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Scanner Appendix

CA Inter Group- I
(Solutions of May - 2023)

Paper - 3 : Cost and Management Accounting

Chapter - 1 : Introduction to Cost and Management Accounting

6

Cost Objects

2023 - May [6] (a)

Cost object is anything for which a separate measurement of cost is required.

It may be a product, a service, a project, a customer, a brand category, an activity or a programme etc.

Example of Cost objects are:

Product: Smart phone, Suv car, Book etc.

Service: An airline Flight from Delhi to Mumbai, Utility bill payment facility etc.

Project: Metro rail project, Road project etc.

Activity: Quality inspection of materials, placing of orders etc.

Process: Refinements of orders in oil refineries.

Chapter - 2 : Material Cost

11**Valuation of Material Issues****2023 - May [2] (a)**⇒ **Calculation of Raw material consumption:**

Particulars	Jan.	Feb.	March	April	Total
Working days (a)	25	24	26	25	–
Prod. per day (b)	50	55	60	52	p–
Total prod (c = a . b)	1250	1320	1560	1300	5430
Total consumption of raw mat. @ 4 kg p.a.	5000	5280	6240	5200	21720

⇒ **Calculation month wise quantity and value of material purchased:**

Total material purchased over 4 months

= Raw material consumption + op. stock – Cl. stock

= 21,720 + 5,100 – 6,020

= 20,800 kgs

Particulars	Jan.	Feb.	March	April	Total
Raw material purchases (% of total purchases)	21%	26%	30%	23%	
Raw material purchases	4,368	5,408	6,240	4,784	20,800
Purchase price	10	12	13	11	
Purchase value	43,680	64,896	81,120	52,624	2,42,320

Store Price Ledger by using FIFO method.

Months	particulars	Receipts			Issue			Balance		
		Qty	Rate	Amount (₹)	Qty	Rate	Amount (₹)	Qty	Rate	Amount (₹)
Jan	Opening							6,020	10.5	63,210
	Purchases	4,368	10	43,680				6,020	10.5	63,210
								4,368	10	43,680
	Consumption				5,000	10.5	52,500	1,020	10.5	10,710
Feb	Purchases	5,408	12	64,896				4,368	10	43,680
								1,020	10.5	10,710
								4,368	10	43,680
								5,408	12	64,896
								1,020	10.5	10,710
					4,260	10	42,600	5,408	12	64,896

March	Purchase	6,240	13	81,120				108	10	1,080	
								5,408	12	64,896	
								6,240	13	81,120	
	Consumption					108	10	1,080			
					5,408	12	64,896				
					724	13	9,412	5,516	13	71,708	
April	Purchases	4,784	11	52,624				5,516	13	71,708	
								4,784	11	52,624	
	Consumption					5,200	13	67,600	316	13	4,108
									4,784	11	52,624
									56,732		

Chapter - 3 : Employee Cost and Direct Expenses

7

**Systems of Wage Payment and Incentives :
Premium Bonus Method : Halsey Premium
Plan and Rowan Premium Plan and Barth
System**

2023 - May [1] {C} (b)

⇒ Calculation of Weekly earnings of one worker under following systems:

⇒ Existing time rate = normal working hrs. normal working rate + (Late shift hrs. Late shift rate)
= (48.150) + (12.300)
= 10,800

⇒ Rowan Premium Plan =

$$= (\text{Time taken} \cdot \text{Rate per hr.}) + \left(\frac{\text{Time Saved}}{\text{Time allowed}} \cdot \text{Time taken} \cdot \text{rate} \right)$$

$$= (48 \cdot 150) + \left(\frac{27}{75} \cdot 48 \cdot 150 \right)$$

$$= 9,792$$

$$\text{Time allowed} = 100 \times 7.5/10 = 75 \text{ hours}$$

$$\text{Time saved} = 75 - 48 = 27 \text{ hours}$$

⇒ Halsey Premium Plan (50%) =

$$= \text{Time taken} \cdot \text{Time rate} + 50\% \text{ of time saved} \cdot \text{Rate}$$

$$= 48 \cdot 150 + 50\% \text{ of } 27 \cdot 150$$

$$= 9,225$$

10

Employee (Labour) Turnover

2023 - May [5] (c)

High Employee Turnover increase the cost of production:

- Additional cost of new workers, such as cost of training, unproductive hours.

