Test Series: November, 2021

MOCK TEST PAPER – 2

INTERMEDIATE (NEW): GROUP – I

PAPER – 3: COST AND MANAGEMENT ACCOUNTING

SUGGESTED ANSWERS/HINTS

1. (a) (i) Computation of wages of each worker under guaranteed hourly rate basis

Worker	Actual hours worked (Hours)	Hourly wage rate (₹)	Wages (₹)
M	380	90	34,200
N	100	100	10,000
O	540	110	59,400

(ii) Computation of Wages of each worker under piece work earning basis

Product	Piece rate per unit	Worker-M		Worker-N		Worker-O	
	(₹)	Units	Wages (₹)	Units	Wages (₹)	Units	Wages (₹)
A	22.50	210	4,725	-	-	600	13,500
B	30.00	360	10,800	-	-	1,350	40,500
C	45.00	460	20,700	250	11,250	-	-
Total			36,225		11,250		54,000

Since each worker's earnings are more than 50% of basic pay. Therefore, worker-M, N and O will be paid the wages as computed i.e. ₹ 36,225, ₹ 11,250 and ₹ 54,000 respectively.

Working Notes:

1. Piece rate per unit

Product	Standard time per unit (in minutes)	Piece rate each minute (₹)	Piece rate per unit (₹)
A	15	1.5	22.50
B	20	1.5	30.00
C	30	1.5	45.00

(b) (i) Optimal order quantity i.e. **E.O.Q.**

$$= \sqrt{\frac{2 \times 48,000 \times 1,350}{15}} = \sqrt{86,40,000} = 2,939 \text{ units}$$

Relevant Cost of this order quantity	**₹**
Ordering cost = $\frac{48,000}{2,939}$ =16.33, say 17 orders at ₹1,350	22,950.00
Carrying Cost = $\frac{1}{2} \times 2,939 \times 15$	22,042.50
Relevant cost	**44,992.50**

(ii) **Revised EOQ** = $\sqrt{\frac{2 \times 48,000 \times 800}{15}}$ = 2,263 units

Relevant Cost of this order quantity	**₹**
Ordering cost = $\frac{48,000}{2,263}$ = 21.21, say 22 orders at ₹ 800	17,600.00
Carrying cost = $\frac{1}{2} \times 2,263 \times 15$	16,972.50
Relevant cost	**34,572.50**

Differential cost = 44,992.50 – 34,572.50 = **₹ 10,420**

(iii) In case of discount in purchase price, the total cost of Purchase cost, ordering cost and carrying cost should be compared.

Original offer at ₹ 80 per unit		**Supplier offered at ₹ 72 per unit**	
	₹		₹
Purchase Cost (48,000 × 80)	38,40,000.00	Purchase cost (48,000 × 72)	34,56,000.00
Ordering cost	22,950.00	Ordering cost	0.00
Carrying cost	22,042.50	Carrying cost $\frac{1}{2} \times 48,000 \times 15$	3,60,000.00
Total cost	38,84,992.50		38,16,000.00

This special offer at ₹ 72 per unit should be accepted as it saves ₹ 68,992.50 as compared to original offer.

(c) Statement of Cost

	First three months (₹)	Remaining nine months (₹)	Total (₹)
	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 @ ₹ 40,000 p.m.	1,20,000		1,20,000
- For remaining nine months @ ₹ 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

***** ₹ 40,000 for 50% capacity + ₹ 15,000 for 20% increase in capacity + ₹ 15,000 for 5% increase in capacity (because cost is increased for every 20% increase in capacity or part thereof)

(d) Budgeted Production 30,000 hours ÷ 6 hours per unit = 5,000 units

Budgeted Fixed Overhead Rate = ₹ 90,00,000 ÷ 5,000 units = ₹ 1,800 per unit

= ₹ 90,00,000 ÷ 30,000 hours = ₹ 300 per hour.

