INTER CA – MAY 2018

COSTING

Topic: Contract Costing, Budgetary Control, Labour, Joint & By- Product, Absorption Costing, Overheads, Integral & Non – Integral, Marginal Costing .

Test Code – M32

Branch: MULTIPLE Date: 21.01.2018

(50 Marks)

Note: All questions are compulsory.

Question 1 (8 marks)

a. Escalation Clause:

(a) This clause is usually provided in the contracts as a safeguard against any likely changes in the price or utilization of material and labour. If during the period of execution of a contract, the prices of materials or labour rise beyond a certain limit, the contract price will be increased by an agreed amount. Inclusion of such a term in a contract deed is known as an 'escalation clause'. (2 marks)

(b) An escalation clause usually relates to change in price of inputs, it may also be extended to increased consumption or utilization of quantities of materials, labour etc (where it is beyond the control of the contractor). In such a situation the contractor has to satisfy the contractee that the increased utilization is not due to his inefficiency. (2 marks)

b. Treatment of over and under absorption of overheads are:-

(4 marks)

(i) Writing off to costing P&L A/c:– Small difference between the actual and absorbed amount should simply be transferred to costing P&L A/c, if difference is large then investigate the causes and after that abnormal loss shall be transferred to costing P&L A/c.

(ii) Use of supplementary Rate: Under this method the balance of under and over absorbed overheads may be charged to cost of W.I.P., finished stock and cost of sales proportionately with the help of supplementary rate of overhead.

(iii) Carry Forward to Subsequent Year: Difference should be carried forward in the expectation that next year the position will be automatically corrected. This would really mean that costing data of two years would be wrong.

Question 2 (8 Marks)

Note: Joint Costs are apportioned based on the ratio of sales value at split-off point.

(1/2 mark for each calculation)

Particulars	A	B	C	D	TOTAL
1.Output in liters	8,000 liters	4,000 liters	2,000 liters	4,000 liters	
2.Sales Price per liter at split-off point	Rs. 15.00	Rs.6.00	Rs 3.00	Rs. 7.50	
3.Sal value at split-off point (1*2)	Rs.1,20,000	Rs. 24,000	Rs. 6,000	Rs. 30,000	Rs.1,80,000
4.Joint Cost apportioned in above ratio (120:24:6:30)	Rs.98,667	Rs.19,733	Rs.4,933	Rs.24,667	Rs.1,48,000
5.Proft/(Loss) if all products are sold at spilt-off point (3-4)	Rs.21,333	Rs.4,267	Rs.1,067	Rs.5,333	Rs.32,000
6.Further Processing Costs(given)	Rs.43,000	Rs.9,000	-	Rs.1,500	Rs.53,500

7.Final sales value(given)	Rs.1,72,000	Rs.25,000	Rs.6,000	Rs.45,000	Rs.2,48,500
8.Profit/(Loss) if all products are sold after further processing(7-4-6)	Rs.30,833	(Rs.3,733)	Rs.1,067	Rs.18,833	Rs.47,000
9.Additional Revenue from further processing(7-3)	Rs.52,500	Rs.1,000	NA	Rs.15,000	
10.Additional Processing Costs(given)	Rs.43,000	Rs.9,000	-	Rs.1,500	
11. Additional Profit/(Loss) from further processing(9-10)	Rs.9,500	(Rs.8,000)	NA	Rs.13,500	
12.Optimal Decision(based on 11 above)	Process Further	Sell at Split-off	Sell at Split-off	Process Further	
13.Sales Revenue as per Optimal Decision	Rs.1,72,500	Rs.24,000	Rs.6,000	Rs.45,000	Rs.2,47,500
14.Joint Costs as per Point 4 above	Rs.98,667	Rs.19,733	Rs.4,933	Rs.24,667	Rs.1,48,000
15. further processing Costs as per Optimal Decision (i.e. Only For A and D)	Rs.43,000	NIL	NIL	Rs.1,500	Rs.44,500
16. Profit as per Optimal Decision (13-14-15)	Rs.30,833	Rs.4,267	Rs.1,067	Rs.18,833	Rs.55,000

Alternatively, Profit as per Optimal Decision can also be Computed as under-

Particulars	A	B	C	D	TOTAL
13. Profit / (Loss) if all products are sold at split-off point (as per point 5 above)	Rs.21,333	Rs.4,267	Rs.1,067	Rs.5,333	Rs.32,000
14. Additional profit from further processing (only for A & D) (as per point 11 above)	Rs.9,500	NA	NA	Rs.13,500	Rs.23,000
15. Profit as per Optimal Decision (13 + 14)	Rs.30,833	Rs.4,267	Rs.1,067	Rs.18,833	Rs.55,000

