

(GI-7, VI-VDI-SI-3)

DATE: 31.01.2022

MAXIMUM MARKS: 100

TIMING: 3¼ Hours

PAPER : COSTING

Answer to questions are to be given only in English except in the case of candidates who have opted for Hindi Medium. If a candidate who has not opted for Hindi Medium. His/her answer in Hindi will not be valued.

Question No. 1 is compulsory.

Candidates are also required to answer any Four questions from the remaining Five Questions.

In case, any candidate answers extra question(s)/sub-question(s) over and above the required number, then only the requisite number of questions first answered in the answer book shall be valued and subsequent extra question(s) answered shall be ignored.

Wherever necessary, suitable assumptions may be made and disclosed by way of note.

Answer 1:

(a) Working Notes:

(i) Computation of Annual consumption & Annual Demand for raw material 'D':

Sales forecast of the product 'X'	20,000 units
Less: Opening stock of 'X'	1,800 units
Fresh units of 'X' to be produced	18,200 units
Raw material required to produce 18,200 units of 'X' (18,200 units × 4 kg.)	72,800 kg.
Less: Opening Stock of 'D'	2,000 kg.
Annual demand for raw material 'D'	{1/2 M} 70,800 kg.

(ii) Computation of Economic Order Quantity (EOQ):

$$EOQ = \sqrt{\frac{2 \times \text{Annual demand of 'D'} \times \text{Ordering cost}}{\text{Carrying cost per unit per annum}}}$$

$$= \sqrt{\frac{2 \times 70,800 \text{ kg.} \times ₹ 1,340}{₹ 250 \times 14\%}} = \sqrt{\frac{2 \times 70,800 \text{ kg.} \times ₹ 1,340}{₹ 35}} = 2,328 \text{ kg. } \{1/2 M\}$$

(iii) Re- Order level:

$$= (\text{Maximum consumption per day} \times \text{Maximum lead time})$$

$$= \left\{ \left(\frac{\text{Annual Consumption of 'D'}}{300 \text{ days}} + 40 \text{ kg.} \right) \times 8 \text{ days} \right\}$$

$$= \left\{ \left(\frac{70,800 \text{ kg.}}{300 \text{ days}} + 40 \text{ kg.} \right) \times 8 \text{ days} \right\} = 2,208 \text{ kg. } \{1/2 M\}$$

(iv) Minimum consumption per day of raw material 'D':

$$\text{Average Consumption per day} = 236 \text{ Kg.}$$

$$\text{Hence, Maximum Consumption per day} = 236 \text{ kg.} + 40 \text{ kg.} = 276 \text{ kg.}$$

So Minimum consumption per day will be:

$$\text{Average Consumption} = \frac{\text{Min. consumption} + \text{Max. consumption}}{2}$$

$$\text{Or, } 236 \text{ kg.} = \frac{\text{Min. consumption} + 276 \text{ kg.}}{2}$$

$$\text{Or, Min. consumption} = 472 \text{ kg} - 276 \text{ kg.} = 196 \text{ kg.}$$

$$\text{Or, Min. consumption} = 472 \text{ kg} - 276 \text{ kg.} = 196 \text{ kg. } \{1/2 M\}$$

- (a) **Re-order Quantity:**
= EOQ – 400 kg. = 2,328 kg. – 400 kg. = **1,928 kg. }**{1/2 M}
- (b) **Maximum Stock level:**
= Re-order level + Re-order Quantity – (Min. consumption per day × Min. lead time)
= 2,208 kg. + 1,928 kg. – (196 kg. × 4 days) = 4,136 kg. – 784 kg. = **3,352 kg. }**{1/2 M}
- (c) **Minimum Stock level:**
= Re-order level – (Average consumption per day × Average lead time)
= 2,208 kg. – (236 kg. × 6 days) = **792 kg. }**{1/2 M}
- (d) **Impact on the profitability of the company by not ordering the EOQ.**