- Loss of material as new employee is not a expert and other breakages and scrap.
- Due to inefficiency of new workers, extra wages cost and overheads.

Chapter - 4 : Overheads

4

Re-apportionment of Service Department Overheads over Production Departments

2023 - May [6] (d)

Cost of Service Department	Basis
Maintenance and Repair Shop	Machine hours
Hospital and Dispensary	No. of employees
Fire Protection	Capital value of machine
Stores Department	Material requisition
Transport Department	Crane hours
Computer Section	Computer hours
Power House	Horse power
Tool Room	Machine hours
Inspection	Inspection hours
Time-keeping	No. of employees

11

Accounting and Controlling of Selling and Distribution Overheads

2023 - May [6] (b)

Practical capacity:

It is defined as actually utilised capacity of a plant. It is also known as operating capacity. This capacity takes into account loss of time due to

repairs, maintenance, minor breakdown, idle time, setup time, normal delays, stock taking etc. generally, practical capacity is taken between 80 to 90% of the rated capacity. It is also used as a base for determining overhead rates. Practical capacity is also called net capacity or available capacity.

Normal capacity:

Normal capacity is the volume of production or services achieved or achievable on an average over a period under normal circumstances taking into account the reduction in capacity resulting from planned maintenance.

Chapter - 5 : Activity Based Costing

2

Practical Applications of ABC

2023 - May [4] (b)

Calculation of overhead absorption rate per labour hour (under absorption costing system)

$$\begin{aligned} \text{OAR/Labour} &= \frac{\text{Total overheads}}{\text{Total labour hours}} \\ &= \frac{33,75,000}{(7,500 + 7,200 + 7,800)} \\ &= \frac{33,75,000}{22,500} \\ &= ₹ 150 \end{aligned}$$

⇒ **Cost statement under ABC**

Particulars	A	B	C
Output	50,000	45,000	62,000
Total OHs Cost (W.N.)	11,06,022	10,05,563	12,63,415
∴ OH cost/unit (Total OH/Output)	22.12	22.35	20.38

Working note:

Activity	Cost	Cost Driver	Ratio	A	B	C
Rent & Taxes	8,63,500	Floor Space	50:45:62	2,75,000	2,47,500	3,41,000
Elect. Exp.	10,66,475	Power cars	32:28:40	3,41,272	2,98,613	4,26,590
Indirect Lab.	13,16,250	DLH's	75:72:78	4,38,750	4,21,200	4,56,300
Repair & point	1,28,775	DHH's	60:45:46.5	51,000	38,250	39,525
Total OH Cost				11,06,022	10,05,563	12,63,415

2023 - May [6] (c)**Meaning of Activity Based Management:**

The term activity based management is used to describe the cost management application of ABC. The use of ABC as a costing tool to manage cost at activity level is known as Activity Based Cost Management (ABM). ABM is a discipline that focuses on the efficient and effective management of activities as the route to continuously improving the value received by customers. ABM utilises cost information gathered through ABC.

Activity Based Management can be used in the following ways:

- (i) **Cost reduction:** ABM helps the organisation to identify cost against activities and to find opportunities to streamline or reduce the costs or eliminate the entire activity, especially if there is no value added.
- (ii) **Business Process Re-engineering:** Business process re-engineering involves examining business processes and making substantial changes to how organisation currently operates.
- (iii) **Benchmarking:** Benchmarking is a process of comparing of ABC derived activity costs of one segment of company with those of other segments. It requires uniformity in the definition of activities and measurement of their costs.

