000	27,000
Variable cost @ ₹ 500	20,000	40,000	60,000	90,000

Semi-variable costs (₹)				
Hall rent	8,000	16,000	24,000	28,800
Equipment charges	2,000	4,000	6,000	8,000
Trainer honorarium	2,000	4,000	6,000	8,000
	12,000	24,000	36,000	44,800
Fixed costs (₹)				
Guest speaker fees	10,000	10,000	10,000	10,000
Event coordination charges	5,000	5,000	5,000	5,000
Additional supervision cost	–	–	3,000	3,000
	15,000	15,000	18,000	18,000
Total Cost	47,000	79,000	1,14,000	1,52,800
Average Cost per participant (Total Cost/Number of Participants)	1,175	987.5	950	848.89

10. (B) 180 Participants

Calculation of Break-even Level of Participants

Collection per participant = ₹ 850

Variable cost per participant = ₹ 500

Contribution per participant = ₹ 350

Semi-variable & Fixed Costs at Different Levels

Level of participants	50	100	150	200
Semi-variable costs (₹)	12,000	24,000	36,000	44,800
Fixed costs (₹)	15,000	15,000	18,000	18,000
Total Fixed Cost (₹)	27,000	39,000	54,000	62,800
Break- even students [Fixed cost / Contribution per participant]	77	111	154	180

Conclusion: Break-even level of 180 participants is within the relevant capacity of 200 participants. Break-even level of 77, 111, 154 participants is outside the relevant capacity, hence ignored for decision-making.

Note: Semi-variable costs are taken as fixed cost specifically for the purpose of calculating break even participants.

11. (B) ₹ 8,75,000

$$\text{Cash Break-even Sales Quantity} = \frac{\text{Fixed Costs (excluding dep.)}}{\text{Contribution per unit}}$$

$$\text{20,000 units} = \frac{(₹\ 7,50,000 - ₹\ 2,50,000)}{\text{Contribution per unit}}$$

Contribution per unit = ₹ 5,00,000 /20,000 = ₹ 25

Variable Cost per unit = Selling Price per unit – Contribution per unit

= ₹ 50 - ₹ 25 = ₹ 25

Total Variable cost = 25 x 35,000 = ₹ 8,75,000

12. (A) ₹4,40,040

Labour Rate Variance = ₹ 15,960 (Favourable)

Labour Rate Variance = Actual Hours Paid x (Standard Rate – Actual Rate)

₹ 15,960 = 22,800 hrs x (₹ 20 – Actual Rate)

(15,960/22,800) = 20 – Actual Rate

0.70 = 20 - Actual Rate

Actual Rate = ₹ 19.30 per hour

Actual Wages Paid = Actual Hours Paid x Actual Rate

= 22,800 hrs. x ₹ 19.30

= ₹ 4,40,040

13. (B) ₹ 1,49,000

Total Cost = Sales Revenue−Profit

For A:

Total Cost of A = 80,000−20,000=60,000

For B:

Total Cost of B = 50,000−15,000=35,000

For A:

Joint Cost Allocated to A = 60,000 − (Manufacturing Expenses + Selling Expenses

= 60,000−(10,000+16,000) = 34,000

For B:

Joint Cost Allocated to B = 35,000 − (Manufacturing Expenses + Selling Expenses

= 35,000 − (8,000 + 10,000) = 17,000

Cost of Product Y = Total Joint Cost−Joint Cost Allocated to A and B = 2,00,000 − 51,000 = 1,49,000

14. (A) 2,376 units

$$EBQ = \sqrt{\frac{2DS}{C}}$$

Where, D = Annual demand for the product = 2,000 × 12 = 24,000 units

S = Setting up cost per batch = ₹ 3,000

C = Carrying cost per unit of production = ₹ 24 (storage) + ₹ 1.50 (interest) = ₹ 25.50

Storage cost per year = ₹ 2 × 12 = ₹ 24 per unit per year

Opportunity cost = 18% of ₹ 50 = ₹ 9 per unit per year

Since the average inventory is held for 2 months, the effective interest cost is:

= 9 x (2/12) = ₹ 1.5 per unit per year

$$EBQ = \sqrt{\frac{2 \times 24,000 \times 3,000}{25.50}} = 2,376 \text{ units}$$

15. (A) ₹ 70,000

Amount of under – absorption of production overheads during the year:

Particulars	**Amount (in ₹)**
Total production overheads actually incurred during the year	12,00,000
Less: Written off obsolete stores	1,30,000
Less: Wages being paid for the strike period	75,000
Net production overheads actually incurred (A)	9,95,000
Production overhead absorbed by 18,500 machine hours @ ₹ 50 per hour:(B)	9,25,000
Amount of under absorption of production overheads (A-B)	70,000

Part II – Descriptive Question

1. (a) Budgeted Cost Sheet for the Year 2025 – Alpha Tech Industries Pvt. Ltd.

