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TEST-4

CA INTER

(03-04-2022)

COST AND MANAGEMENT ACCOUNTING

Topics Covered:

1. Process Costing

2. Overheads

Roll No

Total No. of Question: 12

Time allowed: 3 hours

Total No. of Printed Pages: 8

Maximum Marks: 100

PROCESS COSTING

Q.1 A product passes through three processes – A, B, and C. The details of expenses incurred on the three processes during the year 1992 were as under:

Process	A	B	C
Units issued/introduced	10,000		
Cost per unit	Rs.100		
Sundry materials	Rs.28,000	Rs.15,000	Rs.8,000
Labour	3,00,000	48,500	65,000
Direct expenses	41,000	53,570	27,360

Office & administration expenses during the year were Rs.80,000 and selling expenses were Rs.50,000.

Actual output of the three processes was: A – 9,200 units, B – 4,200 units and C – 2,100 units. One-half of the output of Process A, two – thirds of the output of Process B was passed on to the next process and the balance was sold. The entire output of Process C was sold. The Selling price is fixed to provide a profit of 20% on cost in process A, 25% on cost in process B & 50% of selling price in process C. The normal loss of the three processes, calculated on the input of every process was: Process A – 6%, B – 10% and C – 20%. The loss of Process A was sold at Rs.10 per unit, that of B at Rs.20 per unit and of Process C at Rs.30 per unit. **Prepare** the three Process Accounts, Normal loss and abnormal gain/loss accounts & the Profit and Loss Account.

Q.2 The following details are given in respect of manufacturing unit for the month of April, 1995:

(i) Opening work-in-progress 5000 units	
(a) Materials	Rs. 18,750
(b) Labour	7,500
(c) Overheads	3,750
(ii) Units introduced into the process 17,500 units	
(iii) 18,500 units are transferred to the next process.	
(iv) Process costs for the period are:	
Material	Rs. 2,50,000
Labour	1,95,000
Overheads	97,500

(v) Normal loss @ 4% realizable @ Rs.5 per unit whereas actual scrap is 1500 units.

(vi) The stage of completion of units in closing WIP is estimated to be: Material 100%, Labour 60% and Overheads 50%.

You are required to prepare Process A/c showing Statement of equivalent units of production, Statement of cost, Statement of value

{8}

Q.3 R.P. Ltd furnished you the following information relating to process B for the month of October 2004:

(i) Opening work-in-progress 5000 units of the value of Rs.11,500
(a) Materials (80% complete)
(b) Labour & Overheads (60% complete)

(ii) Units received – 20,000 units @ Rs.3/- per unit.

(iii) Expenses debited to the process:

 Direct materials – Rs. 14,650;

 Labour – Rs. 21,148;

 Overheads – Rs. 42,000.

(iv) Normal loss in process – One per cent of input.

(v) Closing Work-in- Progress – 3500 units; Degree of completion:

 Material – 100%

 Labour and Overheads – 50%

(vi) Finished Output – 19,500 units

(vii) Degree of completion of abnormal loss:

 Material – 100%

 Labour and Overheads – 80%

(viii) Units scrapped as normal loss were sold at Re. 2 per unit.

(ix) All the units of abnormal loss were sold at Rs.2.50 per unit.

Prepare

(1) Statement of Equivalent production;

(2) Statement of Cost of Finished goods, Abnormal Loss and Closing Work-in-progress. {8}

Q.4 In a manufacturing process, in the course of manufacture of the product X, the by – products P and Q also emerge. The preparation expenses amount to Rs.1,31,505. All the three products are processed further and sold in the market (details given below).

	Main Product	By – Products	
	X	P	Q
Sales value (Rs.)	90,000	60,000	40,000
Post – separation costs (Rs.)	6,000	5,000	4,000
Profit as a percentage of sales	25	20	15

Total fixed selling and distribution expenses are 10% of the total cost of sales and are apportioned to the three products in the ratio of 20 : 40 : 40.