Chapter - 6 : Cost Sheet

1

Cost Sheet

2023 - May [3] (b)

Cost sheet for the month of April, 2023

Particulars	Amount	Amount
Opening stock of raw materials	42,500	
(+) Purchase of raw materials	6,95,000	
(+) Carriage Inward	36,200	
(-) Closing stock of raw materials	(38,600)	
Raw materials consumed		7,35,100
Direct wages paid	3,22,800	
Royalty paid for production	35,800	
Purchase of special designs, moulds (153600/12)	12,800	
Power, fuel and haulage	70,600	
Prime Cost		11,77,100
Salary and wages for supervisor and foreman	28,000	
(+) OWIP	42,500	
(-) CWIP	(42,800)	
Factory Cost		12,04,800
R & D for improving the prod. process	31,680	
Primary packaging cost	6,920	
Cost of production		12,43,400

(+) Op. stock of FG (2,500 × 8.5)	20,125	
(-) Cl. stock of FG (2,500 + 1,52,000 - 1,52,600. 8.18 (12.43 L/1.52L) = 8.18)	15,543	
Cost of goods sold		12,47,982
Admin. Ohs (assumed as general in nature)	46,765	
Selling Ohs (1,52,600.0.2)	30,520	
Cost of Sales		13,25,267

Calculation of selling price per unit:

Let sales be x and profit = 0.2 x

Cost of sales + profit = Sales

13,27,267 + 0.2 x = x

x = 16,56,584

∴ SP/Unit = 1656584/1,52,600 = 10.86

Chapter - 7 : Cost Accounting Systems**1****Non Integrated Accounts****2023 - May [5] (b)**

Particulars	Financial Accounting	Cost Accounting	Under/Over recovery	Effect on Cost Profit
Factory OHs	94,750	90,000	4,750 (u)	Decrease
Adm. OHs	60,000	57,000	3,000 (u)	Decrease
Selling OHs	55,000	61,500	6,500 (o)	Increase
Opening Stock	17,500	22,500	5,000 (o)	Increase
Closing Stock	12,500	15,000	2,500 (o)	Increase

Chapter - 8 : Unit and Batch Costing

4

Economic Batch Quantity

2023 - May [1] {C} (a)

⇒ Calculation of Economic Batch Quantity:

$$EBQ = \frac{\sqrt{2.1,35,000.₹3,375}}{5} = 13,500 \text{ units}$$

⇒ Calculation of additional cost incurred if batch quantity is 7,500 units:

Particulars	Batch Size = 13,500	Batch Size = 7,500
Total Setup Cost	No. of setup = $\frac{1,35,000}{13,500}$ = 10 = 10 × 3,375 = 33,750	No. of setup = $\frac{1,35,000}{7,500}$ = 18 = 18 × 3,375 = 60,750
Total Carrying Cost	$\frac{1}{2} \times 13,500 \times 5 = 33,750$	$\frac{1}{2} \times 7,500 \times 5 = 18,750$
Total Cost	67,500	79,500

Additional Cost = 79,500 - 67,500 = 12,000

Chapter - 9 : Job and Contract Costing

7

Escalation Clause

2023 - May [2] (b)

Contract A/c

Particulars	1 st Year (₹)	2 nd Year (₹)	Particulars	1 st Year (₹)	2 nd Year (₹)
To Bal. b/d					
To Work certified	-	32,00,000	By Work certified	32,00,000	70,00,000
To Work uncertified	-	2,19,000	By Work uncertified	2,19,000	-
To Materials	12,50,000	13,65,000			
To Wages	12,50,000	11,44,000			

To Direct Expenses	4,20,000	3,80,000			
To Indirect Expenses	2,70,000	2,60,000			
To Depreciation	85,000	85,000			
To Costing P/L A/C (notional profit)	1,44,000	3,47,000			
	34,19,000	70,00,000		34,19,000	70,00,000