		When purchasing the ROQ	When purchasing the EOQ
I	Order quantity	1,928 kg.	2,328 kg.
II	No. of orders a year	$\frac{70,800 \text{ kg.}}{1,928 \text{ kg.}} = 36.72$ or 37 orders	$\frac{70,800 \text{ kg.}}{2,328 \text{ kg.}} = 30.41$ or 31 orders
III	Ordering Cost	37 orders × Rs. 1,340 = Rs. 49,580	31 orders × Rs. 1,340 = Rs. 41,540
IV	Average Inventory	$\frac{1,928 \text{ kg.}}{2} = 964 \text{ kg.}$	$\frac{2,328 \text{ kg.}}{2} = 1,164 \text{ kg.}$
V	Carrying Cost	964 kg. × Rs. 35 = Rs. 33,740	1,164 kg. × Rs. 35 = Rs. 40,740
VI	Total Cost	Rs. 83,320 } {1/2 M}	Rs. 82,280 } {1/2 M}

Extra Cost incurred due to not ordering EOQ = Rs. 83,320 - Rs. 82,280 = **Rs. 1,040 }**{1/2 M}

Answer:

- (b) (i) **Fixed cost for the year**
Total Sales (43,200 units × Rs. 150 per unit) = Rs. 64,80,000
Break Even Sales = Rs. 64,80,000 × 25% = Rs. 16,20,000
Fixed cost = Break Even Sales × P/V ratio
= Rs. 16,20,000 × 20% = **Rs. 3,24,000**
- (ii) **Profit earned for the year**
Profit = (Total Sales × P/V ratio) - Fixed cost
= (Rs. 64,80,000 × 20%) - Rs. 3,24,000
= **Rs. 9,72,000**
- (iii) **Margin of Safety in units**
Margin of safety (units) = $\frac{\text{Pr ofit}}{\text{Cont . per unit}}$
= $\frac{\text{Rs . 9,72,000}}{\text{Rs . 30}} = 32,400 \text{ units}$
- (iv) **No of units to be sold to earn a profit of Rs. 12,00,000**
Desired Sales = $\frac{\text{Fixed Cost} + \text{Desired Pr ofit}}{\text{Cont . per unit}}$
= $\frac{\text{Rs . 3,24,000} + \text{Rs . 12,00,000}}{\text{Rs . 30}}$
= 50,800 units

(Each point 1.25 M)

Answer:

- (c) (a) Variable Cost per Unit = $\frac{\text{Change in Semi - variable cost under two production level}}{\text{Change in production quantity in two levels}}$
= $\frac{\text{Rs. 3,10,000} - \text{Rs. 2,80,000}}{42,000 \text{ units} - 36,000 \text{ units}}$
= **Rs. 5 per units }**{2.5 M}

(b) Total Fixed Cost = Semi Variable Cost for 36,000 units – Variable cost for 36,000 units
 = Rs. 2,80,000 – (36,000 units × Rs. 5)
 = **Rs. 1,00,000 } (2.5 M)**

Answer:

- (d) (a) Rated capacity 36.5 tonnes
 (Refers to the capacity of a machine or a plant as indicated by its manufacturer)
- (b) Practical capacity 30.0 tonnes
 [Defined as actually utilised capacity of a plant i.e. $\frac{36.5 \text{ tonnes}}{365 \text{ days}} \times (365 - 65) \text{ days}$]
- (c) Normal capacity 25.0 tonnes
 (It is the capacity of a plant utilized based on sales expectancy)
- (d) Actual capacity 25.2 tonnes
 (Refers to the capacity actually achieved)

(Each point 1.25 M)

Answer 2:

- (a) (i) Statement of Operating income and Operating income as a percentage of revenues for each product line

(When support costs are allocated to product lines on the basis of cost of goods sold of each product)

	Soft Drinks (Rs.)	Fresh Produce (Rs.)	Packaged Foods (Rs.)	Total (Rs.)
Revenues: (A)	39,67,500	1,05,03,000	60,49,500	2,05,20,000
Cost of Goods sold (COGS): (B)	30,00,000	75,00,000	45,00,000	1,50,00,000
Support cost (30% of COGS): (C) (Refer working notes)	9,00,000	22,50,000	13,50,000	45,00,000
Total cost: (D) = {(B) + (C)}	39,00,000	97,50,000	58,50,000	1,95,00,000
Operating income: E= {(A)-(D)}	67,500	7,53,000	1,99,500	10,20,000
Operating income as a percentage of revenues: (E/A) × 100	1.70%	7.17%	3.30%	4.97%