- (i) Prepare a statement showing the apportionment of pre – separation costs to the main product and the two by – products.
- (ii) If the by – product P is not processed further and can be sold just after separation at Rs.58,500 without incurring any selling & distribution expenses, would you advise its disposal at that stage?

{10}

Q.5 ABC Ltd operates a simple chemical process to convert a single material into three separate items, referred to here as X, Y, and Z. All three end products are separated simultaneously at a single split-off point.

Product X and Y are ready for sale immediately upon split-off without further processing or any other additional costs. Product Z, however, is processed further before being sold. There is no available market price for Z at the split-off point.

The selling prices quoted here are expected to remain the same in the coming year. During 2002-03, the selling prices of the items and the total amounts sold were:

- X – 186 tons sold for Rs.1,500 per ton.
- Y – 527 tons sold for Rs.1,200 per ton.
- Z – 736 tons sold for Rs.950 per ton.

The total joint manufacturing costs for the year were Rs. 6,25,000. An additional Rs.3,10,000 was spent to finish product Y & Rs.1,80,000 for Z. Closing quantity were:

- X – 180 tons
- Y – 83 tons
- Z – 64 tons

There was no opening or closing work-in-progress.

Required:

- (i) Compute the cost of inventories of X, Y and Z for Balance Sheet purposes and cost of goods sold for income statement purpose as of March 31,2003, using:
 - (a) Net realizable value (NRV) method of joint cost allocation.
 - (b) Constant gross-margin percentage NRV method of joint-cost allocation.
- (ii) Compare the gross-margin percentages for X, Y and Z using two methods given in requirements (i).

{11}

Q.6 Following costs were incurred in producing 800 M.T. of M. S. Rods:

Materials	Rs.3,80,000
Labour	Rs.1,60,000
Processing Charges	Rs. 89,560

Total Cost	Rs. 6,29,560

Of the total output 15% was defective and had to be sold after a discount of 20% off the normal price. The scrap arising out of the production is to be disposed at a cost of Rs.8,760. The sale price is calculated to yield 15% profit on sales you are required to find out the normal price as well as the discounted price per M.T. of M. S. Rods.

{6}

Overheads

Q.7 In a manufacturing unit, overhead was recovered at a predetermined rate of Rs. 25 per man day. The total factory overhead incurred and the man days actually worked were Rs.41,50,000 and 1,50,000 respectively. Out of the 40,000 units produced during the period, 30,000 units were sold. There were also 30,000 incomplete units which may be reckoned as 66-2/3% complete. On analyzing the reasons, it was found that 40% of the unabsorbed overheads were due to defective planning and the rest were attributable to increase in overhead cost. How would unabsorbed overheads be treated in cost accounts?

{6}

Q.8 A company has three production cost centers A, B and C and two service cost centers X and Y. costs allocated to service centers are required to be apportioned to the production centers to find out cost of production of different products. It is found that benefit of service cost centers is also received by each other along with the production cost centers. Wages are paid @ Rs.8 per hour.

Overhead costs as allocated to the five cost centers and estimates of benefit of service cost centers received by each of them are as under:

Cost Centers	Overhead costs as allocated (Rs.)	Estimates of benefit Received from service centers (%)		Wages
		X	Y	
A	80,000	20	20	Rs.40,000
B	40,000	30	25	Rs.50,000
C	20,000	40	50	Rs.60,000
X	20,000	---	5	Rs.20,000
Y	10,000	10	---	Rs.30,000

Required: Work out final overhead costs of each of the production departments including reapportioned cost of service centers using Simultaneous equation method & calculate the pre determined absorption rate.

{8}

Q.9 The following data pertains to the machine shop of an engineering company, relating to the year 1994. The machine shop has 3 cost centers, A, B and C each having 3 distinct set of machines.