Escalation Clauses

Particulars	Std. qty/hours (a)	SR (b)	AR (c)	Variation in Rate (d = c - b)	Escalation claim (e = a × d)
Material:					
1 st Year	No escalation claim in 1 st				
2 nd year	12,000	90	105	15	1,80,000
Wages:					
1 st year	No escalation claim in 1 st				
2 nd year	9,000	120	130	10	90,000
				Total claim	2,70,000

Final contract value

Original contract price 70,00,000

Escalation claim 2,70,00072,70,000

Particulars	Standard Cost			Actual Cost			Increase/ (Decrease)
	Qty. a	Rate b	Amount c = a × b	Qty. d	Rate e	Amount f = d × e	g = f - c
Materials:							
1 st year	12,000	90	10,80,000	12,500	100	12,50,000	1,70,000
2 nd year	12,000	90	10,80,000	13,000	105	13,65,000	2,85,000
							4,55,000
Wages:							
1 st year	10,000	120	12,00,000	10,000	125	12,50,000	50,000
2 nd year	9,000	120	10,80,000	8,800	130	11,44,000	64,000
							1,14,000

Chapter - 10 : Process Costing

1

Normal and Abnormal Loss/Gain

2023 - May [6] (e)

Treatment of Normal loss, abnormal loss and abnormal gain in process costing:

1. **Normal Process Loss:** It is also known as Normal wastage. It is defined as the loss of material which is inherent in the nature of work. Such a loss can be reasonably anticipated from the nature of the material. It is unavoidable because of nature of the material or process. It also includes units withdrawn from the process for test or sampling. The cost of normal loss in practice is absorbed by the goods produced under the process.

2. **Abnormal Process Loss:** It is known as abnormal wastage. It is defined as the loss in excess of the pre determined loss. Such a loss cannot be estimated in advance. The cost of abnormal process loss units is equal to the cost of a good unit. The total cost of abnormal process loss is credited to the process account from which it arises. It's treated as part of production cost. Total cost of abnormal loss is debited to costing P/L account.
3. **Abnormal Process Gain:** The actual production exceeds the expected figures, then abnormal gain arises. Under such a situation, the difference between actual and expected loss or actual and expected production is know as abnormal gain. The process account under which abnormal gain arises is debited with the abnormal gain and credited to abnormal gain account which will be closed by transferring to costing P/L account.

Chapter - 11 : Joint Product & By Product

3

Method of Apportionment of Joint Cost to By Products and Treatment of By Product Cost

2023 - May [4] (a)

⇒ **Statement showing apportionment of Joint cost Basis of Sale Value at split off point Joint Costs:**

Particulars	Amount
Material (W.N.)	
J – $10,000 \times 15 = 1,50,000$	
K – $10,000 \times 9 = 90,000$	
L – $5,000 \times 7 = 35,000$	2,75,000
Variable Cost	
R – $25,000 \times 5 = 1,25,000$	
S – $22,500 \times 4.5 = 1,01,250$	

T – 20,250 × 3.4 = 6,88,850	2,95,100
Fixed Cost	
R – 42,000	
S – 5,000	
T – 4,800	51,800
Total joint cost	6,21,900

Apportionment:

Particulars	Product Y	By product Z
Sale value	8,74,800	1,09,350
	(14,580.60)	(3645*.30)
Joint cost apportioned		
(Ratio: 8,74,800 : 1,09,350		

* 14580/80% × 20% = 3,645

Statement showing profitability:

Particulars	Product X	By Product Z
Sale value	8,74,800	1,09,350
Less: Joint cost apportioned	(5,52,800)	(69,100)
Profit	3,22,000	40,250

Working Note:

- ⇒ Calculation of material at the beginning
 Output at process T (Equi. to 90%) = 18,225
 (14,580 + 3,645)
 Output at process S (18,225/90%) = 20,250
 Output at process R (20,250/90%) = 22,500
- ⇒ Material Input at process R = 22,500/90%
 = 25,000 kg
 J – 40% = 10,000

K – 40% = 10,000

L – 20% = 5,000

Chapter - 12 : Service Costing**7****Costing for Toll Roads****2023 - May [1] {C} (d)****Working Notes:**

- (1) Calculation of equivalent numbers of Light weight vehicles (when no concession is provided on return journey)

Type of vehicle	Monthly traffic (A)	Return traffic (B)	Ratio (C)	Equivalent light weight [(A + B) × C]
Light weight	45,000*	45,000	1	90,000
Medium weight	12,000	12,000	2.5	60,000
Heavy weight	10,000	10,000	5	<u>1,00,000</u>
				2,50,000

*50,000 light vehicles less 10% exempted vehicles.