(Each bold 1/8 M)

Working notes:

1. **Total support cost:**

	(Rs.)
Bottles returns	60,000
Ordering	7,80,000
Delivery	12,60,000
Shelf stocking	8,64,000
Customer support	15,36,000
Total support cost	45,00,000

(Each bold 1/8 M)

2. **Percentage of support cost to cost of goods sold (COGS):**

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

$$= \frac{\text{Rs. 45,00,000}}{\text{Rs. 1,50,00,000}} \times 100 = 30\%$$

(30% = 3/4 M)

3. **Cost for each activity cost driver:**

Activity (1)	Total cost (Rs.) (2)	Cost allocation base (3)	Cost driver rate (4)=[(2)÷(3)]
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Ordering	7,80,000	1,560 purchase orders	Rs. 500 per purchase order
Delivery	12,60,000	3,150 deliveries	Rs. 400 per delivery
Shelf-stocking	8,64,000	8,640 hours	Rs. 100 per stocking hour
Customer support	15,36,000	15,36,000 items sold	Rs. 1 per item sold

(Each bold 1/8 M)

(ii) Statement of Operating income and Operating income as a percentage of revenues for each product line

(When support costs are allocated to product lines using an activity- based costing system)

	Soft drinks (Rs.)	Fresh Produce (Rs.)	Packaged Food (Rs.)	Total (Rs.)
Revenues: (A)	39,67,500	1,05,03,000	60,49,500	2,05,20,000
Cost & Goods sold	30,00,000	75,00,000	45,00,000	1,50,00,000
Bottle return costs	60,000	0	0	60,000
Ordering cost* (360:840:360)	1,80,000	4,20,000	1,80,000	7,80,000
Delivery cost* (300:2190:660)	1,20,000	8,76,000	2,64,000	12,60,000
Shelf stocking cost* (540:5400:2700)	54,000	5,40,000	2,70,000	8,64,000
Customer Support cost* (1,26,000:11,04,000:3,06,000)	1,26,000	11,04,000	3,06,000	15,36,000
Total cost: (B)	35,40,000	1,04,40,000	55,20,000	1,95,00,000
Operating income C: {(A)- (B)}	4,27,500	63,000	5,29,500	10,20,000
Operating income as a % of revenues	10.78%	0.60%	8.75%	4.97%

* Refer to working note 3

(Each bold 1/8 M)

(b) A shop floor supervisor of a small factory presented the following cost for Job No. 303, to determine the selling price.

	Per unit (Rs.)
Materials	70
Direct wages 18 hours @ Rs. 2.50 (Deptt. X 8 hours; Deptt. Y 6 hours; Deptt. Z 4 hrs)	45
Chargeable expenses	5
	120
Add : 33-1/3 % for expenses cost	40
	160

**Analysis of the Profit/Loss Account
(For the year 20X2)**

		(Rs.)		(Rs.)
Materials used		1,50,000	Sales less returns	2,50,000
Direct wages :				
Deptt. X	10,000			
Deptt. Y	12,000			
Deptt. Z	8,000	30,000		
Special stores items		4,000		
Overheads :				
Deptt. X	5,000			
Deptt. Y	9,000			
Deptt. Z	2,000	16,000		
Works cost		2,00,000		
Gross profit c/d		50,000		
		2,50,000		2,50,000

Selling expenses		20,000	Gross profit b/d	50,000
Net profit		30,000		
		50,000		50,000

It is also noted that average hourly rates for the three Departments X, Y and Z are similar.

You are required to :

- (i) Draw up a job cost sheet.
- (ii) Calculate the entire revised cost using 20X2 actual figures as basis.
- (iii) Add 20% to total cost to determine selling price.