(i) Material Cost Variance = (Std. Qty. × Std. Price) – (Actual Qty. × Actual Price)

= (4,800 units × 10 kg. × ₹200) - ₹1,05,00,000

= ₹ 96,00,000 – ₹ 1,05,00,000

= ₹ 9,00,000 (A)

(ii) Labour Cost Variance = (Std. Hours × Std. Rate) – (Actual Hours × Actual rate)

= (4,800 units × 6 hours × ₹ 110) – ₹31,00,000

= ₹ 31,68,000 – ₹ 31,00,000

= ₹ 68,000 (F)

(iii) Fixed Overhead Cost Variance= (Budgeted Rate × Actual Qty) – Actual Overhead

= (₹ 1,800 × 4,800 units) – ₹ 94,00,000

= ₹ 7,60,000 (A)

OR = (Budgeted Rate × Std. Hours) – Actual Overhead

= (₹ 300 × 4,800 units × 6 hours) – ₹ 94,00,000

= ₹ 7,60,000 (A)

(iv) Variable Overhead Cost Variance= (Std. Rate × Std. Hours) – Actual Overhead

= (4,800 units × 6 hours × ₹ 200) - ₹ 58,60,000

= ₹ 57,60,000 - ₹ 58,60,000

= ₹ 1,00,000 (A)

2. (a) (i) Statement of Equivalent Production (Average cost method)

Input (Units)	Particulars	Output Units	Equivalent Production					
			Materials		Labour		Overheads	
			(%*)	Units**	(%)*	Units**	(%)*	Units**
40,000	Completed	28,000	100	28,000	100	28,000	100	28,000
	WIP	12,000	100	12,000	33-1/3	4,000	33-1/3	4,000
40,000		40,000		40,000		32,000		32,000

*Percentage of completion ** Equivalent units

(ii) Statement showing Cost for each element

Particulars	Materials	Labour	Overhead	Total
Cost of opening work-in-progress (₹)	12,00,000	2,00,000	2,00,000	16,00,000

Cost incurred during the month (₹)	51,20,000	30,00,000	30,00,000	1,11,20,000
Total cost (₹) : (a)	63,20,000	32,00,000	32,00,000	1,27,20,000
Equivalent units : (B)	40,000	32,000	32,000	
Cost per equivalent unit (₹) : C= (A ÷ B)	158	100	100	358

(iii) Statement of Apportionment of cost

	(₹)	(₹)
Value of output transferred: (A) (28,000 units × ₹ 358)		1,00,24,000
Value of closing work-in-progress: (B)		
Material (12,000 units × ₹158)	18,96,000	
Labour (4,000 units × ₹ 100)	4,00,000	
Overhead (4,000 units × ₹ 100)	4,00,000	26,96,000
Total cost : (A + B)		1,27,20,000

(iv) Process- A Account

Particulars	Units	(₹)	Particulars	Units	(₹)
To Opening WIP	8,000	16,00,000	By Completed units	28,000	1,00,24,000
To Materials	32,000	51,20,000	By Closing WIP	12,000	26,96,000
To Labour		30,00,000			
To Overhead		30,00,000			
	40,000	1,27,20,000		40,000	1,27,20,000

(b) Primary Distribution of Overheads

Item	Basis	Total Amount (₹)	Production Departments			Service Departments	
			X (₹)	Y (₹)	Z (₹)	A (₹)	B (₹)
Indirect Material	Actual	5,00,000	80,000	1,20,000	1,80,000	1,00,000	20,000
Indirect Labour	Actual	10,40,000	1,80,000	2,00,000	2,80,000	2,40,000	1,40,000
Supervisor's Salary	Actual	3,84,000	-	-	3,84,000	-	-
Fuel & Heat	Radiator Sections {2:4:6:5:3}	60,000	6,000	12,000	18,000	15,000	9,000

Power	Kilowatt Hours {7:8:6:3:-}	7,20,000	2,10,000	2,40,000	1,80,000	90,000	-
Rent & Rates	Area (Sq. ft.) {22:20:15:12:6}	6,00,000	1,76,000	1,60,000	1,20,000	96,000	48,000
Insurance	Capital Value of Assets {4:6:5:1:2}	72,000	16,000	24,000	20,000	4,000	8,000
Canteen Charges	No. of Employees {6:7:12:3:2}	2,40,000	48,000	56,000	96,000	24,000	16,000
Depreciation	Capital Value of Assets {4:6:5:1:2}	10,80,000	2,40,000	3,60,000	3,00,000	60,000	1,20,000
Total overheads		**46,96,000**	**9,56,000**	**11,72,000**	**15,78,000**	**6,29,000**	**3,61,000**

