Test Series: October 2022

MOCK TEST PAPER - 2

INTERMEDIATE: GROUP - I

PAPER – 3: COST MANAGEMENT ACCOUNTING SUGGESTED ANSWERS/HINTS

1.(a)

Data / Unit	1 – 500 (Rs.)	501 – 1,500 (Rs.)
Sales (Rs.1,20,000 / 1,500 units)	80	80
Direct Material (Rs.30,000 / 1,500 units)	20	20
Direct Labour*	20	25
Variable Overheads (Rs.15,000 / 1,500 units)	10	10
Contribution	30	25

Contribution at 500 units = Rs. 15,000 Fixed Cost = Rs. 16,800 Shortfall = Rs. 1,800

No. of units to recover shortfall = 72 units (Rs. 1,800 / Rs.25)

Break Even Point = 572 units (500 units + 72 units)

(*)

Let X be the Direct Labour per unit up to 500 units. Total Direct Labour-

 $500X + 1,000 \times (X + 5)$ = 35,000 1,500X + 5,000 = 35,000 X = 20

Therefore, up to 500 units the Direct Labour is Rs. 20. After 500 units it is Rs. 25.

(b) (i) Computation of variable overhead absorption rate:

Variable overhead absorption rate = $\frac{\textit{Difference in Total Overheads}}{\textit{Difference in levels in terms of machine hours}}$ $= \frac{\textit{Rs.3,47,625-Rs.3,38,875}}{\textit{15,500hours}} = \text{Rs.8.75 per machine hour.}$

(ii) Computation of Total fixed overheads:

	(Rs.)
	()

Total overheads at 14,500 hours	3,38,875
Less: Variable overheads (Rs. 8.75 × 14,500)	(1,26,875)
Total fixed overheads	2,12,000

(iii) Calculation of Budgeted level of activity in machine hours:

Let budgeted level of activity = X

Then,
$$\frac{(Rs.8.75 X + Rs.2,12,000)}{X}$$
 = Rs. 22

$$8.75X + Rs.2,12,000 = 22X$$

$$13.25X = 2,12,000$$

$$X = 16,000$$

Thus, budgeted level of activity = 16,000 machine hours.

(iv) Calculation of Under / Over absorption of overheads:

	(Rs.)
Actual overheads	3,22,000
Absorbed overheads (14,970 hours × Rs. 22 per hour)	3,29,340
Over-absorption (3,29,340 – 3,22,000)	7,340

(c) Labour Turnover Rate (Replacement method) =
$$\frac{No.of\ workers\ replaced}{Average\ no.of\ workers} \times 100$$
Or, $\frac{10}{100} = \frac{50}{Average\ no.of\ workers}$

Thus, Average No. of workers = 500

Labour Turnover Rate (Separation method) = $\frac{No.of\ workers\ separated}{Average\ No.of\ workers} \times 100$

$$\mathsf{Or}, \frac{5}{100} = \frac{Number of wor \, ker \, sseparated}{500}$$

Thus, No. of workers separated = 25

Labour Turnover Rate (Flux Method)

$$= \frac{No.of\ Separations + No.of\ Accession\ (Joinings)}{Average\ no.of\ workers} \times 100$$

Or,
$$\frac{20}{100} = \frac{25 + No.of\ accessions\ (Joinings)}{500}$$

Thus, No. of Accessions = 100 - 25 = 75

Accordingly,

- (i) Workers recruited and joined = 75
- (ii) Workers left and discharged = 25
- (iii) Average number of workers on roll = 500

(d) (i) Value of work in progress certified:

Since, Cash Received of Rs. 25,00,000 is 80% of work certified

Therefore, Value of work in progress certified = $\frac{\text{Rs.25,00,000}}{80\%}$ = Rs. 31,25,000

(ii) Degree of completion of contract:

$$= \frac{Value of work certified}{Value of contract} \times 100 = \frac{\text{Rs.31,25,000}}{\text{Rs.50,00,000}} \times 100 = 62.5\%$$

(iii) Notional Profit:

Profit transferred to Costing Profit & Loss A/c = $\frac{2}{3}$ × Notional Profit × $\frac{\text{Cash Received}}{\text{Valueofworkcertified}}$