Answer:

(b)

Job Cost Sheet

Customer Details _____
Date of commencement _____

Job No. _____
Date of completion _____

Particulars	Amount (Rs.)
Direct materials	70
Direct wages:	
Deptt. X Rs. 2.50 × 8 hrs. = Rs. 20.00	
Deptt. Y Rs. 2.50 × 6 hrs. = Rs. 15.00	
Deptt. Z Rs. 2.50 × 4 hrs. = Rs. 10.00	45
Chargeable expenses	5
Prime cost	120
Overheads:	
Deptt. X = $\frac{Rs. 5,000}{Rs. 10,000} \times 100 = 50\%$ of Rs. 20 = Rs. 10.00	
Deptt. Y = $\frac{Rs. 9,000}{Rs. 12,000} \times 100 = 75\%$ of Rs. 15 = Rs. 11.25	
Deptt. Z = $\frac{Rs. 2,000}{Rs. 8,000} \times 100 = 25\%$ of Rs. 10 = Rs. <u>2.50</u>	23.75
Works cost	143.75
Selling expenses = $\frac{Rs. 20,000}{Rs. 2,00,000} \times 100 = 10\%$ of work cost	14.38
Total cost	158.13
Profit (20% of total cost)	31.63
Selling price	189.76

(Each bold 1M)

Answer 3:

(a)

Statement of Cost for the month of March, 2021 (2,30,000 = 1M) (Rest Bold = 1.8M)

Particulars	Amount (Rs.)	Amount (Rs.)
(i) Cost of Material Consumed:		
Raw materials purchased (Rs. 2,00,000 – Rs. 40,000)	1,60,000	
Carriage inwards	20,000	
Add: Opening stock of raw materials	80,000	
Less: Closing stock of raw materials	(30,000)	2,30,000
Direct Wages		1,20,000
Direct expenses:		
Cost of special drawing	30,000	
Hire charges paid for Plant	24,000	54,000
(ii) Prime Cost		4,04,000
Carriage on return	6,000	

Store overheads (10% of material consumed)	23,000	
Factory overheads (20% of Prime cost)	80,800	
Additional expenditure for rectification of defective products (refer working note)	2,160	1,11,960
Gross factory cost		5,15,960
Add: Opening value of W-I-P		50,000
Less: Closing value of W-I-P		(24,000)
(iii) Works/ Factory Cost		5,41,960
Less: Realisable value on sale of scrap		(5,000)
(iv) Cost of Production		5,36,960
Add: Opening stock of finished goods		-
Less: Closing stock of finished goods		-
Cost of Goods Sold		5,36,960
Administrative overheads:		
Maintenance of office building	2,000	
Salary paid to Office staff	25,000	
Legal Charges	2,500	29,500
Selling overheads:		
Expenses for participation in Industrial exhibition	8,000	8,000
Distribution overheads:		
Depreciation on delivery van	6,000	
Warehousing charges	1,500	7,500
(v) Cost of Sales		5,81,960

Alternative Solution**(considering Hire charges paid for Plant as indirect expenses)****Statement of Cost for the month of March, 2021**

Particulars	Amount (Rs.)	Amount (Rs.)
Cost of Material Consumed:		
Raw materials purchased (Rs. 2,00,000 – Rs. 40,000)	1,60,000	
Carriage inwards	20,000	
Add: Opening stock of raw materials	80,000	
Less: Closing stock of raw materials	(30,000)	2,30,000
Direct Wages		1,20,000
Direct expenses:		
Cost of special drawing	30,000	30,000
Prime Cost		3,80,000
Hire charges paid for Plant	24,000	
Carriage on return	6,000	
Store overheads (10% of material consumed)	23,000	
Factory overheads (20% of Prime cost)	76,000	
Additional expenditure for rectification of defective products (refer working note)	2,160	1,31,160
Gross factory cost		5,11,160
Add: Opening value of W-I-P		50,000
Less: Closing value of W-I-P		(24,000)
Works/ Factory Cost		5,37,160
Less: Realisable value on sale of scrap		(5,000)
Cost of Production		5,32,160
Add: Opening stock of finished goods		-
Less: Closing stock of finished goods		-
Cost of Goods Sold		5,32,160
Administrative overheads:		
Maintenance of office building	2,000	