Re-distribution of Overheads of Service Department A and B

Total overheads of Service Departments may be distributed using simultaneous equation method

Let, the total overheads of A = 'a' and the total overheads of B = 'b'

a = 6,29,000 + 0.10 b (i)

or, 10a - b = 62,90,000 [(i) x10]

b = 3,61,000 + 0.20 a (ii)

or, -0.20a + b = 3,61,000

Solving equation (i) & (ii)

10a - b = 62,90,000

-0.20a + b = 3,61,000

9.8a = 66,51,000

a = 6,78,673

Putting the value of 'a' in equation (ii), we get

b = 3,61,000 + 0.20 × 6,78,673

b = 4,96,735

Secondary Distribution of Overheads

	Production Departments		
	X (₹)	Y (₹)	Z (₹)
Total overhead as per primary distribution	9,56,000	11,72,000	15,78,000
Service Department A (80% of 6,78,673) (3:3:2)	2,03,602	2,03,602	1,35,734
Service Department B (90% of 4,96,735) (5:8:5)	1,24,184	1,98,694	1,24,184
Total	**12,83,786**	**15,74,296**	**18,37,918**

3. (a) (i) Calculation of total project cost per day of concession period:

Activities	Amount (₹ in lakh)
Site clearance	341.00
Land development and filling work	9,160.00
Sub base and base courses	10,520.00
Bituminous work	32,140.00
Bridge, flyovers, underpasses, Pedestrian subway, footbridge, etc	28,110.00
Drainage and protection work	9,080.00
Traffic sign, marking and road appurtenance	8,810.00
Maintenance, repairing and rehabilitation	12,850.00
Environmental management	1,964.00
Total Project cost	**1,12,975.00**
Administration and toll plaza operation cost	1,200.00
Total Cost	1,14,175.00
Concession period in days (21 years × 365 days)	7,665
Cost per day of concession period (₹ in lakh)	**14.90**

(ii) Computation of toll fee:

Cost to be recovered per day = Cost per day of concession period + 15% profit on cost

= ₹ 14,90,000 + ₹ 2,23,500 = ₹ 17,13,500

$$\text{Cost per equivalent vehicle} = \frac{₹\ 17,13,500}{76,444 \text{ units (Refer working note)}}$$

= ₹ 22.42 per equivalent vehicle

Vehicle type-wise toll fee:

Sl. No.	Type of vehicle	Equivalent cost [A]	Weight [B]	Toll fee per vehicle [A×B]
1.	Two wheelers	₹22.42	1	**22.42**
2.	Car and SUVs	₹22.42	4	**89.68**
3.	Bus and LCV	₹22.42	6	**134.52**
4.	Heavy commercial vehicles	₹22.42	9	**201.78**

Working Note:

The cost per day has to be recovered from the daily traffic. The each type of vehicle is to be converted into equivalent unit. Let's convert all vehicle types equivalent to Two-wheelers..

Sl. No.	Type of vehicle	Daily traffic volume [A]	Weight	Ratio [B]	Equivalent Two-wheeler [A×B]
1.	Two wheelers	44,500	0.05	1	44,500
2.	Car and SUVs	3,450	0.20	4	13,800
3.	Bus and LCV	1,800	0.30	6	10,800
4.	Heavy commercial vehicles	816	0.45	9	7,344
	Total				**76,444**

(b) **Cost Ledger Control Account**

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Costing P&L A/c	2,70,000	By Balance b/d	3,24,000
To Building Construction A/c	26,400	By Stores Ledger control A/c	24,000
To Balance c/d	2,89,800	By Wages Control A/c	90,000
		By Factory overhead control A/c	96,000
		By Royalty A/c	3,000
		By Selling. Distribution and Administration overheads	15,000
		By Costing P&L A/c	34,200
	5,86,200		5,86,200

Stores Ledger Control Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Balance b/d	48,000	By WIP control A/c	30,000
To Cost Ledger control A/c	24,000	By Factory overheads control A/c	3,600
		By Building construction A/c	2,400
		By Factory overhead control A/c (loss) (bal. fig.)	3,000
		By Balance c/d	33,000
	72,000		72,000

Wages Control Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Cost Ledger control A/c	90,000	By Factory overhead control A/c	24,000
		By Building Construction A/c	6,000
		By WIP Control A/c (bal. fig.)	60,000
	90,000		90,000