(Since contract completion is 62.5% i.e. more than 50%)

Or, Rs.
$$8,00,000 = \frac{2}{3} \times \text{Notional Profit} \times \frac{\text{Rs. } 25,00,000}{\text{Rs.} 31,25,000}$$

Notional Profit = Rs. 15.00.000

(iv) Cost of contract as on 31-03-2022:

- = Value of Work certified + Cost of work uncertified Notional profit
- = Rs. 31,25,000 + Rs.12,00,000 Rs. 15,00,000
- = Rs. 28,25,000

2. (a) (i) Material price variance (on the basis of Single plan):

=22,000 pcs
$$\left(Rs.45 - \frac{Rs.9,00,000}{22,000pcs}\right)$$
= Rs.90,000* (Favourable)

OR

Material price variance (on the basis of Partial plan):

= Actual Quantity_{consumed} (Std. Price – Actual Price)

= 21,000 pcs
$$\left(\text{Rs.}\,45 - \frac{\text{Rs.}9,00,000}{22,000\text{pcs}}\right)$$
 = Rs.85,909* (Favourable)

(*Figure may slightly differ due to rounding off the actual price per unit)

(ii) Material usage variance:

- = Std. price per piece (Std. Quantity Actual Quantity_{consumed})
- $= Rs.45 (1,900 \text{ units} \times 10 21,000) = Rs. 90,000 (Adverse)$

(iii) Labour rate variance:

- = Actual hours paid (Std. rate Actual rate)
- = 5,150 hours $\left(\text{Rs.} 60 \frac{\text{Rs.}2,57,500}{5,150\text{hours}} \right)$ = Rs. 51,500 (Favourable)

(iv) Labour efficiency variance:

- = Std. rate per hour (Std. hours Actual hoursworked)
- $= Rs.60 (1,900 units \times 2.5 hours 5,150 hours) = Rs. 24,000 (Adverse)$

(v) Fixed overhead expenditure variance:

- = Budgeted Overhead Actual Overhead
- = Rs. 4,20,000 Rs. 4,60,000 = Rs. 40,000 (Adverse)

(vi) Fixed overhead efficiency variance:

- = Std. rate (Std. hours Actual hours worked)
- = Rs.80 (1,900 units × 2.5 hours 5,150 hours) = Rs. 32,000 (Adverse)

Or,

Fixed overhead efficiency variance on basis of units

- = Std. rate per unit (Actual output Standard output for actual hours)
- = Rs.200 (1,900 units 5,150 / 2.5 hours) = Rs. 32,000 (Adverse)

(vii) Fixed overhead capacity variance:

= Std. rate (Actual hours worked – Budgeted hours)

= Rs. 80
$$\left(5,150 \text{hours} - \frac{\text{Rs.4,20,000}}{\text{Rs.80}}\right)$$
 = Rs. 8,000 (Adverse)
Or.

Fixed overhead capacity variances on basis of units

- = Std. rate per unit (Standard output for actual hours Budgeted output)
- = Rs.200 (2,060 units 4,20,000 / 200) = Rs. 8,000 (Adverse)

(b) 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	1,12,50,000	5,06,25,000	6,18,75,000
Direct employee cost	60,00,000	2,70,00,000	3,30,00,000
Indirect- variable expenses	18,75,000	84,37,500	1,03,12,500
Indirect – fixed expenses	8,12,500	24,37,500	32,50,000
Indirect- semi-variable expenses			
- For first three months @ Rs.20,000 p.m.	60,000		
- For remaining nine months @ Rs.25,000 p.m.		2,25,000	2,85,000
Total cost	1,99,97,500	8,87,25,000	10,87,22,500
Desired profit	-	-	1,00,00,000
Sales value	-	-	11,87,22,500
Average selling price per unit			575.62

3. (a) (i) Statement of Equivalent Production (FIFO Method)

Input		Output		Equivalent Produ			ction		
			Materials Labour Production Overhead		Materials Labour				
Details	Units	Details	Units	%	Units	%	Units	%	Units
Opening Stock	600	From opening stock	600	-	-	40	240	40	240
		- From fresh materials	8,300	100	8,300	100	8,300	100	8,300
		Closing W-I-P	700	100	700	70	490	70	490
Fresh inputs	9,200	Normal loss	392	-	-	-	-	-	_