	A	B	C	Total
1. No. of workers	400	400	800	1,600
2. No. of machine-hours	50,000	50,000	60,000	1,60,000
3. Percentage of H.P.	40	25	35	100
4. Value of assets (Rs. in lakhs)	20	35	30	85.00
5. Direct wages (Rs in lakhs)	16	20	24	60.00
6. Indirect Wages (Rs. in lakhs)				18.00
7. Supervisor's salaries (Rs. in lakhs)				7.00
8. Depreciation (Rs. in lakhs)				8.50
9. Insurance (Rs. in lakhs)				4.25
10. Electricity charges (Rs. in lakhs)				12.00
11. Welfare expenses (Rs. in lakhs)				9.00
12. Office and other expenses (Rs. in lakhs)				16.00

Work out a composite M.H.R for each of the cost centers, showing the basis of apportionment of expenses.

{10}

Q.10 A manufacturing company uses two identical large and four identical small machines. Each large machine occupies one quarter of the workshop and fully employs three workers; each small machine occupies half the space of a large machine and fully employs two workers. The workers are paid by piece work.

Each of the six machines is estimated to work 1,800 hours per year, while the effective working life is taken as 12,000 working hours for each large machine and 9,000 working hours for each small machine. Large machines cost Rs.2,00,000 each, and small machines Rs.8,00,000 each. Scrap values are 10%.

Repair, maintenance and oil are estimated to cost for each large machine Rs.24,000 and each small machine Rs.10,200, during its effective life.

Power consumption costs ₹7 per unit, and amounts for a large machine to 20 units per hour, and for a small machine to 2 units per hour.

The manager is paid Rs.4,800 p.m., and the workshop supervision occupies half his time which is divided equally among the six machines. Details of other expenses are:

Rent and rates of the workshop : Rs.36,00 a quarter. Lighting (to be apportioned in the ratio of workers employed) Rs.27,000 a year. Taking a period of six months as a basis, calculate the machine hour rate for a large machine and a small machine respectively.

{6}

Q.11 Atlas Engineering Ltd. accepts a variety of jobs which require both manual and machine operations. The budgeted Profit and Loss Account for the period 1996-97 is as follows:

	(in lakhs of rupees)
Sales	75
Cost:	
Direct materials	10
Direct labour	<u>5</u>
Prime Cost	15
Production Overheads	<u>30</u>
Production Cost	45

Administration, Selling and Distribution Overheads	<u>15</u>	<u>60</u>
Profit		<u>15</u>
Other budgeted data:		
Labour hours for the period	2,500	
Machine hours for the period	1,500	
No. of jobs for the period	300	

An enquiry has been received recently from a customer and the production department has prepared the following estimate of the prime cost required for the job:

Direct material	Rs. 2,500
Direct labour	<u>2,000</u>
Prime cost	4,500
Labour hours required = 80	
Machine hours required = 50	

You are required to:

- Calculate by different methods, six overhead absorption rates for absorption of production overhead and comment on the suitability of each;
- Calculate the production overhead cost of the order based on each of the above rates;
- Give you recommendation to the company. {7}

Q.12 A machine shop of Avon Ltd. has six identical machines manned by 6 operators. The machine cannot be worked without an operator wholly engaged on it. The cost of all these 6 machines including installation charges works out to ₹12 lakhs and its effective life is 10 years. These particulars are furnished for a six month period:

Normal available hours, per month	218
Absenteeism (without pay) hours	18
Leave (with pay)	20
Stoppage for repairs & maintenance etc hours	20
Average rate of wages per day of 8 hours	₹80
Production bonus estimated	25% on wages
Value of power consumed	₹34,150
Supervision & indirect labour	₹29,900
Lighting and electricity	₹14,800
These particulars are for a year:	
Repairs & maintenance including consumables	₹36,000
Insurance	₹60,000
Other sundry works expenses	₹56,000
General management expenses allocated	₹1,09,040

You are required to work out a comprehensive machine hour rate for the machine shop.

SPACE FOR ROUGH WORK

