SUGGESTED SOLUTION

IPCC MAY 2017 EXAM

COSTING

Test Code - I M J 7 1 3 6

BRANCH - (MULTIPLE) (Date : 01.01.2017)

Head Office : Shraddha, 3rd Floor, Near Chinai College, Andheri (E), Mumbai – 69.

Tel : (022) 26836666

Answer-1 :

Process X Account

	Units	Amount Rs.		Units	Amount Rs.
Material Introduced @ Rs. 6 per unit	1,000	6,000	Normal Loss	50	200
Material		5,200	Transferred Process Y @ Rs. 20 per unit	950	19,000
Direct Wages		4,000			
Production Overheads		4,000			
	1,000	**19,200**		**1,000**	**19,200**

(1 Mark)

Process Y Account

	Units	Amount Rs.		Units	Amount Rs.
Transferred from Process X	950	19,000	Normal Loss	95	760
Material		3,960	Abnormal Loss	15	600
Direct Wages		6,000	Transferred to next Process @ Rs. 40 pre unit	840	19,000
Production Overheads		6,000			
	950	**34,960**		**950**	**34,960**

(1 Mark)

Process Z Account

	Units	Amount Rs.		Units	Amount Rs.
Transferred from Process Y	840	33,600	Normal Loss	126	1,260
Material		5,924	Transferred to next Process @ Rs. 40 pre unit	750	57,000
Direct Wages		8,000			
Production Overheads		8,000			
Abnormal Gain @ Rs.76 per unit	36	2,736			
	876	**58,260**		**876**	**58,260**

(1 Mark)

Abnormal Loss Account

	Rs.		Rs.
To Process Y	600	By Cash (sale of Scrap of Abnormal Loss units)	120
		By Costing Profit And Loss A/c	480

	600		**600**

(1 Mark)

Abnormal Gain Account

	Rs.		**Rs.**
To Process Z A/c.	360	By Process Z A/c	2,736
To Costing Profit & Loss Account	2,376		
	2,736		**2,736**

(1 Mark)

Working Note

Process Y:

(a) Normal Loss $950 \times \frac{10}{100} = 95$ Units

Scrap Value 95 x 8 = Rs. 760

(b) Abnormal Loss Units

Normal Production 950 - 95	855
Actual Production	840
Abnormal Loss	15

(c) Cost of Normal Production. 34,960 - 760 = 34,200

Cost of Normal Production per unit $\frac{34,200}{845}$ = Rs. 40 per unit

Cost of Abnormal Loss 40 x 15 = 600

(1.5 Marks)

Abnormal Loss has been credited with Rs.120 being the amount realised from the sale of scrap and Abnormal Loss.

Process Z:

(a) Normal Process. 15% of 840 units.

$= \frac{840 \times 15}{100} = 126$ units

Sale of scrap = 126 x Rs. 10 = Rs. 1,260.

(b) Abnormal Gain.

	Units
Actual Production	750
Estimated Production	714
	36

The Cost of Abnormal Gain has been calculated in the usual way.

Abnormal Gain A/c has been debited with Rs.360 being less amount, recovered on the sale of loss of units which were 90 units instead of normal 126 units.

i.e., 36 x 10 = Rs. 360.

(1.5 Marks)

Answer-2 :

(1) Economic Order Quantity = $\sqrt{\frac{2AB}{S}}$

A = Annual Consumption

B = Buying Cost per order

S = Storage and Carrying cost

A (Annual requirement of Raw materials in kgs) $= \frac{1 \text{ kg x } 1{,}00{,}000 \text{ units}}{2.5 \text{ units}}$

= 40000 kg.

S Carrying Cost and Storage Expenses = (0.5 x 12) + Rs.9

= Rs. 15 per unit

B Buying Cost per order = Rs. 360 = Rs. 390 = Rs.750

EOQ $= \sqrt{\frac{2x40{,}000x750}{15}}$

= 2000 kgs

(2 Marks)

(2) Annual Consumption = 40000 kgs

Quantity per order = 2000 kgs

No. of orders $= \frac{40{,}000}{2{,}000}$ = 20 orders in 12 months

Frequency $= \frac{12 \text{ months}}{20 \text{ orders}}$ = 0.6 months

(or) $= \frac{365 \text{ months}}{20 \text{ orders}}$ = 18 days (approx.)