		9,992		9,000		9,030		9,030
	Less: Abnormal Gain	(192)	100	(192)	100	(192)	100	(192)
9,800		9,800		8,808		8,838		8,838

(ii) Statement of Cost per equivalent units

Elements		Cost	Equivalent units (EU)	Cost per EU
	(Rs.)	(Rs.)		(Rs.)
Material Cost	1,10,40,000			
Less: Scrap realisation 392 units @ Rs. 600/- p.u.	(2,35,200)	1,08,04,800	8,808	1,226.70
Labour cost		37,20,000	8,838	420.91
Production OH Cost		17,26,000	8,838	195.29
Total Cost		1,62,50,800		1,842.90

(iii) Cost of Abnormal Gain - 192 Units

	(Rs.)	(Rs.)
Material cost of 192 units @ Rs. 1,226.70 p.u.	2,35,526.40	
Labour cost of 192 units @ Rs. 420.91 p.u.	80,814.72	
Production OH cost of 192 units @ Rs. 195.29 p.u.	37,495.68	3,53,836.80

Cost of closing WIP - 700 Units

Material cost of 700 equivalent units @ Rs. 1,226.70 p.u.	8,58,690.00	
Labour cost of 490 equivalent units @ Rs. 420.91 p.u.	2,06,245.90	
Production OH cost of 490 equivalent @ Rs. 195.29 p.u.	95,692.10	11,60,628.00

Cost of 8,900 units transferred to next process

 Production OH cost 240 equivalent units @ Rs197.29 p.u. 47,349.60

1,48,368.00

(iii) Cost of 8,300 completed units

8,300 units @ Rs. 1,842.90 p.u.

1,52,96,070.00

Total cost [(i) + (ii) + (iii))]

1,62,84,438.00

(b) Working note:

1. Computation of revenues (at listed price), discount, cost of goods sold and customer level operating activities costs:

	Customers						
	Α	В	С	D	E		
Units sold: (a)	4,500	6,000	9,500	7,500	12,750		
Revenues (at listed price) (Rs.): (b) {(a) ×Rs.6,480)}	2,91,60,000	3,88,80,000	6,15,60,000	4,86,00,000	8,26,20,000		
Revenues (at listed price) (Rs.): (c) {(a) *Actual selling price)}	2,91,60,000 (4,500×6,480)	3,82,32,000 (6,000×6,372)	5,64,30,000 (9,500×5,940)	4,69,80,000 (7,500×6,264)	7,43,58,000 (12,750×5,832)		
Discount (Rs.) (d) {(b) – (c)}	0	6,48,000	51,30,000	16,20,000	82,62,000		
Cost of goods sold (Rs.): (d) {(a) x Rs.5,400}	2,43,00,000	3,24,00,000	5,13,00,000	4,05,00,000	6,88,50,000		
Customer level opera	ating activities c	osts					
Order taking costs (Rs.): (No. of purchase orders × Rs. 4,500)	67,500	1,12,500	1,35,000	1,12,500	1,35,000		
Customer visits costs (Rs.) (No. of customer visits x Rs. 3,600)	7,200	10,800	21,600	7,200	10,800		
Delivery vehicles travel costs (Rs.) (Kms travelled by	1,500	1,350	2,250	3,000	4,500		

delivery vehicles x Rs. 7.50 per km.)					
Product handling costs (Rs.) {(a) x Rs. 22.50}	1,01,250	1,35,000	2,13,750	1,68,750	2,86,875
Cost of expediting deliveries (Rs.) {No. of expedited deliveries x Rs. 13,500}	-	-	-	-	13,500
Total cost of customer level operating activities (Rs.)	1,77,450	2,59,650	3,72,600	2,91,450	4,50,675

(i) Computation of Customer level operating income

	Customers				
	Α	В	С	D	E
	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)
Revenues (At list price) (Refer to working note)	2,91,60,000	3,82,32,000	5,64,30,000	4,69,80,000	7,43,58,000
Less: Cost of goods sold (Refer to working note)	(2,43,00,000)	(3,24,00,000)	(5,13,00,000)	(4,05,00,000)	(6,88,50,000)
Gross margin	48,60,000	58,32,000	51,30,000	64,80,000	55,08,000
Less: Customer level operating activities costs (Refer to working note)	(1,77,450)	(2,59,650)	(3,72,600)	(2,91,450)	(4,50,675)
Customer level operating income	46,82,550	55,72,350	47,57,400	61,88,550	50,57,325

(ii) Factors to be considered for dropping a customer:

Dropping customers should be the last resort to be taken by an entity. Factors to be considered should include:

- What is the expected future profitability of each customer?

