SUGGESTED SOLUTION

INTERMEDIATE MAY 2019 EXAM

SUBJECT- COSTING

Test Code - CIM 8098

BRANCH - () (Date :)

Answer 1:

Process A . Period : February 20X1

Average Method   Output : 10,000 units

Statement of Equivalent Production

Input		Output		Equivalent Production					
				Material		**Labour**		**Overhead**	
Particulars	**Units**	**Particulars**	**Units**	**Units**	**%**	**Units**	**%**	**Units**	**%**
Opening stock	4,000	Units completed:	14,000	14,000	100	14,000	100	14,000	100
New Units		Closing stock	6,000	6,000	100	2,000	33.1/3	2,000	33.1/3
introduced	16,000								
	20,000		**20,000**	**20,000**		**16,000**		**16,000**	

Statement of Cost for each Element

Elements of Cost	Cost of opening WIP Rs.	Cost in Process Rs.	Total Cost Rs.	Equivalent Production Rs.	Cost per unit Re.
Material	1,200	5,120	6,320	20,000	0.316
Labour	200	3,000	3,200	16,000	0.200
Overhead	200	3,000	3,200	16,000	0.200

Statement of Apportionment of Cost

Items	Element	Equivalent Production	Cost per unit Rs.	Cost Rs.	Total Cost Rs.
Units	Material	14,000	0.316	4,424	
completed	Labour	14,000	0.200	2,800	
	Overhead	14,000	0.200	2,800	10,024
Closing Stock	Material	6,000	0.316	1,896	
	Labour	2,000	0.200	400	
	Overhead	2,000	0.200	400	2,696

Dr.   **Process A Account**   **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Opening Stock	4,000	Rs.1,600	By units completed and transferred	14,000	Rs.10,024
To New units introduced	16,000		By Closing stock.	6,000	2,696
Material		5,120			
Labour		3,000			
Overhead		3,000			
	20,000	**12,720**		**20,000**	**12,720**

Answer 2:

Production Budget (in units) for the year ended 31st March 2016

	Product M	Product N
Budgeted sales (units)	28,000	13,000
Add: Increase in closing stock	320	160
No. good units to be produced	28,320	13,160
Post production rejection rate	4%	6%
No. of units to be produced	29,500	14,000
	$\left\{\dfrac{28,320}{0.96}\right\}$	$\left\{\dfrac{13,160}{0.94}\right\}$

Purchase budget (in kgs and value) for Material Z

	Product M	Product N
No. of units to be produced	29,500	14,000
Usage of Material Z per unit of production	5 kg.	6 kg.
Material needed for production	1,47,500 kg.	84,000 kg.
Materials to be purchased	1,63,889 kg.	88,421 kg.
	$\left\{\dfrac{1,47,500}{0.9}\right\}$	$\left\{\dfrac{84,000}{0.95}\right\}$
Total quantity to be purchased	2,52,310 kg.	
Rate per kg. of Material Z	Rs.36	
Total purchase price	Rs.90,83,160	

(ii) Since, the maximum number of order per year can not be more than 40 orders and the maximum quantity per order that can be purchased is 4,000 kg. Hence, the total quantity of Material Z that can be available for production:

= 4,000 kg. × 40 orders = 1,60,000 kg

	Product M	Product N
Material needed for production to maintain the same production mix	1,03,929 kg. $\left(1,60,000 \times \dfrac{1,63,889}{2,52,310}\right)$	56,071 kg. $\left(1,60,000 \times \dfrac{88421}{252310}\right)$
Less: Process wastage	10,393 kg.	2,804 kg.
Net Material available for production	93,536 kg.	53,267 kg.
Units to be produced	18,707 units $\left\{\dfrac{93,536 kg.}{5\ kg.}\right\}$	8,878 units $\left\{\dfrac{53,267\ kg.}{6\ kg.}\right\}$

Answer 3:

Working Note: Is Let x be the cost of material and y be the normal rate of wage per hour.

Factory Cost of workman Vishnu:

Material cost   Rs. x

Wages   60 y

Bonus under Rowan System $= \dfrac{\text{Time saved}}{\text{Time allowed}}$ x Hrs. worked x Rate per hr.

$= (40 / 100)$ x 60 y = 24 y

Overhead, i.e., 60 x 10 = 600

Factory cost = x + 60 y + 24 y + Rs. 600 = Rs. 7280 or   x + 84 y = Rs. 6680   ...(1)

Factory cost of workman Shiva:

Material   Rs. x

Wages   80 y

Bonus under Halsey Premium Plan   = Hrs. Saved * 50 % * Rate per hr.

$= 20 * 50\% * y = 10\ y$

Overhead (80 x 10)   = 800

Factory cost = x + 80y + 10y + Rs. 800 = 7,600 or   x + 90y = Rs. 6,800 ...(2)

From (i) and (ii) value of y = 20

∴ Rate per hour Rs, 20

Bonus paid to Vishnu = 24 x Rs. 20 = Rs. 480

Bonus paid to Shiva = 10 x Rs. 20 = Rs. 200

(a) Normal Wages = Rs. 20 per hour as per Working Note above.