Particulars	Amount (₹)	Amount (₹)
Direct material consumed	15,00,000	
Add: 27.5% due to increased output	4,12,500	
	19,12,500	
Less: 8% for decline in material price	1,53,000	
Total Material Cost		**17,59,500**
Direct wages (manufacturing)	9,00,000	
Add: 50% increase	4,50,000	
Total Wages		**13,50,000**
Prime cost		**31,09,500**
Manufacturing Overhead:		
Fixed Overhead	4,50,000	
Add: 10% increase	45,000	
Total Fixed Overhead		**4,95,000**
Variable Overhead	3,00,000	
Add: 27.5% due to increased output	82,500	
	3,82,500	
Add: 70% increase as per inflation & scale	2,67,750	
Total Variable Overhead		**6,50,250**
Total Overhead		**11,45,250**
Cost of Production		**42,54,750**
Add: 1/7 of Cost or 12.5% on selling price		6,07,821
Selling Price		**48,62,571**

Working Note:

1. Production will increase by 50%, but efficiency will decline by 15%.

   So, 150 – 15% of 150 = 127.5% of previous output

   Increase = 27.5%

2. Material cost is increased by 27.5% for volume, then reduced by 8% for lower prices.

3. Labour cost increases by 50% directly due to hiring.

4. Variable overhead first increases by 27.5% due to higher production, then further

5. increases by 70% due to inflation and scale, so:

6. ₹ 3,00,000 x 127.5% = ₹ 3,82,500, then ₹ 3,82,500 x 170% = ₹ 6,50,250

7. Profit is 12.5% of selling price → i.e. 1/7 of cost

(b) (i) Statement of Equivalent Production

Particulars	Units	Material		Labour and Overhead	
		(%)	Units	(%)	Units
Production units completed	1,58,000	100	1,58,000	100	1,58,000
Normal Loss: 8% of Input (1,82,000 + 8,000)	15,200	--	--	--	--
Closing WIP	18,000	100	18,000	70	12,600
	1,91,200	--	1,76,000	--	1,70,600
Less: Abnormal Gain	1,200	100	1,200	100	1,200
Total	1,90,000		1,74,800		1,69,400

(ii) Statement of cost

Particulars	Materials (₹)	Labour (₹)	Overhead (₹)
Opening WIP	63,900	10,800	5,400
Input of Materials	7,56,900	-	-
Expenses	-	3,28,000	1,64,000
Total	8,20,800	3,38,800	1,69,400
Less: Sale of Scrap (15,200 x ₹ 8)	1,21,600	-	-
Net cost	6,99,200	3,38,800	1,69,400
Equivalent Units	1,74,800	1,69,400	1,69,400
Cost Per Unit	₹ 4.00	₹ 2.00	₹ 1.00

Total cost per unit = ₹ (4+2+1) = ₹ 7.00

(c) (i) Material Price Variance (MPV):

MPV= (Std Price – Actual Price) x Actual Quantity

Actual Price per Kg = Actual Cost / Actual Qty

= 7,67,000 / 26,000 = ₹ 29.50

MPV = (30 -29.50) x 26,000 = ₹ 13,000 (Fav)

(ii) Material Usage Variance (MUV):

Std qty of Mangoes for Actual Output : Actual output x Std Qty per Unit

Std Qty of Mangoes for Actual Output: 50,000 bottles x 0.5 kg/ bottle

= 25, 000 kg

MUV = (Std Qty – Actual Qty) x Std Price

MUV = (25,000 -26,000) x 30 = ₹ 30,000 (Adv)

(iii) Material Cost Variance (MCV):

MCV = MPV + MUV

MCV = 13,000 +(-30,000) =₹ 17,000 (Adv)

2. (a) Analysis of Cost and Profit:

Budgeted Cost Sheet

Particulars	Amount (₹ 000)
Prime Cost	
Direct Material	360
Direct Labour	640
Total Prime Cost	**1,000**
Overheads	
Variable Factory Overhead	220
Fixed Factory Overhead	260
Administration Overheads	180
Selling Commission	100
Fixed Selling Overheads	40
Total Overheads	**800**
Total Cost	**1,800**
Profit	**200**

Rate of Profit on Cost = 2 / 18 = 1/9

Overhead Absorption Rate = 125% of Direct Wages (800 / 640 × 100)

Break up of New Order:

Particulars	Amount (₹)
Direct Materials	45,000
Direct Labour	75,000
Overheads @ 125% of Direct Wages	93,750
Total Cost (as per company policy)	**2,13,750**
Profit @ 1/9	23,750
Quoted Price	**2,37,500**

The following points emerge:

(i) Factory overheads only are to be recovered on the basis of direct wages.

(ii) The special order is a direct order. Hence commission is not payable.

(iii) The budgeted sales are achieved. Hence all fixed overheads are recovered. Hence, no fixed overheads will be chargeable to the special order.

Calculation of Factory Variable Overhead Rate

Particulars	Amount (₹ 000)
Total Variable Factory Overheads	220
Direct Wages	640
Variable Factory OH Rate (220 / 640 × 100)	**34.375%**

Applying this rate the Cost of the Special Order will be as under:

Particulars	Amount (₹)
Direct Materials	45,000
Direct Labour	75,000
Overheads @ 34.375% of Direct Wages	25,781
Total Relevant Cost	**1,45,781**
Price Offered	1,80,000
Margin	**34,219**

Since the offer price of 1,80,000 provides a positive contribution of 34,219, which is higher than the budgeted profit margin (1/9), the special order should be accepted.

(b) Calculation of Price of Delhi-Lucknow-Ayodhya-Delhi tour package

Particulars	Amount (₹)	Amount (₹)
Diesel Cost (Working Note-2)		6,999.00
Servicing Cost $\left(\frac{₹\ 45,000}{40,000\ kms} \times 1380\ kms.\right)$		1,553.00
Chauffeur's meal cost (six 200 km. completed journey × ₹ 120)		720.00
Other Allocable costs:		
Depreciation $\left(\frac{₹\ 14,50,000}{3,00,000\ kms} \times 1380\ kms.\right)$	6,670.00	
Other set-up and office cost $\left(\frac{₹\ 6,000}{30\ days} \times 4\ days\right)$	800.00	
Chauffeur's salary $\left(\frac{₹\ 18,000}{30\ days} \times 4\ days\right)$	2,400.00	9,870.00
Total Cost		19,142.00
Add: Profit (25% of net takings or 1/3rd of total cost)		6,381.00
Net Takings		25,223.00
Add: GST @5%		1,276.15
Price of the package (inclusive of GST)		**26,799.15**

Working Notes

(1) Total distance of journey

From	To	Distance (in Km.)
Delhi	Lucknow	555
Lucknow	Ayodhya	135
Ayodhya	Delhi	690
Total Distance		1,380

(2) Cost of Diesel

From	To	Distance (in Km.)	Price of diesel per litre (₹)	Total diesel Cost (₹)
I	II	III	IV	V = (III ÷ 18 km) × IV
Delhi	Lucknow	555	89	2,744
Lucknow	Ayodhya	135	92	690

Ayodhya	Delhi	690	93	3,565
			Total cost	6,999

3. (a) Working notes:

1. Computation of time saved (in hours) per month:

(Standard production time for 6,120 units) – (Actual time taken by the workers)

= (6,120 units × 1.975 hours) – (24 days × 8 hours per day × 50 skilled workers)

= (12,087 hours – 9,600 hours)

= 2,487 hours

2. Computation of bonus for time saved under Halsey and Rowan schemes:

Time saved = 2,487 hours

(Refer to working note 1)

Wage rate per hour = ₹ 30

Bonus under Halsey Scheme = ½ × 2,487 hours × ₹ 30

(With 50% bonus) = ₹ 37,305

Bonus under Rowan Scheme = $\frac{\text{Time saved}}{\text{Time allowed}}$ × Time taken × Rate per hour

= $\frac{2,487 \text{ hours}}{12,087 \text{ hours}}$ × 9,600 hours × ₹ 30

= ₹ 59,258.38

(i) Computation of effective rate of earnings under the Halsey and Rowan scheme:

Total earnings (under Halsey scheme) (Refer to working note 2)

= Time wages + Bonus

= (24 days × 8 hours + 50 skilled workers × ₹ 30) + ₹ 37,305

= ₹ 2,88,000 + ₹ 37,305 = ₹ 3,25,305

Total earnings (under Rowan scheme) (Refer to working note 2)

= Time wages + Bonus

= ₹ 2,88,000 + ₹ 59,258.38

= ₹ 3,47,258.38

Effective rate of earnings per hour (under Halsey Plan)

$= \frac{₹3,25,305}{9,600 \text{ hours}} = ₹ 33.89$

Effective rate of earnings per hour (under Rowan Plan)

$= \frac{₹3,47,258.38}{9,600 \text{ hours}} = ₹ 36.17$

(ii) Savings to the ZED Ltd., in terms of direct labour cost per piece: **(₹)**

Direct labour cost (per unit) under time wages system 59.25

(1.975 hours per unit × ₹ 30)

Direct labour cost (per unit) under Halsey Plan $\left(\frac{₹3,25,305}{6,120 \text{ units}}\right)$ 53.15

Direct labour cost (per unit) under Rowan Plan $\left(\frac{₹3,47,258.38}{6,120 \text{ units}}\right)$ 56.74

Saving of direct labour cost under:

Halsey Plan (₹ 59.25 – ₹ 53.15) ₹ 6.10

Rowan Plan (₹ 59.25 – ₹ 56.74) ₹ 2.51

(iii) Advise to ZED Ltd.: (about the selection of the scheme to fulfill assurance)

Halsey scheme brings more savings to the management of ZED Ltd., over the present earnings of ₹ 2,88,000 but the other scheme i.e. Rowan scheme fulfils the promise of 20% increase over the present earnings of ₹ 2,88,000 by paying 20.58% in the form of bonus. Hence Rowan Plan may be adopted.

(b) (i) Statement of Profit as per Financial Records
(for the year ended March 31, 2025)

Particulars	₹	Particulars	₹
To Opening Stock:		By Sales (18,700 units)	26,18,000
Finished Goods	1,31,250	By Closing Stock:	
Work-in-Process	46,500	Finished Goods	82,160
To Raw Materials Consumed	9,60,000	Work-in-Process	59,400
To Direct Labour	6,10,000	By Rent Received	96,000
To Factory Overheads	3,45,000	By Interest Received	27,000
To Goodwill Written Off	1,20,000		
To Administration Overheads	4,10,000		
To Selling & Distribution OH	88,000		
To Interest Paid	96,000		
To Bad Debts	35,000		
To Loss on Obsolete Inventory	42,000		
To Profit / (Loss)	1,190 (Loss)		
Total	**28,82,560**	**Total**	**28,82,560**

Statement of Profit as per Costing Records
(for the year ended March 31, 2025)

Particulars	₹	₹
Sales Revenue (18,700 units) (A)		26,18,000
Cost of Sales:		
Opening stock: Finished Goods (1,050 × 125)	1,31,250	
Add: Cost of Production of 18,270 units (Working Note 1 & 2)	21,97,278	
Less: Closing Stock: 620 units × cost/unit	74,567	
Production Cost of Goods Sold	22,53,961	
Selling & Distribution Overheads (18,700 × 6)	1,12,200	
Cost of Sales (B)	23,66,161	23,66,161
Profit {(A) – (B)}	**2,51,839**	

(ii) Reconciliation Statement

(Reconciling Profit as per Cost Accounts with Profit as per Financial Accounts)

Particulars	₹	₹
Profit as per Cost Accounts		2,51,839
Add: Over absorption of selling and distribution overhead (1,12,200-88,000)	24,200	
Add: Under valuation of closing stock (82,160 – 74,567)	7,593	
Add: Rent Received	96,000	
Add: Interest Received	27,000	1,54,793
Less: Under absorption of administrative overhead (4,10,000 - 3,35,178)	74,822	
Less: Under absorption of factory overhead (3,45,000 – 3,05,000)	40,000	
Less: Goodwill Written Off	1,20,000	
Less: Interest Paid	96,000	
Less: Bad Debts	35,000	
Less: Loss on obsolete inventory	42,000	(4,07,822)
Profit/(Loss) as per Financial Accounts		**(1,190)**