- Are the currently least profitable or low profitable customers are likely to be highly profitable in the future?
- What costs are avoidable if one or more customers are dropped?
- Can the relationship with the "problem" customers be restructured so that there is at "win- win" situation

4. (a) (i) Preparation of Production Budget (in units)

	October	November	December	January
Demand for the month (Nos.)	40,000	35,000	45,000	60,000
Add: 20% of next month's demand	7,000	9,000	12,000	13,000
Less: Opening Stock	(9,500)	(7,000)	(9,000)	(12,000)
Vehicles to be produced	37,500	37,000	48,000	61,000

(ii) Preparation of Purchase budget for Part-X

	October	November	December
Production for the month (Nos.)	37,500	37,000	48,000
Add: 40% of next month's	14,800	19,200	24,400
production	(40% of 37,000)	(40% of 48,000)	(40% of 61,000)
	52,300	56,200	72,400
No. of units required for	2,09,200	2,24,800	2,89,600
production	(52300 × 4 units)	(56200 × 4 units)	(72,400 × 4 units)
Less: Opening Stock	(48,000)	(59,200)	(76,800)
		(14800 × 4 units)	(19200 × 4 units)
No. of units to be purchased	1,61,200	1,65,600	2,12,800

(iii) Budgeted Gross Profit for the Quarter October to December

	October	November	December	Total
Sales in nos.	40,000	35,000	45,000	1,20,000
Net Selling Price per unit*	7,28,535	7,28,535	7,28,535	
Sales Revenue (Rs. in lakh)	2,91,414	2,54,987.25	3,27,840.75	8,74,242
Less: Cost of Sales (Rs. in lakh) (Sales unit × Cost per unit)	2,28,560	1,99,990.00	2,57,130.00	6,85,680
Gross Profit (Rs. in lakh)	62,854	54,997.25	70,710.75	1,88,562

 * Net Selling price unit = Rs. 8,57,100 - 15% commission on Rs. 8,57,100 = Rs.7,28,535.

(b) Cost Ledger Control Account

Particulars	(Rs.)	Particulars	(Rs.)
To Stores Ledger control A/c	65,000	By Balance b/d	34,25,000
To Costing Profit & Loss A/c	8,55,000	By Stores Ledger control A/c	6,25,000
		By Wages Control A/c	3,00,000
To Balance c/d	38,55,000	By Manufacturing overhead control A/c	4,25,000
	47,75,000		47,75,000

Store Ledger Control Account

Particulars	(Rs.)	Particulars	(Rs.)
To Balance b/d	15,00,000	By WIP Control A/c	6,75,000
To Cost Ledger control A/c	6,25,000	By Cost Ledger control A/c (return)	65,000
		By Balance c/d	13,85,000
	21,25,000		21,25,000

WIP Control Account

Particulars	(Rs.)	Particulars	(Rs.)
To Balance b/d		By Finished Stock Control A/c	11,25,000
To Wages Control A/c	2,00,000		
To Stores Ledger control A/c	6,75,000		
To Manufacturing overhead control A/c	4,25,000	By Balance c/d	9,25,000
	20,50,000		20,50,000

Finished Stock Control Account

Particulars	(Rs.)	Particulars	(Rs.)
To Balance b/d	12,50,000	By Cost of Sales A/c	8,75,000
To WIP Control A/c	11,25,000		
To Cost of Sales A/c (sales	45,000	By Balance c/d	15,45,000

return)		
	24,20,000	24,20,000

Manufacturing Overhead Control Account

Particulars	(Rs.)	Particulars	(Rs.)
To Cost Ledger Control A/c	4,25,000	By Balance b/d	75,000
To Wages Control A/c	1,00,000	By WIP Control A/c	4,25,000
		By Costing P&L A/c (under recovery)	25,000
	5,25,000		5,25,000