(2 Marks)

(3) Quarterly Orders $= \frac{40{,}000 \text{ kgs}}{4 \text{ orders}}$ = 10,000 kgs per order

No. of orders $= \frac{40{,}000}{10{,}000}$ = 4 orders

Total Cost:	Rs.
Order Placing Cost (4 x 750)	3,000
Carrying Cost = $\frac{10{,}000}{0.5 \text{ x } 4}$ x 15	75,000
	78,000

(2 Marks)

Total Cost of EOQ :

No. of Orders	=	20	Rs.
Order Placing Cost (20 x 7S0)	=		15,000
Carrying Cost = $\frac{2{,}000}{0.5 \text{ x } 4}$ x 15	=		15,000
			30,000

Increase in cost to be compensated by discount:

Total Cost	=	Rs. 78,000
Total Cost EOQ	=	Rs. 30,000
Increase in Cost		Rs.48,000

Price of discount per unit $= \frac{48{,}000}{40{,}00 \text{ kg}}$ = Rs.1.20 per uni

Percentage of discount in the prices of raw materials $= \frac{Rs.1.20}{60}$ x 100

= 2% discount

(2 Marks)

Answer-3 :

Calculation of Price of the Delhi-Jaipur-Agra-Delhi tour package

Particulars	**Amount (Rs.)**	**Amount (Rs.)**
Diesel Cost (Working Note-2)		2,635.00

Servicing Cost $\left(\frac{\text{Rs.30,000}}{\text{50,000 kms}} \text{ x 754 kms.}\right)$			452.40
Chauffeur's meal cost (three 200 km. completed journey x Rs.50)			150.00
Other Allocable Costs :			
Depreciation $\left(\frac{\text{Rs.12,00,000}}{\text{24,00,000 kms}} \text{ x 754 kms.}\right)$		377.00	
Other set-up and office cost $\left(\frac{\text{Rs.2,400}}{\text{30 days}} \text{ x 3 days}\right)$		240.00	
Chauffeur's Salary $\left(\frac{\text{Rs.12,000}}{\text{30 days}} \text{ x 3 days}\right)$		1,200.00	1,817.00
Total Cost			5,054.40
Add : Profit (25% of net takings or 1/3rd of total cost)			1,684.80
			6,739.20
Add : Service Tax @ 12.36%			832.97
Price of the package (inclusive of service tax)			**7,572.17**

(6 Marks)

Working Notes :

(1) Total distance of journey

From	To	Distance (Km.)
Delhi	Jaipur	274
Jaipur	Agra	238
Agra	Delhi	242
Total Distance		754

(1 Mark)

(2) Cost of Diesel

From	To	Distance (in Km.)	Price of diesel per litre (Rs.)	Total diesel Cost (Rs.)
I	II	III	IV	V = (III + 16 km) x IV
Delhi	Jaipur	274	54	924.75
Jaipur	Agra	238	56	833.00
Agra	Delhi	242	58	877.25
				2635.00

(1 Mark)

Answer-4 :

Working Notes:

1.

	(Kg.)
Material Input	1,50,000
Less: Loss of Material in process (5% of 1,50,000 kg.)	7,500
Total output	1,42,500

(1 Mark)

2. Output of P and Q are in the ratio of 1:2 of the total output:

$$P = \frac{1,42,500 \text{ kg x } 1}{3} = 47,500 \text{ kg.}$$

$$Q = \frac{1,42,500 \text{ kg x } 2}{3} = 95,000 \text{ kg.}$$

(1 Mark)

3. Joint Costs:

	(Rs.)
Material (input) (1,50,000 kg. x Rs. 12)	18,00,000
Direct materials	90,000
Direct Wages	1,20,000
Variable overheads	1,00,000
Fixed overheads	1,00,000
	22,10,000

(1 Mark)

4. Sales Revenue of P, Q and S
P = 47,500 Kg. x Rs. 12 = Rs.5,70,000
Q = 95,000 Kg. x Rs. 20 = Rs. 19,00,000
S = 47,500 Kg. x Rs. 15 = Rs.7,12,500.

(1 Mark)

5. Apportionment of joint costs viz. Rs. 22,10,000 over P and Q in proportion of their sales value i.e. Rs. 5,70,000 and Rs. 19,00,000, i.e., 3 :10 is:

	Total	**P**	**Q**
	(Rs.)	**(Rs.)**	**(Rs.)**
Joint cost apportionment	22,10,000	5,10,000	17,00,000
In the ratio of 3:10		$\left(\frac{\text{Rs.22,10,000 x 3}}{13}\right)$	$\left(\frac{\text{Rs.22,10,000 x 10}}{13}\right)$

(1 Mark)

6. Total Cost of 47,500 kg. of S = Joint Cost of P + Cost of Processing P into S.
= Rs. 5,10,000 + Rs. 1,85,000 = Rs. 6,95,000.

Statement showing the Monthly Profitability

	Based on existing manufacturing operations			**Based on further processing of P into S**		
	Products			**Products**		
	P	**Q**	**Total**	**S**	**Q**	**Total**
Sales quantity (kg.)	47,500	95,000	1,42,500	47,500	95,000	1,42,500
	(₹)	(₹)	(₹)	(₹)	(₹)	(₹)
Sales Revenue (Working Note 4)	5,70,000	19,00,000	24,70,000	7,12,500	19,00,000	26,12,500
Less: Joint Costs (Working Note 5)	5,10,000	17,00,000	22,10,000	6,95,000*	17,00,000	23,95,000
Profit	60,000	2,00,000	2,60,000	17,500	2,00,000	2,17,500

* Working Note 6

Recommendation : Further processing of P is not recommended as it results in a lower profit of P.