Factory Overhead Control Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Stores Ledger control A/c	3,600	By Building Construction A/c	12,000
To Wages Control A/c	24,000	By Costing P&L A/c	4,800
To Cost Ledger control A/c	96,000	By WIP Control A/c (bal. fig)	1,09,800
To Stores Ledger control A/c (loss)	3,000		
	1,26,600		1,26,600

Royalty Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Cost Ledger control A/c	3,000	By WIP Control A/c	3,000
	3,000		3,000

Work-in-process Control Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Balance b/d	12,000	By Finished goods control A/c (bal. fig)	1,99,800
To Stores Ledger control A/c	30,000		
To Wages Control A/c	60,000		
To Factory overhead control A/c	1,09,800		
To Royalty A/c	3,000	By Balance c/d	15,000
	2,14,800		2,14,800

Finished Goods Control Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Balance b/d	2,58,000	By Cost of Goods Sold A/c (Refer working note)	2,16,000
To WIP control A/c	1,99,800	By Balance c/d	2,41,800
	4,57,800		4,57,800

Cost of Goods Sold Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Finished Goods control A/c	2,16,000	By Cost of sales A/c	2,16,000
	2,16,000		2,16,000

Selling, Distribution and Administration Overhead Control Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Cost Ledger control A/c	15,000	By Cost of sales A/c	15,000
	15,000		15,000

Cost of Sales Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Cost of Goods Sold A/c	2,16,000	By Costing P&L A/c	2,31,000
To Selling, Distribution and Administration A/c	15,000		
	2,31,000		2,31,000

Costing P&L Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Cost of Sales A/c	2,31,000	By Cost Ledger control A/c	2,70,000
To Factory overhead control A/c	4,800		
To Cost Ledger control A/c	34,200		
	2,70,000		2,70,000

Building Construction Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Balance b/d	6,000	By Cost Ledger control A/c	26,400
To Stores Ledger control A/c	2,400		
To Wages Control A/c	6,000		
To Factory overhead control A/c	12,000		
	26,400		26,400

Trial Balance

Particulars	Dr.	Cr.
	(₹ in '000)	(₹ in '000)
Stores Ledger Control A/c	33,000	
WIP Control A/c	15,000	
Finished Goods Control A/c	2,41,800	
Cost Ledger Control A/c		2,89,800
	2,89,800	2,89,800

Working Note:

Cost of Goods sold = $\frac{₹\ 2,70,000 \times 80}{100}$ = ₹ 2,16,000

4. (a) Statement of Cost of G Ltd. for the year ended 31st March, 2021:

Sl. No.	Particulars	Amount (₹)	Amount (₹)
(i)	Material Consumed:		
	- Raw materials purchased	20,00,00,000	
	- Freight inward	22,41,200	
	Add: Opening stock of raw materials	36,00,000	
	Less: Closing stock of raw materials	(19,20,000)	20,39,21,200
(ii)	Direct employee (labour) cost:		
	- Wages paid to factory workers		58,40,000
(iii)	Direct expenses:		
	- Royalty paid for production	3,45,200	
	- Amount paid for power & fuel	9,24,000	
	- Job charges paid to job workers	16,24,000	28,93,200
	Prime Cost		21,26,54,400
(iv)	Works/ Factory overheads:		
	- Stores and spares consumed	2,24,000	
	- Repairs & Maintenance paid for plant & machinery	96,000	
	- Insurance premium paid for plant & machinery	62,400	
	- Insurance premium paid for factory building	36,200	
	- Expenses paid for pollution control and engineering & maintenance	53,200	4,71,800
	Gross factory cost		21,31,26,200
	Add: Opening value of W-I-P		18,40,000
	Less: Closing value of W-I-P		(17,40,000)
	Factory Cost		21,32,26,200
(v)	Quality control cost:		
	- Expenses paid for quality control check activities		39,200
(vi)	Research & development cost paid improvement in production process		36,400