Wages Control Account

Particulars	(Rs.)	Particulars	(Rs.)
To Cost Ledger Control A/c	3,00,000	By WIP Control A/c	2,00,000
		By Manufacturing overhead control A/c	1,00,000
	3,00,000		3,00,000

Cost of Sales Account

Particulars	(Rs.)	Particulars	(Rs.)
To Finished Stock Control A/c	8,75,000	By Finished Stock Control A/c (sales return)	45,000
		By Costing Profit & Loss A/c	8,30,000
	8,75,000		8,75,000

Trial Balance

Particulars	Dr.	Cr.	
	(Rs.)	(Rs.)	
Stores Ledger Control A/c	13,85,000		
WIP Control A/c	9,25,000		
Finished Goods Control A/c	15,45,000		
Cost Ledger Control A/c		38,55,000	
	38,55,000	38,55,000	

Working:

Costing P&L Account

Particulars	(Rs.)	Particulars	(Rs.)
To Cost of Sales A/c	8,30,000	By Cost Ledger control A/c	8,55,000
To Manufacturing overhead control A/c	25,000		
	8,55,000		8,55,000

5. (a) Working Notes:

- 1. Total Kilometres to be run during the year 2021-22
 - = 50 km.× 2 sides × 3 trips × 25 days × 12 months × 6 buses = 5,40,000 Kilometres
- 2. Total passenger Kilometres
 - = 5,40,000 km. × 48 passengers × 75% = 1,94,40,000 Passenger- km.

Operating Cost Sheet for the year 2021- 22

	Particulars	Total Cost (Rs.)
A.	Fixed Charges:	
	Garage rent (Rs. 60,000 × 12 months)	7,20,000
	Salary of drivers (Rs. 20,000 × 6 drivers ×12 months)	14,40,000
	Wages of Conductors (Rs. 16,000 × 6 conductors × 12 months)	11,52,000
	Wages of Cleaners (Rs. 10,000 × 6 cleaners × 12 months)	7,20,000
	Manager's salary (Rs.50,000 × 12 months)	6,00,000
	Road Tax, Permit fee, etc. (Rs. 60,000 × 4 quarters)	2,40,000
	Office expenses (Rs. 25,000 × 12 months)	3,00,000
	Depreciation (Rs. 75,00,000 × 6 buses × 20%)	90,00,000
	Insurance (Rs. 75,00,000 × 6 buses × 4%)	18,00,000
	Total (A)	1,59,72,000
В.	Variable Charges:	
	Repairs and Maintenance (Rs. 2,40,000 × 6 buses)	14,40,000
	Diesel {(5,40,000 km. ÷ 6 km.) × Rs.92}	82,80,000
	Engine oils & lubricants {(Rs. 20,000. ÷ 1000 km.) × 5,40,000 km}	1,08,00,000
	Total (B)	2,05,20,000

	Total Cost (A+B)	3,64,92,000				
	Add: 33 ¹ / ₃ % Profit on takings or 50% on cost	1,82,46,000				
C.	Total Takings (Total bus fare collection)	5,47,38,000				
D.	. Total Passenger-km. (Working Note 2)					
E.	Bus fare to be charged from each passenger per km. (C ÷ D	2.82				

(b) Stores Ledger Account for the three months ending 30th June, 2022 (Weighted Average Method)