Salary paid to Office staff	25,000	
Legal Charges	2,500	29,500
Selling overheads:		
Expenses for participation in Industrial exhibition	8,000	8,000
Distribution overheads:		
Depreciation on delivery van	6,000	
Warehousing charges	1,500	7,500
Cost of Sales		5,77,160

Working Notes:

- Number of Rectified units**
 Total Output 8,000 units

 Less: Rejected 10% 800 units
 Finished product 7,200 units
Rectified units (10% of finished product) 720 units
- Proportionate additional expenditure on 720 units**
 = 20% of proportionate direct wages
 = 0.20 x (Rs. 1,20,000/8,000) x 720
 = Rs. 2,160

Answer:

(b)

Production Budget of Product Minimax and Heavyhigh (in units)

	April		May		June		Total	
	MM	HH	MM	HH	MM	HH	MM	HH
Sales	8,000	6,000	10,000	8,000	12,000	9,000	30,000	23,000
Add: Closing Stock (25% of next month's sale)	2,500	2,000	3,000	2,250	4,000	3,500	9,500	7,750
Less: Opening Stock	2,000*	1,500*	2,500	2,000	3,000	2,250	7,500	5,750
Production units	8,500	6,500	10,500	8,250	13,000	10,250	32,000	25,000

* Opening stock of April is the closing stock of March, which is as per company's policy 25% of next month's sale.

(Each bold 1/4 M)

Production Cost Budget

Element of cost	Rate (Rs.)		Amount (Rs.)	
	MM (32,000 units)	HH (25,000 units)	MM	HH
Direct Material	220	280	70,40,000	70,00,000
Direct Labour	130	120	41,60,000	30,00,000
Manufacturing Overhead (4,00,000 ÷ 1,80,000 × 32,000)			71,111	
(5,00,000 ÷ 1,20,000 × 25,000)				1,04,167
			1,12,71,111	1,01,04,167

(Each bold 1/4 M)

Answer 4:

- (a)
- Material Usage Variance = Std. Price (Std. Quantity – Actual Quantity)
 = Rs. 90 (9,000 kg. – 8,900 kg.)
 = Rs. 9,000 (Favourable)
 - Material Price Variance = Actual Quantity (Std. Price – Actual Price)
 = 8,900 kg. (Rs. 90 – Rs. 92) = Rs. 17,800 (Adverse)
 - Material Cost Variance = Std. Material Cost – Actual Material Cost
 = (SQ × SP) – (AQ × AP)
 = (9,000 kg. × Rs. 90) – (8,900 kg. × Rs. 92)
 = Rs. 8,10,000 – Rs. 8,18,800

- = Rs. 8,800 (Adverse)
- (iv) Labour Efficiency Variance = Std. Rate (Std. Hours – Actual Hours)
 = Rs. 80 ($\frac{9,000}{10} \times 8 \text{ hours} - 7,000 \text{ hrs.}$)
 = Rs. 80 (7,200 hrs. – 7,000 hrs.)
 = Rs. 16,000 (Favourable)
- (v) Labour Rate Variance = Actual Hours (Std. Rate – Actual Rate)
 = 7,000 hrs. (Rs. 80 – Rs. 84)
 = Rs. 28,000 (Adverse)
- (vi) Labour Cost Variance = Std. Labour Cost – Actual Labour Cost
 = (SH × SR) – (AH × AR)
 = (7,200 hrs. × Rs. 80) – (7,000 hrs. × Rs. 84)
 = Rs. 5,76,000 – Rs. 5,88,000
 = Rs. 12,000 (Adverse)
- (vii) Variable Cost Variance = Std. Variable Cost – Actual Variable Cost
 = (7,200 hrs. × Rs. 20) – Rs. 1,40,000
 = Rs. 4,000 (Adverse)
- (viii) Fixed Overhead Cost Variance = Absorbed Fixed Overhead – Actual Fixed Overhead
 = $\frac{250}{10 \text{ kgs}} \times 9,000\text{kgs.} - \text{Rs. } 2,60,000$
 = Rs. 2,25,000 – Rs. 2,60,000 = Rs. 35,000 (Adverse)