(3 Marks)

Answer-5 :

Total hours 60 workers x 40 = 2400 hours
Output = 8 units per hour

Hours required = $\frac{(2400 \text{ x } 8)}{8 \text{ hours}} = \frac{19{,}200 \text{ units}}{8 \text{ hours}} = 2400 \text{ hours}$

Standard hours allowed = $\frac{19{,}200 \text{ units}}{6 \text{ hours}} = 3{,}200 \text{ hours}$

Time Saved = 3200 - 2400 = 800 hours

Rate per hour = $\frac{\text{Rs.400}}{\text{40 hours}}$=Rs.10 **(3 Marks)**

Bonus

Halsey Scheme = 50% of Time Saved

Bonus = 50% of Time Saved

= $\frac{800}{2}$ = 400 hrs. x Rs. 10 = Rs. 4000

Rowan Scheme

Bonus = $\frac{\text{Time Saved}}{\text{Std. Hours}}$ x Actual Hours x Hourly Rate

= $\frac{\text{800 hours}}{\text{3200 hours}}$ x 2400 hrs. x 10 = Rs. 6000

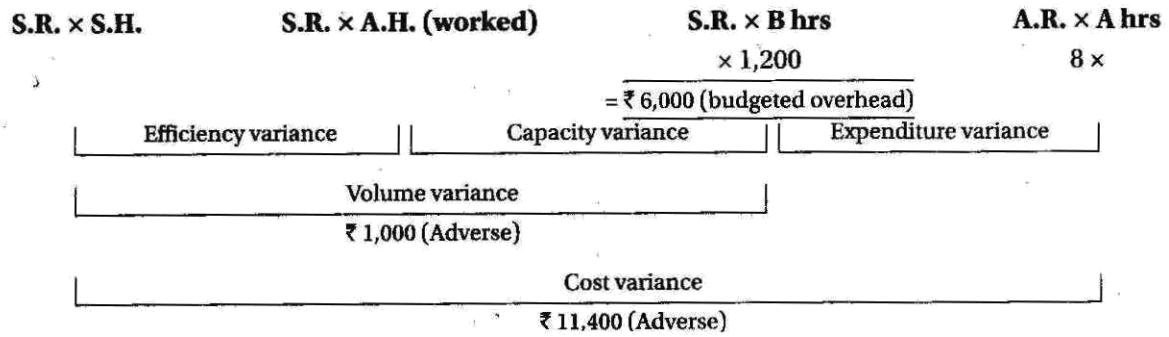
(2 Marks)

Comparative Statement

Particulars	**Present Rs.**	**Halsey Rs.**	**Rowan Rs.**
Sales 19200 units x Rs. 11	2,11,200	2,11,200	2,11,200
Direct Materials (19200 units x Rs. 8)	1,53,600	1,53,600	1,53,600
$\left[\frac{\text{19,200 units}}{6}=\frac{\text{3200 hours x Rs.10}}{\text{2400 hours x Rs.10}}\right]$	32,000	24,000	24,000
Overtime 800 hrs. x Rs. 5	4,000		
Bonus	—	4,000	6.000
Variable overheads (3200 hrs x Rs. 0.50 2400 hrs x Rs. 0.50)	1,600	1,200	1,200
Fixed Overheads	9,000	9,000	9,000
	2,00,200	1,91,800	1,93,800
Profit	11,000	19,400	17,400

(3 Marks)

Answer-6 :



1. Budgeted overhead = S.R. × Budgeted hrs.
`6,000 = S.R. × 1,200 hrs
Standard Rate = $\frac{6,000}{1,200}$ =`5
Standard Rate per hour =`5

2. Volume variance = S.R. × S.H. − S.R. × B. hrs
`(1,000) =`5 × S.H.−`5 × 1,200
5 × S.H = 6,000 − 1,000
S.H. = $\frac{5,000}{5}$ = 1,000 hrs

3. Cost variance = S.R. × S.H. – A.R. × A.H.
`(1,400) =`5×`1,000 −`8 × A.H.

`8 × A.H. =`5,000 + 1,400
A.H. = $\frac{6,400}{8}$ = 800 hrs
Actual hours = 800 hrs

4. Capacity variance = S.R. × A.H. − S.R. × B. hrs
= (`5 × 800) – (`5 ×`1,200) =`4,000 −`6,000 =`2,000(Adverse)

5. Expenditure variance = S.R. × B hrs − A.R. × A.H.
=`5 ×`1,200 −`8 ×`800 =`6,000 −`6,400 = 400 (Adverse)

6. Actual O.H. incurred = A.R. × A.H.
=`8 ×`800 =`6,400

7. Efficiency variance = S.R. × S.H. − S.R. × A.H.
=`5 ×`1,000 −`5 × 800
=`5,000 −`4,000 =`1,000 (Favourable)