(vii)	Less: Realisable value on sale of scrap and waste		(1,72,000)
(viii)	Add: Primary packing cost		1,92,000
	Cost of Production		21,33,21,800
	Add: Opening stock of finished goods		22,00,000
	Less: Closing stock of finished goods		(36,40,000)
	Cost of Goods Sold		21,18,81,800
(ix)	Administrative overheads:		
	- Depreciation on office building	1,12,000	
	- Salary paid to General Manager	25,12,000	26,24,000
(x)	Selling overheads:		
	- Repairs & Maintenance paid for sales office building	36,000	
	- Salary paid to Manager- Sales & Marketing	20,24,000	
	- Performance bonus paid to sales staffs	7,20,000	27,80,000
(xi)	Distribution overheads:		
	- Packing cost paid for re-distribution of finished goods		2,24,000
	Cost of Sales		**21,75,09,800**

(b) (i) Computation of PV ratio, contribution and break-even sales for existing product mix

	Products			Total
	S	T	U	
Selling Price (₹)	600	800	400	
Less: Variable Cost (₹)	300	400	240	
Contribution per unit (₹)	300	400	160	
P/V Ratio (Contribution/Selling price)	50%	50%	40%	
Sales Mix	25%	35%	40%	
Contribution per rupee of sales (P/V Ratio × Sales Mix)	12.5%	17.5%	16%	46%

Present Total Contribution (₹ 1,20,00,000 × 46%)	₹55,20,000
Less: Fixed Costs	₹36,00,000
Present Profit	₹19,20,000
Present Break Even Sales (₹ 36,00,000/0.46)	₹ 78,26,087

(ii) Computation of PV ratio, contribution and break-even sale for proposed product mix

	Products			
	S	**T**	**M**	**Total**
Selling Price (₹)	600	800	600	
Less: Variable Cost (₹)	300	400	300	
Contribution per unit (₹)	300	400	300	
P/V Ratio (Contribution/Selling price)	50%	50%	50%	
Sales Mix	40%	35%	25%	
Contribution per rupee of sales (P/V Ratio x Sales Mix)	20%	17.5%	12.5%	50%
Proposed Total Contribution (₹1,28,00,000 x 50%)				₹64,00,000
Less: Fixed Costs				₹36,00,000
Proposed Profit				₹28,00,000
Proposed Break Even Sales (₹36,00,000/0.50)				₹72,00,000

5. (a) (i) Profit Statement using Absorption costing method:

	Particulars	**Product**			**Total**
		X	**Y**	**Z**	
A.	Sales Quantity	1,00,000	80,000	60,000	2,40,000
B.	Selling price per unit (₹)	45	90	70	
C.	Sales Value (₹) [A×B]	**45,00,000**	**72,00,000**	**42,00,000**	**1,59,00,000**
D.	Direct cost per unit (₹)	25	45	50	
E.	Direct Cost (₹) [A×D]	25,00,000	36,00,000	30,00,000	91,00,000
F.	Overheads:				
(i)	Machine department (₹) (Working note-1)	12,00,000	12,80,000	12,00,000	36,80,000

(ii)	Assembly department (₹) (Working note-1)	15,00,000	8,00,000	4,50,000	27,50,000
G.	Total Cost (₹) [E+F]	**52,00,000**	**56,80,000**	**46,50,000**	**1,55,30,000**
H.	**Profit (C-G)**	**(7,00,000)**	**15,20,000**	**(4,50,000)**	**3,70,000**

(ii) Profit Statement using Activity based costing (ABC) method:

	Particulars	**Product**			**Total**
		X	**Y**	**Z**	
A.	Sales Quantity	1,00,000	80,000	60,000	
B.	Selling price per unit (₹)	45	90	70	
C.	**Sales Value (₹) [A×B]**	**45,00,000**	**72,00,000**	**42,00,000**	**1,59,00,000**
D.	Direct cost per unit (₹)	25	45	50	
E.	Direct Cost (₹) [A×D]	25,00,000	36,00,000	30,00,000	91,00,000
F.	Overheads: (Refer working note-3)				
(i)	Machining services (₹)	10,50,000	11,20,000	10,50,000	32,20,000
(ii)	Assembly services (₹)	12,00,000	6,40,000	3,60,000	22,00,000
(iii)	Set-up costs (₹)	2,25,000	1,50,000	75,000	4,50,000
(iv)	Order processing (₹)	1,10,000	1,20,000	1,30,000	3,60,000
(v)	Purchasing (₹)	75,000	87,500	37,500	2,00,000
G.	**Total Cost (₹) [E+F]**	**51,60,000**	**57,17,500**	**46,52,500**	**1,55,30,000**
H.	**Profit (₹) (C-G)**	**(6,60,000)**	**14,82,500**	**(4,52,500)**	**3,70,000**