(Each point = 1.25 M)

Answer:

(b) Working Notes:

1. Total Distance (in km.) covered per month

Bus route	Km. per trip	Trips per day	Days per month	Km. per month
Delhi to Hisar	160	2	9	2,880
Delhi to Aligarh	160	2	12	3,840
Delhi to Alwar	170	2	6	2,040
Total				8,760

(Bold 3/4 M)

2. Passenger- km. per month

	Total seats available per month (at 100% capacity)	Capacity utilised		Km. per trip	Passenger- Km. per month
		(%)	Seats		
Delhi to Hisar & Back	900 (50 seats × 2 trips × 9 days)	90	810	160	1,29,600 (810 seats × 160 km.)
Delhi to Aligarh & Back	1,200 (50 seats × 2 trips × 12 days)	95	1,140	160	1,82,400 (1,140 seats × 160 km.)
Delhi to Alwar & Back	600 (50 seats × 2 trips × 6 days)	100	600	170	1,02,000 (600 seats × 170 km.)
Total					4,14,000

(Bold 3/4 M)

Monthly Operating Cost Statement

Particulars	(Rs.)	(Rs.)
(i) Running Costs		
Diesel {(8,760 km ÷ 5 km) × Rs. 90}	1,57,680.00	
Lubricant oil {(8,760 km ÷ 100) × Rs. 30}	2,628.00	1,60,308.00

(ii) Maintenance Costs		
Repairs & Maintenance		5,000.00
(iii) Standing charges		
Salary to driver	30,000.00	
Salary to conductor	26,000.00	
Salary of part-time accountant	7,000.00	
Insurance (Rs. 6,000 ÷ 12)	500.00	
Road tax (Rs. 21,912 ÷ 12)	1,826.00	
Permit fee	500.00	
Depreciation {(Rs. 15,00,000 × 30%) ÷ 12}	37,500.00	1,03,326.00
Total costs per month before Passenger Tax (i)+(ii)+(iii)		2,68,634.00
Passenger Tax*		1,07,453.60
Total Cost		3,76,087.60
Add: Profit*		1,61,180.40
Total takings per month		5,37,268.00

*Let total takings be X then, (Each bold 1/4 M)
 $X = \text{Total costs per month before passenger tax} + 0.2 X (\text{passenger tax}) + 0.3 X (\text{profit})$
 $X = \text{Rs. } 2,68,634 + 0.2 X + 0.3 X$
 $0.5 X = \text{Rs. } 2,68,634 \text{ or, } X = \text{Rs. } 5,37,268$
 Passenger Tax = 20% of Rs. 5,37,268 = Rs. 1,07,453.60
 Profit = 30% of Rs. 5,37,268 = Rs. 1,61,180.40

Calculation of Rate per passenger km. and fares to be charged for different routes

$$\begin{aligned} \text{Rate per Passenger-Km.} &= \frac{\text{Total takings per month}}{\text{Total Passenger - Km. per month}} \\ &= \frac{\text{Rs. } 5,37,268}{\text{Rs. } 4,14,000 \text{ Passenger-Km.}} = \text{Rs. } 1.30 \text{ (approx.) } \{2 M\} \end{aligned}$$

Bus fare to be charged per passenger:

Delhi to Hisar	=	Rs. 1.30 x 160 km	=	Rs. 208.00
Delhi to Aligarh	=	Rs. 1.30 x 160 km	=	Rs. 208.00
Delhi to Alwar	=	Rs. 1.30 x 170 km	=	Rs. 221.00

(Each bold ¼ M)

Answer 5:

(a) Statement of Cost

	First three months (Rs.)	Remaining nine months (Rs.)	Total (Rs.)
	37,500 units	1,68,750 units	2,06,250 units
Direct material	18,75,000	84,37,500	1,03,12,500
Direct employee cost	6,00,000	27,00,000	33,00,000
Indirect - variable expenses	3,75,000	16,87,500	20,62,500
Indirect - fixed expenses	8,12,500	24,37,500	32,50,000
Indirect - semi-variable expenses			
- For first three months @ Rs. 40,000 p.m.	1,20,000		1,20,000
- For remaining nine months @ Rs. 70,000* p.m.		6,30,000	6,30,000
Total cost	37,82,500	1,58,92,500	1,96,75,000
Desired profit	-	-	10,00,000
Sales value	-	-	2,06,75,000
Average selling price per unit			100.24

* Rs. 40,000 for 50% capacity + Rs. 15,000 for 20% increase in capacity + Rs. 15,000 for 5% increase in capacity (because cost is increased for every 20% increase in capacity or part thereof)
 (Each bold 1/2 M)

Answer:

(b)

(i) **Process- A Account**

Particulars	Units	Amount (Rs.)	Particulars	Units	Amount (Rs.)
To Input	40,000	3,60,000	By Normal wastage (2,000 units × Rs. 15)	2,000	30,000
To Material	---	2,42,000	By Abnormal loss A/c (1,000 units × Rs. 27)	1,000	27,000
To Direct wages	---	2,58,000	By Process- B (29,600 units × Rs. 27)	29,600	7,99,200
To Manufacturing Exp.	---	1,96,000	By Profit & Loss A/c (7,400 units × Rs. 27)	7,400	1,99,800
	40,000	10,56,000		40,000	10,56,000

(Each bold 1/5 M)

$$\text{Cost per unit} = \frac{\text{₹ } 10,56,000 - \text{₹ } 30,000}{40,000 \text{ units} - 2,000 \text{ units}} = \text{₹ } 27 \text{ per unit}$$

Normal wastage = 40,000 units × 5% = 2,000 units
 Abnormal loss = 40,000 units – (37,000 units + 2,000 units) = 1,000 units
 Transfer to Process- B = 37,000 units × 80% = 29,600 units
 Sale = 37,000 units × 20% = 7,400 units

Process- B Account

Particulars	Units	Amount (Rs.)	Particulars	Units	Amount (Rs.)
To Process- A A/c	29,600	7,99,200	By Normal wastage (2,960 units × Rs. 20)	2,960	59,200
To Material	---	2,25,000	By Profit & Loss A/c (27,000 units × Rs. 48)	27,000	12,96,000
To Direct Wages	---	1,90,000			
To Manufacturing Exp.	---	1,23,720			
To Abnormal Gain A/c (360 units × Rs. 48)	360	17,280			
	29,960	13,55,200		29,960	13,55,200

(Each bold 1/5 M)

$$\text{Cost per unit} = \frac{\text{₹ } 13,37,920 - \text{₹ } 59,200}{29,600 \text{ units} - 2,960 \text{ units}} = \text{₹ } 48 \text{ per unit}$$

Normal wastage = 29,600 units × 10% = 2,960 units
 Abnormal gain = (27,000 units + 2,960 units) – 29,600 units = 360 units

(ii) **Profit & Loss Account**

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
To Process- A A/c	1,99,800	By Sales:	
To Process- B A/c	12,96,000	- Process-A (7,400 units × Rs. 37)	2,73,800
To Abnormal loss A/c	12,000	- Process- B (27,000 units × Rs. 61)	16,47,000
To Indirect Expenses	4,48,080	By Abnormal gain	10,080
		By Net loss	25,000
	19,55,880		19,55,880

(Each bold 1/5 M)

Working Notes:

Normal wastage (Loss) Account

Particulars	Units	Amount (Rs.)	Particulars	Units	Amount (Rs.)
To Process- A A/c	2,000	30,000	By Abnormal Gain A/c (360 units x Rs. 20)	360	7,200
To Process- B A/c	2,960	59,200	By Bank (Sales)	4,600	82,000
	4,960	89,200		4,960	89,200

(Each bold 1/5 M)