Working Notes

1. Number of Units Produced

Particulars	Units
Sales	18,700
Add: Closing Stock	620
Total	19,320
Less: Opening Stock	1,050
Number of units produced	**18,270**

2. Cost Sheet

Particulars	₹
Raw Materials Consumed	9,60,000
Direct Labour	6,10,000

Prime Cost	**15,70,000**
Factory Overheads (50% of Direct Wages)	3,05,000
Factory Cost	**18,75,000**
Add: Opening Work-in-Process	46,500
Less: Closing Work-in-Process	(59,400)
Factory Cost of Goods Produced	**18,62,100**
Administration Overheads (18% of Factory Cost)	3,35,178
Cost of Production of 18,270 units	21,97,278
Cost per unit	21,97,278/18,270 = ₹ 120.27

4. (a) Working Notes:

1. *Fixed practical capacity cost per machine hour:*

Practical capacity (machine hours)	2,00,000
Practical capacity fixed costs ₹)	15,00,000
Fixed practical capacity cost per machine hour	₹ 7.50
₹ 15,00,000 ÷ 2,00,000 hours)	

2. Budgeted rate per machine hour (using practical capacity):

= Fixed practical capacity cost per machine hour + Budgeted variable cost per machine hour

= ₹ 7.50 + ₹ 5 = ₹ 12.50

(i) Statement showing Power Plant's cost allocation to the Cutting & Welding departments by using single rate method on actual usage of machine hours.

	Rolling Mill Department (₹)	Finishing Department (₹)	Total (₹)
Power plants cost allocation by using actual usage (machine hours) (Refer to Working Note 2)	8,12,500 (65,000 hours × ₹ 12.50)	5,62,500 (45,000 hours × ₹ 12.50)	13,75,000

(ii) Statement showing Power Plant's cost allocation to the Cutting & Welding departments by using dual rate method.

	Rolling Mill Department (₹)	Finishing Department (₹)	Total (₹)
Fixed Cost (Allocated on practical capacity for each department i.e.): (1,10,000 hours : 90,000 hours)	8,25,000 $\left(\frac{₹\ 15,00,000 \times 11}{20}\right)$	6,75,000 $\left(\frac{₹\ 15,00,000 \times 9}{20}\right)$	15,00,000
Variable cost (Based on actual usage of machine hours)	3,25,000 (65,000 hours × ₹ 5)	2,25,000 (45,000 hours × ₹ 5)	5,50,000
Total cost	11,50,000	9,00,000	20,50,000

(iii) Statement showing Power Plant's cost allocation to the Cutting & Welding Departments using dual rate method

	Rolling Mill Department (₹)	*Finishing Department* (₹)	Total (₹)
Fixed Cost Allocation of fixed cost on actual usage basis (Refer to Working Note 1)	4,87,500 (65,000 hours × ₹ 7.50)	3,37,500 (45,000 hours × ₹ 7.50)	8,25,000
Variable cost (Based on actual usage)	3,25,000 (65,000 hours × ₹ 5)	2,25,000 (45,000 hours × ₹ 5)	5,50,000
Total cost	8,12,500	5,62,500	13,75,000

(iv) Comments: Under dual rate method, under (iii) and single rate method under (i), the allocation of fixed cost of practical capacity of plant over each department are based on single rate. The major advantage of this approach is that the user departments are allocated fixed capacity costs only for the capacity used. The unused capacity cost ₹ 6,75,000 ₹ 15,00,000 – ₹ 8,25,000) will not be allocated to the user departments. This highlights the cost of unused capacity.

Under (ii) fixed cost of capacity are allocated to operating departments on the basis of practical capacity, so all fixed costs are allocated and there is no unused capacity identified with the power plant.

(b) The crux of standard costing lies in variance analysis. Standard costing is the technique whereby standard costs are predetermined and subsequently compared with the recorded actual costs. It is a technique of cost ascertainment and cost control. It establishes predetermined estimates of the cost of products and services based on management's standards of efficient operation. It thus lays emphasis on "what the cost should be". These should be costs are when compared with the actual costs. The difference between standard cost and actual cost of actual output is defined as the variance.