Question 3 (8 Marks)

(a) **Production Budget (in units)** (2 marks)

	Product- K (units)	Product- H (units)
Expected sales	8,000	4,200
Add: Closing stock	1,000	2,100
Less: Opening stock	(800)	(1,600)
Units to be produced	8,200	4,700

(b) **Material Purchase Budget** (3 marks)

	Material-X (kg.)	Material-Y (kg.)	Material-Z (ltr.)
Materials required:			
- Product-K	98,400 (8,200 units ×12 kg.)	1,23,000 (8,200 units×15 kg.)	65,600 (8,200 units× 8 ltr.)
- Product- H	70,500 (4,700 units ×15 kg.)	28,200 (4,700 units × 6 kg.)	65,800 (4,700 units×14ltr.)
Total	1,68,900	1,51,200	1,31,400
Add: Closing stock	30,000	18,000	7,500
Less: Opening stock	(25,000)	(30,000)	(14,000)
Quantity to be purchased	1,73,900	1,39,200	1,24,900
Rate	₹15 per kg.	₹16 per kg.	₹5 per ltr.
Purchase cost	₹ 26,08,500	₹ 22,27,200	₹ 6,24,500

(c) **Direct Labour Budget** (3 marks)

	Unskilled (hours)	Skilled (hours)
For Product K	98,400 (8,200 units × 12 hours)	65,600 (8,200 units × 8 hours)
For Product H	47,000 (4,700 units × 10 hours)	23,500 (4,700 units × 5 hours)
Labour hours required	1,45,400	89,100
Rate	₹ 40 per hour	₹ 75 per hour
Wages to be paid	₹ 58,16,000	₹ 66,82,500

Question 4 (6 Marks)
(2 marks for each point)

a. Working Notes:

Particulars	2015 (`)	2016 (`)

Fixed Cost	72,00,000 (` 60 × 1,20,000	79,20,000 (110% of `
Variable Cost	180	225 (125% of ` 180)

Calculation of Break-even Point (in units):

Since, shelf life of the product is one year only, hence, opening stock is to be sold first.

	(`)
Total Contribution required to recover total fixed cost in 2016 and to reach break-even volume.	79,20,000
Less: Contribution from opening stock {20,000 units × (` 300 – `180)}	24,00,000
Balance Contribution to be recovered	55,20,000

Units to be produced to get balance contribution

$= \frac{`\ 55,20,000}{`300 - `225}$ = 73,600 packets. (3 marks)

Break-even volume in units for 2016(2 marks)

	Packets
From 2016 production	73,600
Add: Opening stock from 2015	20,000
	93,600

Question 5 (5 Marks)

Labour Turnover by Replacement Method = $\frac{\text{No.of workers replaced during the quarter}}{\text{Average no.workers onroll during the quarter}}$

Or, $0.03 = \frac{\text{No.of workers replaced during the quarter}}{(990+1,010\div 2)}$

Or, No. of worker replaced during the quarter =0.03 × 1,000=30 workers

(i) Labour Turnover by Separation Method (2 marks)

$= \frac{\text{No.of workers replaced during the quarter}}{\text{Average no.workers onroll during the quarter}} \times 100$

$= \frac{\text{Worker at begining+Fresh recruitment+Replacements−workers at closing}}{\text{Average no.workers onroll during the quarter}} \times 100$

$= \frac{990+4030-1,010}{(990+1,010)\div 2} \times 100$ $= \frac{50 \text{ workers}}{1,000 \text{ workers}} \times 100 = 5\%$

(ii) Labour Turnover by Flux Method (2 marks)

$\frac{\text{No.of workers(Separated+ replaced+Fresh Recuriment) during the quarter}}{\text{Average no.workers onroll during the quarter}} \times 100$

$= \frac{50+30+40}{(990+1,010)\div 2} \times 100 = \frac{120 \text{ workers}}{1,000 \text{ workers}} \times 100 = 12\ \%$

Question 6 (8 Marks)

Creditors A/c (1 mark)

Dr. Cr.

Particulars	(`)	Particulars	(`)
To Bank A/c	5,80,000	By Balance b/d	25,000
To Balance c/d	40,000	By Stores ledger control A/c (Materials purchased)(Bal. figure)	5,95,000
	6,20,000		6,20,000

Stores Ledger Control A/c (2 mark)

Dr. Cr.