Abnormal Loss Account

Particulars	Units	Amount (Rs.)	Particulars	Units	Amount (Rs.)
To Process- A A/c	1,000	27,000	By Bank A/c (1,000 units x Rs. 15)	1,000	15,000
			By Profit & Loss A/c	---	12,000
	1,000	27,000		1,000	27,000

(Each bold 1/5 M)

Abnormal Gain Account

Particulars	Units	Amount (Rs.)	Particulars	Units	Amount (Rs.)
To Normal loss A/c (360 units x Rs. 20)	360	7,200	By Process- B A/c	360	17,280
To Profit & Loss A/c		10,080			
	360	17,280		360	17,280

(Each bold 1/5 M)

Answer 6:

(a)

Treatment of items in arriving at the value of cost of material Purchased

S. No.	Items	Treatment
(i)	Detention charges/ Fine	Detention charges/ fines imposed for non-compliance of rule or law by any statutory authority. It is an abnormal cost and not included with cost of purchase.
(ii)	Demurrage	Demurrage is a penalty imposed by the transporter for delay in uploading or offloading of materials. It is an abnormal cost and not included with cost of purchase.
(iii)	Cost of returnable containers	Treatment of cost of returnable containers are as follows: Returnable Containers: If the containers are returned and their costs are refunded, then cost of containers should not be considered in the cost of purchase. If the amount of refund on returning the container is less than the amount paid, then, only the short fall is added with the cost of purchase.
(iv)	Central Goods and Service Tax (CGST)	Central Goods and Service Tax (CGST) is paid on manufacture and supply of goods and collected from the buyer. It is excluded from the cost of purchase if the input credit is available for the same. Unless mentioned specifically CGST is not added with the cost of purchase.
(v)	Shortage due to abnormal reasons	Shortage arises due to abnormal reasons such as material mishandling, pilferage, or due to any avoidable reasons are not absorbed by the good units. Losses due to abnormal reasons are debited to costing profit and loss account.

{Each Point 1 M}

Answer:

(b) Cost Unit of Industries:

S. No.	Industry	Cost Unit Basis
(i)	Electricity	Kilowatt-hour (kWh)
(ii)	Automobile	Number
(iii)	Cement	Ton/ per bag etc.
(iv)	Steel	Ton
(v)	Gas	Cubic feet
(vi)	Brick-making	1,000 bricks
(vii)	Coal mining	Tonne/ton
(viii)	Engineering	Contract, job
(ix)	Professional services	Chargeable hour, job, contract
(x)	Hospitals	Patient day

{Each Point
1/2 M}

Answer:

(c) Method of Costing

S.No.	Industry	Method of Costing
(i)	Oil Refinery	Process Costing
(ii)	Interior Decoration	Job Costing
(iii)	Airlines Company	Operation/ Service Costing
(iv)	Advertising	Job Costing
(v)	Car Assembly	Multiple Costing

{Each Point
1 M}

Answer:

(d) **Zero-based Budgeting:** (ZBB) is an emergent form of budgeting which arises to overcome the limitations of incremental (traditional) budgeting system. Zero- based Budgeting (ZBB) is **defined** as ‘a method of budgeting which requires each cost element to be specifically justified, although the activities to which the budget relates are being undertaken for the first time, without approval, the budget allowance is zero’.

ZBB is an activity based budgeting system where budgets are prepared for each activities rather than functional department. Justification in the form of cost benefits for the activity is required to be given. The activities are then evaluated and prioritized by the management on the basis of factors like synchronisation with organisational objectives, availability of funds, regulatory requirement etc.

ZBB is suitable for both corporate and non-corporate entities. In case of non-corporate entities like Government department, local bodies, not for profit organisations, where these entities need to justify the benefits of expenditures on social programmes like mid-day meal, installation of street lights, provision of drinking water etc.

ZBB involves the following stages:

- (i) Identification and description of Decision packages
- (ii) Evaluation of Decision packages
- (iii) Ranking (Prioritisation) of the Decision packages
- (iv) Allocation of resources

{Each Point
1/2 M}

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