- (2) Calculation of equivalent numbers of Light weight vehicles (when concession is provided on return journey)

Type of vehicle	Monthly traffic (A)	Return traffic (B)	Ratio (C)	Equivalent light weight [(A + B) × C]
Light weight	45,000*	41,625 [45,000 - (45,000 × 30% × 25%)]	1	86,625
Medium weight	12,000	12,000	2.5	60,000
Heavy weight	10,000	10,000	5	1,00,000
				2,46,625

(i) Calculation of toll rate for each type of vehicle:

Total cost to cover ÷ Equivalent type of vehicles
 (₹ 59,09,090 + 10% of ₹ 59,09,090) ÷ 2,50,000 equivalent
 vehicles (Refer working note 1)
 = 65,00,000 ÷ 2,50,000 = ₹ 26

Toll rate for:

Light weight vehicle = ₹ 26

Medium weight vehicle = ₹ 26 × 2.5 = ₹ 65

Heavy weight vehicle = ₹ 26 × 5 = ₹ 130

(ii) Calculation of toll rate for each type of vehicle:

Revenue earned from Light weight vehicle in (i) above
 = 90,000 vehicles × ₹ 26 = ₹ 23,40,000

New toll rate to maintain the same revenue from Light weight
 vehicle

= ₹ 23,40,000 ÷ 86,625 (Refer working note-2) = ₹ 27.01

Light weight vehicle = ₹ 27.01

Rate to be charged from 13,500 light weight vehicles = 27.01 ×
 0.75 = 20.26

Alternative presentation:**(ii) Toll rate to be charged from light weight vehicles if
concession applicable**

Revenue share in light vehicles = 90,000 × 26 = ₹ 23,40,000

Suppose rate is x, then outward journey 45,000 x; return journey
 (45,000 - 30% of 45,000) + 13,500 (x - 0.25)

45,000x + 31,500x + 13500 (0.75x) = ₹ 23,40,000

Toll rate to be charged from light weight vehicles : 86,625x = ₹
 23,40,000 = ₹ 27.01

Rate to be charged from 76,500 light weight vehicles @ 27.01;
 revenue will be ₹ 20,66,494

Rate to be charged from 13,500 light weight vehicles = 27.01 ×
 0.75 = 20.26 revenue will be ₹ 2,73,506

Chapter - 13 : Standard Costing

5

Comprehensive Questions

2023 - May [5] (a)

⇒ **Calculation of Standard Price per kg and Standard Quantity of raw material:**

$$\begin{aligned} \text{Machine price variance} &= (\text{SP} - \text{AP}) \cdot \text{Actual Material purchased} \\ 12,500 &= (\text{SP} - 12.5) \cdot 25,000 \\ 12,500 &= 25,000 \text{ SP} - 3,12,500 \\ \text{SP} &= ₹ 13 \end{aligned}$$

$$\begin{aligned} \text{Material Cost Variance} &= (\text{SQ} \cdot \text{SP}) - (\text{AQ} \cdot \text{AP}) \\ -1,800 &= (\text{SQ} \cdot 13) - 3,12,500 \\ \text{SQ} &= 23,900 \text{ kg} \end{aligned}$$