Working Notes:

(1)

		Products			
		X	**Y**	**Z**	**Total**
A.	Production (units)	1,00,000	80,000	60,000	
B.	Machine hours per unit	3	4	5	
C.	Total Machine hours [A×B]	3,00,000	3,20,000	3,00,000	9,20,000
D.	Rate per hour (₹)	4	4	4	

E.	**Machine Dept. cost [C×D]**	**12,00,000**	**12,80,000**	**12,00,000**	**36,80,000**
F.	Labour hours per unit	6	4	3	
G.	Total labour hours [A×F]	6,00,000	3,20,000	1,80,000	11,00,000
H.	Rate per hour (₹)	2.5	2.5	2.5	
I	**Assembly Dept. cost [G×H]**	**15,00,000**	**8,00,000**	**4,50,000**	**27,50,000**

$$\text{Machine hour rate} = \frac{₹\ 36,80,000}{9,20,000 \text{ hours}} = ₹\ 4$$

$$\text{Labour hour rate} = \frac{₹\ 27,50,000}{11,00,000 \text{ hours}} = ₹\ 2.5$$

2. Calculation of cost driver rate

Cost Pool	Amount (₹)	Cost Driver	Quantity	Driver rate (₹)
Machining services	32,20,000	Machine hours	9,20,000 hours	3.50
Assembly services	22,00,000	Direct labour hours	11,00,000 hours	2.00
Set-up costs	4,50,000	Machine set-ups	9,000 set-ups	50.00
Order processing	3,60,000	Customer orders	7,200 orders	50.00
Purchasing	2,00,000	Purchase orders	800 orders	250.00

3. Calculation of activity-wise cost

		Products			
		X	**Y**	**Z**	**Total**
A.	Machining hours (Refer Working note-1)	3,00,000	3,20,000	3,00,000	9,20,000
B.	Machine hour rate (₹) (Refer Working note-2)	3.5	3.5	3.5	
C.	**Machining services cost (₹) [A×B]**	**10,50,000**	**11,20,000**	**10,50,000**	**32,20,000**

D.	Labour hours (Refer Working note-1)	6,00,000	3,20,000	1,80,000	11,00,000
E.	Labour hour rate (₹) (Refer Working note-2)	2	2	2	
F.	**Assembly services cost (₹) [D×E]**	**12,00,000**	**6,40,000**	**3,60,000**	**22,00,000**
G.	Machine set-ups	4,500	3,000	1,500	9,000
H.	Rate per set-up (₹) (Refer Working note-2)	50	50	50	
I.	**Set-up cost (₹) [G×H]**	**2,25,000**	**1,50,000**	**75,000**	**4,50,000**
J.	Customer orders	2,200	2,400	2,600	7,200
K.	Rate per order (₹) (Refer Working note-2)	50	50	50	
L.	**Order processing cost (₹) [J×K]**	**1,10,000**	**1,20,000**	**1,30,000**	**3,60,000**
M.	Purchase orders	300	350	150	800
N.	Rate per order (₹) (Refer Working note-2)	250	250	250	
O.	**Purchasing cost (₹) [M×N]**	**75,000**	**87,500**	**37,500**	**2,00,000**

(b) Workings

Statement Showing "Total Variable Cost for the year"

Particulars	**Amount (₹)**
Estimated Sales Revenue	1,51,20,000
Less: Desired Profit Margin on Sale @ 20%	30,24,000
Estimated Total Cost	1,20,96,000
Less: Fixed Selling and Distribution Overheads	34,56,000
Total Variable Cost	86,40,000

Statement Showing "Variable Cost per unit"

Particulars	**Variable Cost p.u. (₹)**
Direct Materials:	
A: 6 Kg. @ ₹80 per kg.	480

B: 3 Kg. @ ₹50 per kg.	150
Labour Cost:	
Machine Shop: 4 hrs. @ ₹70 per hour	280
Assembly Shop: 2 hrs. @ ₹35 per hour	70
Factory Overheads: 20% of (₹280 + ₹70)	70
Variable Selling & Distribution Expenses	30
Total Variable Cost per unit	1,080

(i) Calculation of number of units of product proposed to be sold and selling price per unit:

Number of Units Sold = Total Variable Cost / Variable Cost per unit
= ₹ 86,40,000 / ₹ 1,080
= 8,000 units

Selling Price per unit = Total Sales Value / Number of Units Sold
= ₹ 1,51,20,000 / 8,000 units
= ₹ 1,890

(ii) Production Budget (units)

Particulars	Units
Budgeted Sales	8,000
Add: Closing Stock	3,000
Total Requirements	11,000
Less: Opening Stock	(2,500)
Required Production	8,500

(iii) Materials Purchase Budget (Kg.)