The variance in other words in the difference between the actual performance and the standard performance. The calculations of variances are simple. A variance may be favourable or unfavourable. If the actual cost is less than the standard cost, the variance is favourable but if the actual cost is more than the standard cost, the variance will be unfavourable. They are easily expressible and do not provide detailed analysis to enable management of exercise control over them. It is not enough to know the figures of these variances from month to month. We in fact are required to trace their origin and causes of occurrence for taking necessary remedial steps to reduce / eliminate them.

A detailed probe into the variance particularly the controllable variances helps the management to ascertain:

(i) the amount of variance

(ii) the factors or causes of their occurrence

(iii) the responsibility to be laid on executives and departments and

(iv) corrective actions which should be taken to obviate or reduce the variances.

Mere calculation and analysis of variances is of no use. The success of variance analysis depends upon how quickly and effectively the corrective actions can be taken on the analysed variances. In fact variance gives information. The manager needs to act on the information provided for taking corrective action. Information is the means and action taken on it is the end. In other words, the calculation of variances in standard costing is not an end in itself, but a means to an end.

5. (a) (i) Cost Sheet of M/s Nova Pvt. Ltd. for the year 2025.

Normal Capacity: 48,000 units p.a.

Particulars	4 Months 9,600 Units		8 Months 28,800 units	
	Amount (₹)	Cost per unit (₹)	Amount (₹)	Cost per unit (₹)
Direct material	5,28,000		15,84,000	
Less: Scrap	(67,200)		(2,01,600)	
Materials consumed	4,60,800	48	13,82,400	48
Direct Wages	3,36,000	35	9,21,600	32
Prime Cost	**7,96,800**	83	**23,04,000**	80
Factory overheads:				
- Fixed	1,60,000	16.67	3,20,000	11.11
- Variable	1,34,400	14.00	4,03,200	14.00
- Semi variable	50,000	5.21	1,90,000	6.60
Works Cost	**11,41,200**	118.875	**32,17,200**	111.71
Add: Administrative overheads	2,24,000	23.33	4,48,000	15.56
Cost of Production	**13,65,200**	142.21	**36,65,200**	127.26
Selling Overheads	96,000	10.00	2,88,000	10.00
Cost of Sales	**14,61,200**	152.21	**39,53,200**	137.26

Working Notes:

1. Calculation of Costs

Particulars	9,600 units	28,800 units
	Amount (₹)	Amount (₹)
Material	5,28,000 (₹ 55 × 9,600 units)	15,84,000 (₹ 55 × 28,800 units)
Wages	3,36,000 (Max. of ₹ 32 × 9,600 units = ₹ 3,07,200 and ₹ 84,000 × 4 months = ₹ 3,36,000)	9,21,600 (28,800 Units × 32)
Variable Cost	1,34,400 (₹ 14 × 9,600 units)	4,03,200 (₹ 14 × 28,800 units)

Semi-variable Cost	50,000 (₹ 1,50,000 / 12 Months × 4 Months)	1,00,000 (₹ 1,50,000 / 12 Months × 8 Months) + 60,0000(for 20 % increase) + 30,000 (for 10% increase)
Selling Overhead	96,000 (₹ 10 × 9,600 units)	2,88,000 (₹ 10 × 28,800 units)

Notes: Alternatively scrap of raw material can also be reduced from Work cost.

(ii) Calculation of Selling price for eight months period

Particulars	Amount (₹)
Total Cost of sales ₹ (14,61,200+39,53,200)	54,14,400
Add: Desired profit	15,60,000
Total sales value	69,74,400
Less: Sales value realised in first four months ₹ 180 × 9,600 units)	(17,28,000)
Sales Value to be realised in next eight months	**52,46,400**
No. of units to be sold in next eight months	28,800
Selling price per unit (₹ 52,46,400 ÷ 28,800 units)	**182.17**

(b) (i) Cost Driver Rates for Each Overhead Activity:

Activity	Overhead Cost (A)	Cost Driver Level (B)	Cost Driver Rate (in ₹) (A)/(B)
Material Handing	60,000	30 + 20 + = 50	1,200 per purchase order
Production Setup	1,44,000	80 + 100 =180	800 per machine setup

(ii) Allocation of Overheads Using ABC:

Component	Material Handing (in ₹) (A)	Production Setup (in ₹) (B)	Total overhead Cost (in ₹) (A) + (B)
Alpha	30 x 1,200 = 36,000	80 x 800 = 64,000	**1,00,000**
Beta	20 x 1,200 = 24,000	100 x 800 = 80,000	**1,04,000**