⇒ **Material Usage Variance:**

$$\begin{aligned} &= (\text{Std. Q for Actual Output} - \text{Actual Q}) \cdot \text{SP} \\ &= (23,900 - 25,000) \cdot 13 \\ &= ₹ 14,300 \text{ (A)} \end{aligned}$$

$$\begin{aligned} \text{Labour Cost Variance} &= \text{Standard Cost} - \text{Actual Cost} \\ &= (\text{SH} \times \text{SR}) - (\text{AH} \times \text{AR}) \\ &= ₹ 2,39,000 - ₹ 2,30,000 \\ &= ₹ 9,000 \text{ (F)} \end{aligned}$$

$$\begin{aligned} \text{Labour Efficiency Variance} &= \text{Standard Cost of Standard Time for Actual Production} - \text{Standard Cost of Actual Time} \\ &= (\text{SH} \times \text{SR}) - (\text{AH} \times \text{SR}) \\ &\text{Or} \\ &= (\text{SH} - \text{AH}) \times \text{SR} \\ &= ₹ 50 \times [4,780 \text{ hrs.} - 5,000 \text{ hrs.}] \\ &= ₹ 11,000 \text{ (A)} \end{aligned}$$

⇒ Fixed Overhead Cost Variance = Fixed Overhead absorbed – Actual Fixed OHs

$$\begin{aligned} \text{Fixed OH absorption rate} &= \frac{\text{Budgeted OHs}}{\text{Budgeted output}} \\ &= \frac{(76,480/4)}{2,00,000} \\ &= 0.0956/\text{unit} \\ &= \{(0.0956 \cdot 1,91,200) - 19,500\} \\ &= \text{₹ } 1,221 \text{ (A)} \end{aligned}$$

Fixed Overhead Expenditure = Budgeted Fixed Overheads – Actual Fixed Overheads

$$\begin{aligned} \text{Variance} &= \text{₹ } 19,120 - \text{₹ } 19,500 \\ &= \text{₹ } 380 \text{ (A)} \end{aligned}$$

$$\begin{aligned} \text{Fixed Ohs Expenditure variance} &= (\text{Budgeted Fixed OH} - \text{Actual Ohs}) \\ &= 18,279 - 19,120 \\ &= 841 \text{ (A)} \end{aligned}$$

Chapter - 14 : Marginal Costing

7

Margin of Safety

2023 - May [1] {C} (c)

(i) **Calculation of Break-even Sales in value:**

$$\begin{aligned} &= \text{Fixed Cost} \div \text{P/V Ratio} \\ &= \text{₹ } 12,60,000 \div 30\% = \text{₹ } 42,00,000 \end{aligned}$$

(ii) **Calculation of Total Sales value:**

$$\begin{aligned} \text{Sales value (S)} &= \text{Break-even Sales} + \text{Margin of Safety} \\ \text{Or, } S &= 42,00,000 + 0.25 S \\ \text{Or, } 0.75 S &= 42,00,000 \\ \text{Or, } S &= 42,00,000 \div 0.75 \\ \text{Or, Sales} &= \text{₹ } 56,00,000 \end{aligned}$$

(iii) **Calculation of proposed sales value to earn present profit:**

Present profit = Sales – Variable Cost – Fixed Cost

= ₹ 56,00,000 – 70% of 56,00,000 – ₹ 12,60,000

= ₹ 56,00,000 – ₹ 39,20,000 – ₹ 12,60,000

= ₹ 4,20,000

Proposed Sales value (S) = 0.7S + (90% of ₹ 12,60,000) + 4,20,000

S = 0.7S + 11,34,000 + 4,20,000

S = 15,54,000 ÷ 0.3 = ₹ **51,80,000**

(iv) **Calculation of sales value to earn 20% on Sales:**

Sales Value (S) = 0.7 S + 12,60,000 + 0.2S

S = 12,60,000 ÷ 0.10 = ₹ **1,26,00,000**

(v) **New Margin of Safety:**

= (Sales – BES) ÷ Sales

= (87.5% of 56,00,000 – 42,00,000) ÷ (87.5% of 56,00,000)

= (49,00,000 – 42,00,000) ÷ 49,00,000

= 7,00,000 ÷ 49,00,000 = **14.29%**

Or

= (Sales – BES)

