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SUGGESTED SOLUTION

CA INTERMEDIATE NOV'19

SUBJECT- COSTING

Test Code - CIM 8329

BRANCH - () (Date :)

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ANSWER-1

(i) Statement showing total cost of each product assuming absorption of overheads on Machine Hour Rate Basis.

Particulars	A	B	C	D	Total
Output (units)	100	110	120	150	480
Direct material (Rs.)	30	40	35	45	150
Direct Labour (Rs.)	25	30	30	40	125
Direct labour- Machine hrs	5	4	3	4	
Overhead @ Rs. 30/- per Machine hr	150	120	90	120	480
Total cost per unit (Rs.)	205	190	155	205	755
Total cost (Rs.)	20,500	20,900	18,600	30,750	90,750

Overhead Rate = $\frac{Total\ overhead\ costs}{Total\ MHrs.} = \frac{Rs.57{,}000}{1{,}900} = Rs.30\ per\ unit$

Total Overheads	Rs.		
Factory works expenses	22,500	Factory exp per unit	22,500 / 1,900 = Rs. 11.84
Stores receiving cost	8,100	Stores receiving cost	8100 / 100 = Rs. 81
Machine set up costs	12,200	Machine set-up cost	12,200 / 48 = Rs. 254.1
Costs relating to quality control	4,600	Cost relating to QC	4,600/48 =Rs. 95.83
Expense relating to material handling & dispatch Total	9,600	Material handling & dispatch	9,600 / 96 = Rs. 100/-
	57,000/-		

(5 MARKS)

Statement showing total cost of each product assuming activity based costing.

Particulars	A	B	C	D	Total
Output (Units)	100	110	120	150	480
No. of production runs	10	11	12	15	48
No. of stores requisition	25	25	25	25	100
No. of sales orders	20	22	24	30	96
Unit costs - Direct material (Rs.)	30.00	40.00	35.00	45.00	
Unit costs - Direct labour (Rs.)	25.00	30.00	30.00	40.00	
Unit costs - Factory works expenses (Rs.)	59.20	47.36	35.52	47.36	
Unit costs - Stores receiving cost (Rs.)	20.25	18.41	16.88	13.50	
Unit costs - Machine set-up cost (Rs.)	25.42	25.42	25.42	25.42	
Unit costs – QC (Rs.)	9.58	9.58	9.58	9.58	
Unit costs – Material Handling (Rs.)	20.00	20.00	20.00	20.00	
Unit cost (Rs.)	189.45	190.77	172.40	200.86	
Total cost (Rs.)	18,945	20,984.7	20,688.00	30,129	

Statement showing differences (in Rs.)

Particulars	A	B	C	D
Unit cost MHR	205	190	155	205
Unit cost ABC	189.45	190.77	172.40	200.86
Unit cost - difference	15.55	-0.77	-17.40	4.14
Total cost MHR	20,500	20,900	18,600	30,750
Total cost ABC	18,945	20,985	20,688	30,128

The difference is that A consumes comparatively more of Machine hours.

The use of activity based costing gives different product costs than what were arrived at by utilizing traditional costing. It can be argued that Product costs using ABC are more precise as overheads have been identified with specific activities.

(5 MARKS)

ANSWER-2

(a) Statement showing the distribution of overheads (primary distribution)

Items of costs	Basis of apportionment	Total	Production Departments			Service Departments	
			A	B	C	X	Y
		Rs.	Rs,	Rs.	Rs,	Rs,	Rs.
Direct wages	Only service depts.	10,000	-	-	-	7,500	2,500
Rent and fates	Floor space@ Rs. 2.50 per sq. mtr. (Rs. 25,000 ÷ 10000)	25,000	5,000	6,250	7,500	5,000	1,250
General lighting	Lighting points (nos.) @ Rs. 50 per point(Rs. 3,000 ÷60)	3,000	500	750	1,000	500	250
Indirect wages	Direct wages (15%)	7,500	2,250	1,500	2,250	1,125	375
Power	H.P. @ Rs. 50 (Rs. 7,500 ÷ 150)	7,500	3,000	1,500	2,500	500	-
Depreciation	Cost of m/c @4%*	50,000	12,000	16,000	20,000	1,000	1,000
Sundries	Direct wages @ Rs 1	50,000	15,000	10,000	15,000	7,500	2,500
	Total (i)	1,53,000	37,750	36,000	48,250	23,125.	7,875

* (50,000/12,50,000) x 100 = 4%

Redistribution of Service Departments Expenses to Production Departments

Departments	Total	A	B	C	X	Y
X (given ratios)		4,625	6,937	9,250	(23,125)	2,313
Y		4,075	2,038	3,056	1,019	(10,188)
X		204	306	407	(1,019)	102
Y		41	20	31	10	(102)
X		2	3	5	(10)	-
Total (ii)		8,947	9,304	12,749	(23,125)	(7,875)
Grand Total (i) + (ii)	1,53,000	46,697	45,304	60,999	-	-
Production hours worked		6,226	4,028	4,066		
Overhead rate		7.50	11.25	15.00		

(7 MARKS)

(b)

Direct material cost (given)	Rs.250.00
Direct labour cost	150.00
Prime cost	400.00

Production overheads:

Departments	Hours	Rate	Amount	
A	4	Rs. 7.50	Rs. 30.00	
B	5	11.25	56.25	
C	3	15.00	45.00	131.25
Total cost of production				531.25

(3 MARKS)

ANSWER-3

Effective Machine Running Hours

No. of working days for the year = 300

Total number of working hours @ 8 hours per day	2,400 hrs
Less: Machine maintenance time	400 hrs
Effective machine hours	2,000 hrs.