	Receipts				Issues				Balance		5 ((())	
Date	GRN No.	Qty. (Kg.)	Rates (Rs.)	Amounts	MR No.	MR No. Qty. (Kg.)		Amount (Rs.)	Qty. (Kg.)	Amount (Rs.)	Rate for further Issue (Rs.)	
									4 500	70.000	40.00	
April 1									1,500	72,000	48.00	
April 4						1,100	48.00	52,800	400	19,200	48.00	
April 10		1,600	50.00	80,000					2,000	99,200	$\frac{99,200}{2,000} = 49.60$	
April 20		2,400	49.00	1,17,600					4,400	216,800	$\frac{2,16,800}{4,400} = 49.30$	
April 24						1,600	49.30	78,880	2,800	137,920		
May 5		1,000	51.00	51,000					3,800	188,920	$\frac{1,88,920}{3,800} = 49.70$	
May 10						1,500	49.70	74,550	2,300	114,370		
May 17		1,100	52.00	57,200					3,400	171,570		
May 25		800	52.50	42,000	•				4,200	213,570		
May 26						1,700	50.90	86,530	2,500	127,040	$\frac{1,27,040}{2,500} = 50.90$	
May 31					Shortage	80			2,420	127,040		
June 11		900	54.00	48,600					3,320	175,640	$\frac{1,75,640}{3,320} = 52.90$	
June 15						1,500	52.90	79,350	1,820	96,290	$\frac{96,290}{1,820} = 52.90$	
June 21						1,200	52.90	63,480	620	32,810	$\frac{32,810}{620} = 52.90$	
June 24		1,400	55.00	77,000					2,020	109,810		
June 30					Shortage	60			1,960	109,810	$\frac{1,09,810}{1,960} = 56.00$	

- **6. (a)** The essential features, which a good cost and management accounting system should possess, are as follows:
 - (a) Informative and simple: Cost and management accounting system should be tailor-made, practical, simple and capable of meeting the requirements of a business concern. The system of costing should not sacrifice the utility by introducing meticulous and unnecessary details.
 - **(b) Accurate and authentic:** The data to be used by the cost and management accounting system should be accurate and authenticated; otherwise it may distort the output of the system and a wrong decision may be taken.
 - **(c) Uniformity and consistency:** There should be uniformity and consistency in classification, treatment and reporting of cost data and related information. This is required for benchmarking and comparability of the results of the system for both horizontal and vertical analysis.
 - (d) Integrated and inclusive: The cost and management accounting system should be integrated with other systems like financial accounting, taxation, statistics and operational research etc. to have a complete overview and clarity in results.
 - **(e) Flexible and adaptive:** The cost and management accounting system should be flexible enough to make necessary amendments and modification in the system to incorporate changes in technological, reporting, regulatory and other requirements.
 - **(f) Trust on the system:** Management should have trust on the system and its output. For this, an active role of management is required for the development of such a system that reflect a strong conviction in using information for decision making.

(b) Causes and Treatment of Overtime premium in cost accounting

	Causes	Treatment				
(1)	The customer may agree to bear the entire charge of overtime because urgency of work.	(1)	If overtime is resorted to at the desire of the customer, then overtime premium may be charged to the job directly.			
(2)	Overtime may be called for to make up any shortfall in production due to some unexpected development.	(2)	If overtime is required to cope with general production programmes or for meeting urgent orders, the overtime premium should be treated as overhead cost of the particular department or cost centre which works overtime.			
(3)	Overtime work may be necessary to make up a shortfall in production due to some fault of management.	(3)	If overtime is worked in a department due to the fault of another department, the overtime premium should be charged to the latter department.			

- (4) Overtime work may be resorted to, to secure an out-turn in excess of the normal output to take advantage of an expanding market or of rising demand
- (4) Overtime worked on account of abnormal conditions such as flood, earthquake etc., should not be charged to cost, but to Costing Profit and Loss Account.
- (c) Expenses other than direct material cost and direct employee cost, which are incurred to manufacture a product or for provision of service and can be directly traced in an economically feasible manner to a cost object. The following costs are examples for direct expenses:
 - (a) Royalty paid/ payable for production or provision of service;
 - (b) Hire charges paid for hiring specific equipment;
 - (c) Cost for product/ service specific design or drawing;
 - (d) Cost of product/ service specific software;
 - (e) Other expenses which are directly related with the production of goods or provision of service.
- (d) Product costs are those costs that are identified with the goods purchased or produced for resale. In a manufacturing organisation they are attached to the product and that are included in the inventory valuation for finished goods, or for incomplete goods. Product cost is also known as inventoriable cost. Under absorption costing method it includes direct material, direct labour, direct expenses, directly attributable costs (variable and non-variable) and other production (manufacturing) overheads. Under marginal costing method Product Costs includes all variable production costs and the all fixed costs are deducted from the contribution.

Periods costs are the costs, which are not assigned to the products but are charged as expense against revenue of the period in which they are incurred. General Administration, marketing, sales and distributor overheads are recognized as period costs.