Computation of Total Cost and Cost per Unit using ABC:

Component	Direct Material Cost (₹)	Direct Labour Cost (₹)	Total Overhead Cost (₹)	Total Cost (₹)	Cost per Unit (₹)
Alpha	8,000 × 25 = 2,00,000	8,000 × 18 = 1,44,000	1,00,000	4,44,000	4,44,000 / 8,000 = **55.50**
Beta	12,000 × 15 = 1,80,000	12,000 × 12 = 1,44,000	1,04,000	4,28,000	4,28,000 / 12,000 = **35.67**

(iii) Outsourcing Analysis for Production Setup (Alpha):

Current production setup cost for Alpha = ₹ 64,000

New Outsourcing Cost = ₹ 600 × 80 setups = ₹ 48,000

Cost Savings = ₹ 64,000 - ₹ 48,000 = ₹ 16,000 or (₹ 800 – ₹ 600) x 80 setups

Outsourcing the Production Setup for Alpha would be financially advantageous for the company as it reduces costs by ₹ 16,000.

6. (a)

Service industry	Cost Unit
Oil	Cost per barrel, Cost per gallon/litre
Professional Services	Per service/project, per hour
Education	Per course, per student, per batch, per lecture etc.
Brick-making	Per brick, per thousand bricks
Engineering	Per project, per hour, per job, per contract
Electricity	per kilowatt-hour (kWh)
Hotel/Catering	Guest Days or Room Days, Per item, per meal etc.
Coal Mining	Per ton, per quintal
Brewing	per gallon/litre, per barrel
Hospital	Patient per day, room per day or per bed, per operation etc.

(b) Unit costing is that method of costing where the output produced is identical and each unit of output requires identical cost. Under this method costs, are collected and analysed element wise and then total cost per unit is ascertained by dividing the total cost with the number of units produced.

Such a method of costing is used in the industries like paper, cement, steel works, mining, breweries etc.

Batch Costing: Batch Costing is a type of specific order costing where articles are manufactured in predetermined lots, known as batch. Cost per unit in a batch is ascertained by dividing the total cost of a batch by the number of units produced in that batch.

Such a method of costing is used in the case of pharmaceutical or drug industries, readymade garment industries, industries, manufacturing electronic parts of T.V. radio sets etc.

Costing Procedure in Batch Costing: To facilitate convenient cost determination, one number is allotted for each batch. Material cost for the batch is arrived at on the basis of material requisitions for the batch and labour cost is arrived at by multiplying the time spent on the batch by direct workers as ascertained from time cards or job tickets. Overheads are absorbed on some suitable basis like machine hours, direct labour hours etc.

(c) The time during which no production is carried-out because the worker remains idle but are paid. In other words, it is the difference between the time paid and the time booked. Idle time can be normal or abnormal.

Situation	Idle Time	Treatment
The setting up time for the machine in case of Direct Worker Mr. A	Normal idle time	It is treated as a part of cost of production. It is to be considered while setting of standard hours or standard rate.
Normal rest time, break time for lunch in case of Indirect Worker Mr. B	Normal idle time	It is to be considered for the computation of overhead rate.
Time lost due to break-down of machines in case of Worker Mr. C	Abnormal idle time	It is to be shown as a separate item in the Costing Profit and Loss Account.

OR

(c) There are two types of budgetary control system based on timing of action:

Feedback Control: The feedback system of budgetary control, the actual results for the budgeted period are collected and compared with the budgeted figures. The exercise of variance identification is done after the completion of the budget

period. The variances are reported and based on the report corrective actions are taken, responsibility is fixed and based on experience, modification in future targets is implemented. As the name suggests, it is an Ex-post Corrective control system of budget.

This system of budgetary control is common in organistions where Management Information System (MIS) is not so robust and where data is obtained only after the finalisation of books of account. Though this type of control system is less expensive to maintain but has limitations.

Feedforward Control: This the opposite of feedback control system of budgetary control. It is Ex-Ante Preventive control mechanism of budgetary control. The budgets are set at the inception of the budgeted period and the actual results are continuously monitored and compared. The targets are kept realistic as far as possible and the targets are reviewed and reset if necessary.

This budgetary control system requires a robust MIS supported by integrated ERP system enabling an entity to get data as and when desired basis. This system is very expensive and beneficial for the organisations where the business environment is dynamic and information has important role in getting edge in competition and todays data warfare.