Calculation for machine hour rate:-

Cost of Electricity: 2000 hrs x 15 units x Rs. 2.00 per unit	Rs.60,000
Cost of Heating: Rs. 2500 x 12 months	30,000
Maintenance Cost: (Rs. 500 ÷ 6) x 300 days	25,000
Operators Cost: [{3 x Rs. 450) + 40% of (3 X 450)} ÷ 6] x 50 weeks	15,750

Departmental and General Overheads

Allocation of last year	= Rs. 60,000
Expected increase 12.5%	= 7,500
	67,500

allocation for one machine:- Rs. 67,500 ÷ 6		11,250
Depreciation :		
Cost of machine	= Rs. 7,50,000	
Less : Scrap	30,000	
	7,20,000	
Depreciation for one year = Rs. 7,20,000 ÷ 15	=	48,000
		1,90,000
Machine hour rate = Rs. 1,90,000 ÷ 2,000 hrs		= Rs. 95.00

(10 MARKS)

ANSWER-4

(i) Amount of under-absorption of production overheads during the year 20X1-12 (Rs.)

Total production overheads actually incurred during the year 20X1-X2		6,00,000
Less : 'Written off' obsolete stores	Rs. 45,000	
Wages paid for strike period	Rs. 30,000	75,000
Net production overheads actually incurred : (A)		5,25,000
Production overheads absorbed by 48,000 machine hours @ Rs.10 per hour : (B)		4,80,000
Amount of under – absorption of production overheads : [(A) – (B)]		45,000

(4 MARKS)

(ii) Accounting treatment of under absorption of production overheads

It is given in the statement of the question that 20,000 units were completely finished and 8,000 units were 50% complete, one third of the under-absorbed overheads were due to lack of production planning and the rest were attributable to normal increase in costs

(Rs.)

1.

(33 – 1/3% of Rs.45,000) i.e., Rs.15,000 of under-absorbed overheads were due to lack of production planning. This being abnormal, should be debited

to the Costing Profit and Loss A/c.	15,000

2. Balance (66–2/3% of Rs.45,000) i.e., Rs.30,000 of under-absorbed overheads should be distributed over work-in-progress, finished goods and cost of sales by using supplementary rate. 30,000

Total under-absorbed overheads 45,000

(3 MARKS)

Apportionment of unabsorbed overheads of Rs. 30,000 over, work-in **progress, finished goods and cost of sales**

	Equivalent	(Rs.) Completed Units
Work-in-Progress (4,000 units × Rs.1.25)	4,000	5,000
(Refer to working note)		
Finished goods (2,000 units × Rs.1.25)	2,000	2,500
Cost of sales (18,000 units × Rs.1.25)	18,000	22,500
	24,000	30,000

Working Note :

Supplementary rate per unit = Rs. 30000/24000 = Rs. 1.25

(3 MARKS)

ANSWER-5

Calculation of "Activity Rate"

Cost Pool	Cost (Rs.) [A]	Cost Driver [B]	Cost Driver Rate (Rs.) [C] = [A]÷[B]
Machine Department Expenses	18,48,000	Machine Hours (1,32,000 hrs.)	14.00
Assembly Department Expenses	6,72,000	Assembly Hours (42,000 hrs.)	16.00
Setup Cost	90,000	No. of Production Runs (450*)	200.00

Stores Receiving Cost	1,20,000	No. of Requisitions Raised on the Stores (120)	1,000.00
Order Processing and Dispatch	1,80,000	No. of Customers Orders Executed (3,750)	48.00
Inspection and Quality Control Cost	36,000	No. of Production Runs (450*)	80.00
Total (Rs.)	29,46,000		

*Number of Production Run is 450 (150 + 120 + 180)

(4 MARKS)

Statement Showing "Overheads Allocation"

Particulars of Cost	Cost Driver	P	Q	R	Total
Machine Department Expenses	Machine Hours	4,20,000 (30,000 × Rs.14)	6,72,000 (48,000 × Rs.14)	7,56,000 (54,000 × Rs.14)	18,48,000
Assembly Department Expenses	Assembly Hours	2,40,000 (15,000 × Rs.16)	---	4,32,000 (27,000 × Rs.16)	6,72,000
Setup Cost	No. of Production Runs	30,000 (150 × Rs.200)	24,000 (120 × Rs.200)	36,000 (180 × Rs.200)	90,000
Stores Receiving Cost	No. of Requisitions Raised on the Stores	40,000 (40 × Rs.1,000)	30,000 (30 × Rs.1,000)	50,000 (50 × Rs.1,000)	1,20,000
Order Processing and Dispatch	No. of Customers Orders Executed	60,000 (1,250 × Rs.48)	48,000 (1,000 × Rs.48)	72,000 (1,500 × Rs.48)	1,80,000
Inspection and Quality	No. of Production	12,000 (150 × Rs.80)	9,600 (120 × Rs.80)	14,400 (180 × Rs.80)	36,000

Control Cost	Runs				
Overhead (Rs.)		8,02,000	7,83,600	13,60,400	29,46,000

(6 MARKS)