Particulars	Material A	Material B
Requirement for Production	51,000	25,500
	(8,500 units × 6 Kg.)	(8,500 units × 3 Kg.)
Add: Desired Closing Stock	8,000	5,500
Total Requirements	59,000	31,000
Less: Opening Stock	(7,500)	(4,000)
Quantity to be purchased	51,500	27,000

6. (a) Apportionment of Joint Cost amongst Joint Products using:

Market value at the point of separation: This method is used for apportionment of joint costs to joint products upto the split off point. It is difficult to apply if the market value of the product at the point of separation is not available. It is useful method where further processing costs are incurred disproportionately.

Net realizable value Method: From the sales value of joint products (at finished stage) the followings are deducted:

- Estimated profit margins
- Selling & distribution expenses, if any
- Post- split off costs.

The resultant figure so obtained is known as net realizable value of joint products. Joint costs are apportioned in the ratio of net realizable value.

(b) Cost classification based on variability

(i) Fixed Costs – These are the costs which are incurred for a period, and which, within certain output and turnover limits, tend to be unaffected by fluctuations in the levels of activity (output or turnover). They do not tend to increase or decrease with the changes in output. For example, rent, insurance of factory building etc., remain the same for different levels of production.

(ii) Variable Costs – These costs tend to vary with the volume of activity. Any increase in the activity results in an increase in the variable cost and vice-versa. For example, cost of direct labour, etc.

(iii) Semi-variable Costs – These costs contain both fixed and variable components and are thus partly affected by fluctuations in the level of activity. Examples of semi variable costs are telephone bills, gas and electricity etc.

Cost classification based on controllability

(i) Controllable Costs - Cost that can be controlled, typically by a cost, profit or investment centre manager is called controllable cost. Controllable costs incurred in a particular responsibility centre can be influenced by the action of the executive heading that responsibility centre. For example, direct costs comprising direct labour, direct material, direct expenses and some of the overheads are generally controllable by the shop level management.

(ii) Uncontrollable Costs - Costs which cannot be influenced by the action of a specified member of an undertaking are known as uncontrollable costs. For example, expenditure incurred by, say, the tool room is controllable by the foreman in-charge of that section but the share of the tool-room expenditure which is apportioned to a machine shop is not to be controlled by the machine shop foreman.

(c) Cost-Plus Contracts: These contracts provide for the payment by the contractee of the actual cost of construction plus a stipulated profit, mutually decided between the two parties.

The main features of these contracts are as follows:

(i) The practice of cost-plus contracts is adopted in the case of those contracts where the probable cost of the contracts cannot be ascertained in advance with a reasonable accuracy.

(ii) These contracts are preferred when the cost of material and labour is not steady and the contract completion may take number of years.

(iii) The different costs to be included in the execution of the contract are mutually agreed, so that no dispute may arise in future in this respect. Under such type of contracts, contractee is allowed to check or scrutinize the concerned books, documents and accounts.

(iv) Such a contract offers a fair price to the contractee and also a reasonable profit to the contractor.

The contract price here is ascertained by adding a fixed and mutually pre-decided component of profit to the total cost of the work.

(d) Salient features of Budget Manual

- Budget manual contains much information which is required for effective budgetary planning.
- A budget manual is a collection of documents that contains key information for those involved in the planning process.
- An introductory explanation of the budgetary planning and control process, including a statement of the budgetary objective and desired results is included in Budget Manual
- Budget Manual contains a form of organisation chart to show who is responsible for the preparation of each functional budget and the way in which the budgets are interrelated.
- In contains a timetable for the preparation of each budget.
- Copies of all forms to be completed by those responsible for preparing budgets, with explanations concerning their completion is included in Budget Manual.