= (87.5% of 56,00,000 – 42,00,000)

= ₹ 7,00,000

9

***Application of CVP Analysis in
Decision Making***

2023 - May [3] (a)

⇒ **Budget showing the current position:**

Particulars	X	Y	Z	Total
Output	2,50,000	2,80,000	3,20,000	
Selling price p.u. (W.N.) (₹)	60	96	48	

<i>Less:</i>				
DHC/unit (₹)	(20)	(20)	(20)	
DWC/unit (₹)	(16)	(24)	(16)	
*VOH/unit (₹)	(4) (1 × 4)	(6) (1 × 6)	(4) (1 × 4)	
∴ Contri Per unit	20	46	8	
Total contribution (output × contribution p.u.)	50,00,000	1,28,80,000	25,60,000	2,04,40,000
<i>Less: Fixed Cost</i>				(13,20,000)
Total FOH			52,80,000	
(-) VOH			(39,60,000)	
(1.39.6 lakh hours)			13,20,000	
Profit				1,91,20,000

*Variable overhead is 1 per labour hour and labour hours per unit is 4/6/4.

Working Note:

(I) Determination of selling price:

- Product Z earn be sold at 20% profit on Marginal cost.
- Marginal cost = Direct Material Cost + Direct Labour Cost + Variable Overhead
= 20 + 16 + Variable Overhead

⇒ In order to ascertain variable OH cost per unit, we need to find out labour hours.

	X	Y	Z	Total
Direct wage cost @ ₹ 4 per labour hours	16	24	16	
∴ Labour hours per unit	4	6	4	
Total labour hours	10,00,000	16,80,000	12,80,000	39,60,000

It is given in the question that V. OH is ₹ 1 (labour hrs.)

∴ For product Z, variable OH/unit = 1 × 4 hrs. = ₹ 4

∴ HC = 20 + 16 + 4
= ₹ 40 per unit

SP/unit of product Z = 40 + (20% of 40)
= ₹ 48

SP/unit of X = 1.25 × 48 = ₹ 60

SP/unit of Y = 2 × 48 = ₹ 96

Budget showing next year position

Particulars	X	Y	Z	Total
Output	2,80,000 (2.5 L × 112%)	2,66,000	3,68,000 (3.2 L × 115%)	
SP/unit	60	96	48	
Less:				
DMC/u	(20)	(20)	(20)	
DLC/u	(16)	(24)	(16)	
VOH/u	(4)	(6)	(4)	
∴ Cont/u	20	46	8	
Total cont. (Output . Cont/u)	56,00,000	1,22,36,000	29,44,000	2,07,80,000
Less: Fixed Cost				(15,48,000)
Total OH	55,08,000			
(-) V.OH	(39,60,000)			
	15,48,000			
∴ Profit				1,92,32,000

10

Limiting Factor

2023 - May [4] (c)

⇒ Calculation of optimum product mix and profit:

Rank	Product	Demand /Output (a)	Machine hours per unit (b)	Total Machine hours (c = a . b)	Avail. Machine hours (d)	Bal. Machine hours (e = d - c)
I	B	6,000	5	30,000	55,000	25,000
II	A	2,500*	10	25,000	25,000	0

$$*2,500 \text{ units} = \frac{25,000}{10}$$

⇒ **Calculation of Profit**

	A	B
Output	2,500	6,000
Contribution per unit	50	50
Total Contribution (W.N.)	1,25,000	3,00,000
		4,25,000
(-) Fixed Cost		<u>(1,40,000)</u>
Profit		2,85,000

⇒ **Working Note:**

Statement showing rankings:

Particulars	A	B
Selling price p.a.	180	175
<i>Less:</i>		
DM	(55)	(60)
DL	(35)	(45)
VFOH	(40)	(20)
Contribution/unit	50	50
Machine hours/unit	10	5
(Limiting Factor)	(40/4)	(20/4)
Cost/machine hour	5	10

(Contribution per unit/Machine hours p.a.

Ranking

II

I

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