Particulars	(`)	Particulars	(`)
To Balance b/d	40,000	By WIP control A/c (Balancing figure)	5,70,000
To Creditors A/c (Materials purchased)	5,95,000	By Balance c/d	65,000
	6,35,000		6,35,000

Work-in-Process Control A/c (2 marks)

Dr. Cr.

Particulars	(`)	Particulars		(`)
To Balance b/d	50,000	By Finished goods control A/c (Balancing		10,05,000
To Stores ledger control	5,70,000	By Balance c/d:		
To Wages control A/c (80% of ` 4,00,000)	3,20,000	- Material	35,00	
		- Labour (` 50* × 400 hours)	20,000	
		- Factory Oh (` 20** × 400 hours)	8,000	63,000
To Factory Overhead control A/c	1,28,000			
	10,68,00			10,68,00

* Direct Labour Hour Rate = ` 3,20,000/ 6,400 hours = ` 50

** Factory Overhead Rate = ` 20,80,000/ 1,04,000 = ` 20

Wages Control A/c (1 mark)

Dr. Cr.

Particulars	(`)	Particulars	(`)
To Bank A/c	4,00,000	By WIP control A/c (80% of ` 4,00,000)	3,20,000
		By Factory OH Control A/c (20% of ` 4,00,000)	80,000
	4,00,00		4,00,000

Factory Overhead Control A/c (2 mark)

Dr. Cr.

Particulars	(`)	Particulars	(`)
To Wages control A/c	80,000	By WIP control A/c (` 20 × 6,400 hours)	1,28,000
To Bank A/c (Indirect expenses)	60,000	By Balance c/d	12,000
	1,40,000		1,40,000

Question 7 (8 Marks)

Overhead Distribution Statement (2 marks)

	Production Departments		Service Departments	
	Machine Shops	Packing	General Plant	Stores
Allocated Overheads:	(`)	(`)	(`)	(`)
Indirect labour	80,000	60,000	40,000	1,10,000
Maintenance Material	34,000	16,000	21,000	28,000
Misc. supplies	15,000	29,000	9,000	6,000
Supervisor's salary	--	--	1,60,000	--
Cost & payroll salary	--	--	8,00,000	--
Total allocated overheads	1,29,000	1,05,000	10,30,000	1,44,000
Add: Apportioned Overheads (As per Schedule below)	18,43,500	7,01,250	2,27,750	7,31,500
	19,72,500	8,06,250	12,57,750	8,75,500

Schedule of Apportionment of Overheads (2 marks)

Item of Cost	Basis	Production Departments		Service Departments	
		Machine Shops (`)	Packing (`)	General Plant (`)	Stores (`)
Power	HP hours (7 : 1 : - : 2)	5,46,000	78,000	--	1,56,000
Rent	Floor space (5 : 2 : 1 : 4)	3,00,000	1,20,000	60,000	2,40,000
Fuel & Heat	Radiator sec. (3 : 6 : 2 : 4)	1,20,000	2,40,000	80,000	1,60,000
Insurance	Investment (10 : 3 : 1 : 2)	75,000	22,500	7,500	15,000
Taxes	Investment (10 : 3 : 1 : 2)	52,500	15,750	5,250	10,500
Depreciation	Investment (10 : 3 : 1 : 2)	7,50,000	2,25,000	75,000	1,50,000
		18,43,500	7,01,250	2,27,750	7,31,500

(b) Re-distribution of Overheads of Service Departments to Production Departments: (4 marks)

Let, the total overheads of General Plant = 'a' and the total overheads of Stores = 'b' a = 12,57,750 + 0.3b .....(i)

b = 8,75,500 + 0.2a.....(ii)

Putting the value of 'b' in equation no. (i)

a = 12,57,750 + 0.3 (8,75,500 + 0.2a)

Or a = 12,57,750 + 2,62,650 + 0.06a

Or 0.94a = 15,20,400 Or a = 16,17,447 (appx.)

Putting the value of a = 16,17,447 in equation no. (ii) to get the value of 'b'

b = 8,75,500 + 0.2 × 16,17,447 = 11,98,989 (appx.)

Particulars	Total (`)	Machine Shops (`)	Packing (`)
Allocated and Apportioned overheads as per Primary distribution	27,78,750	19,72,500.00	8,06,250.00
- General Plant	16,17,447	8,08,723.50 $(16,17,447 \times \frac{5}{10})$	4,85,234.10 $(16,17,447 \times \frac{3}{10})$
- Stores	11,98,989	5,99,494.50 (11,98,989 × 50%)	2,39,797.80 (11,98,989 × 20%)
		33,80,718	15,31,281.9

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