(b) The cost of material:

We know that x + 90y   = Rs. 6,800

or x + (90 x 20) = Rs. 6,800 or x = Rs. 5,000

(c) Comparative statement of the factory cost of the product made by the two workmen

	Vishnu	**Shiva**
Material Cost	Rs. 5,000	Rs. 5,000
Direct Wages 60 x 20	1,200	-
80 x 20	-	1,600
Bonus (See Working Note above)	480	200
Factory Overhead	600	800
Factory Cost	7,280	7,600

Answer 4:

Consumption of raw material has to be worked out as follows :

Cost of goods sold	Rs. 56,000
Less : Selling expenses	3,400
	52,600
Less : General and administration expenses	2,600
	50,000
Add : Closing Stock of Finished Goods	18,000
	68,000
Less : Opening Stock of Finished Goods	14,000
	54,000
Add : Closing Stock of Work-in-progress	12,000
	66,000
Less : Opening Stock of Work-in-progress	8,000
	58,000
Less : Factory overheads (16,000 x 100/160)	10,000
Prime Cost	48,000
Less : Direct labour	16,000
Raw Material consumed	32,000

Statement of Cost and Profit

Opening stock of raw materials	8,000
Add : Purchase of raw materials (balancing figure)	32,600
	40,600
Less : Closing stock of raw materials	8,600
Raw Material consumed	32,000
Add ; Direct Labour post	16,000
Prime Cost	48,000
Add : Factory Overheads	10,000
	58,000
Add : Opening Stock of Work-in-progress	8,000
	66,000
Less : Closing Stock of Work-in-progress	12,000
	54,000
Add : General and Administration Expenses	2,600
	56,600
Add : Opening Stock of Finished Goods	14,000
	70,600
Less ; Closing Stock of Finished Goods	18,000
	52,600
Add : Selling Expenses	3,400
	56,000
Sales	75,000
Profit	19,000

Answer 5:

(i) Statement showing the apportionment of joint costs to A, B and X based on sales value at the point of split-off

Products	A	B	X	Total Rs.
Output (Kg.)	18,000	10,000	54,000	-
Sales value at the point of split-off (Rs.)	(50 x 18,000) = Rs.9,00,000	(40 x 10,000) Rs.4,00,000	10 x 54,000 Rs.5,40,000	18,40,000
Joint cost	Rs.6,30,000*	Rs.2,80,000@	Rs.3,78,000$	12,88,000
apportioned on the basis of sales value at the point of split off	$\left(\dfrac{Rs.12,88,000}{Rs.18,40,000} \times 9,00,000\right)$@	$\left(\dfrac{Rs.12,88,000}{Rs.18,40,000} \times 4,00,000\right)$	$\left(\dfrac{Rs.12,88,000}{Rs.18,40,000} \times 5,40,000\right)$	

(ii) Statement showing the cost per kg. of each product (including joint costs processing cost and total costs separately)

Products	A	B	X
Joint costs (as per (a) (i)	Rs.6,30,000	Rs.2,80,000	Rs.3,78,000

Production	18,00 kg.	10,000 kg.	54,000 kg.
Joint cost per kg. (i)	Rs.35	Rs.28	Rs.7
Further processing cost per kg (ii)	Rs.10	Rs.15	Rs.2
	(1,80,000+18,000)	(1,50,000+10,000)	(1,08,000+54,000)
Total cost per kg. (i) + (ii)	Rs.45	Rs.43	Rs.9

(iii) Statement showing product-wise total profit for the period

Products	A	B	X	Total
Sales value (Rs.)	12,24,000	2,50,000	7,92,000	
Add : Closing stock (Please refer to notes)	45,000	2,15,000	90,000	
Total	12,69,000	4,65,000	8,82,000	26,16,000
Less : (i) Apportioned joint cost	6,30,000	2,80,000	3,78,000	12,88,000
(ii) Further processing cost	1,80,000	1,50,000	1,08,000	4,38,000
Profit	4,59,000	35,000	3,96,000	8,90,000

(iv) Calculation for processing decision :

1. Products	A	B	X
Selling price per kg. at the point of split-off	Rs.50	Rs.40	Rs.10
Selling price per kg. after processing	72	50	18
Incremental selling price	22	10	8
Less : Further processing cost	10	15	2
Incremental profit (loss)	12	(-5)	6

Since product B does not give any further processing profit, it should not be further processed.

Working Notes :

1. Products	A	B	X
(i) Sales Value	Rs.12,24,000	Rs.2,50,000	Rs.7,92,000
(ii) Quantity sold	17,000 kg.	5,000 kg.	44,000 kg.
(iii) Selling price Rs./kg. (i) ÷ (ii)	72	50	18

2. Valuation of closing stocks

Products	A	B	X	Total
Closing Stock	1,000 kg.	5,000 kg.	10,000 kg	
Cost per kg.	Rs.45	Rs.43	Rs.9	
Closing Stock Value (Rs.)	45,000	2,15,000	90,000	Rs.3,50,000

Closing stock is valued at lower of cost or market value. Here cost is lower of the two and therefore closing stock is to be valued at cost. Working note 1 determines selling price per kg. for its comparison with cost per kg.