

# MOCK TEST -1

## (FULL SYLLABUS)

### PAPER – 3: COST AND MANAGEMENT ACCOUNTING

Question No. 1 is compulsory.

Attempt any **four** questions out of the remaining **five** questions.

In case, any candidate answers extra question(s)/ sub-question(s) over and above the required number, then only the requisite number of questions first answered in the answer book shall be valued and subsequent extra question(s) answered shall be ignored.

Working notes should form part of the answer

**Time Allowed – 3 Hours**

**Maximum Marks – 100**

#### Question 1

Answer the following:

(a) During a particular period ABC Ltd has furnished the following data:

Sales ₹ 10,00,000

Contribution to sales ratio 37% and

Margin of safety is 25% of sales.

A decrease in selling price and decrease in the fixed cost could change the "contribution to sales ratio" to 30% and "margin of safety" to 40% of the revised sales. Calculate:

- (i) Revised Fixed Cost.
- (ii) Revised Sales and
- (iii) New Break-Even Point.

(b) A machine shop has 8 identical machines manned by 6 operators. The machine cannot work without an operator wholly engaged on it. The original cost of all the 8 machines works out to ₹ 32,00,000. The following particulars are furnished for a six months period:

Normal available hours per month per operator	208
Absenteeism (without pay) hours per operator	18
Leave (with pay) hours per operator	20
Normal unavoidable idle time-hours per operator	10
Average rate of wages per day of 8 hours per operator	₹ 100
Production bonus estimated	10% on wages
Power consumed	₹ 40,250
Supervision and Indirect Labour	₹ 16,500
Lighting and Electricity	₹ 6,000

The following particulars are given for a year:

Insurance	₹ 3,60,000
Sundry work Expenses	₹ 50,000
Management Expenses allocated	₹ 5,00,000
Depreciation	10% on the original cost
Repairs and Maintenance (including consumables):	5% of the value of all the machines.

Prepare a statement showing the comprehensive machine hour rate for the machine shop.

(c) MNO Ltd has provided following details:

- Opening work in progress is 10,000 units at ₹ 50,000 (Material 100%, Labour and overheads 70% complete).
- Input of materials is 55,000 units at ₹ 2,20,000. Amount spent on Labour and Overheads is ₹ 26,500 and ₹ 61,500 respectively.
- 9,500 units were scrapped; degree of completion for material 100% and for labour & overheads 60%.
- Closing work in progress is 12,000 units; degree of completion for material 100% and for labour & overheads 90%.
- Finished units transferred to next process are 43,500 units.

Normal loss is 5% of total input including opening work in progress. Scrapped units would fetch ₹ 8.50 per unit.

You are required to prepare using FIFO method:

- (i) Statement of Equivalent production
- (ii) Abnormal Loss Account

(d) GHI Ltd. manufactures 'Stent' that is used by hospitals in heart surgery. As per the estimates provided by Pharmaceutical Industry Bureau, there will be a demand of 40 Million 'Stents' in the coming year. GHI Ltd. is expected to have a market share of 2.5% of the total market demand of the Stents in the coming year. It is estimated that it costs ₹ 1.50 as inventory holding cost per stent per month and that the set-up cost per run of stent manufacture is ₹ 225.

Required:

- (i) What would be the optimum run size for Stent manufacture?
- (ii) What is the minimum inventory holding cost?
- (iii) Assuming that the company has a policy of manufacturing 4,000 stents per run, how much extra costs the company would be incurring as compared to the optimum run suggested in (i) above?

**(4 x 5 = 20 Marks)**

## Question 2

(a) Z Ltd is working by employing 50 skilled workers. It is considering the introduction of an incentive scheme - either Halsey Scheme (with 50% Bonus) or Rowan Scheme - of wage payment for increasing the labour productivity to adjust with the increasing demand for its products by 40%. The company feels that if the proposed incentive scheme could bring about an average 20% increase over the present earnings of the workers, it could act as sufficient incentive for them to produce more and the company has accordingly given assurance to the workers.

Because of this assurance, an increase in productivity has been observed as revealed by the figures for the month of April, 2020:

Hourly rate of wages (guaranteed)	₹ 50
Average time for producing one unit by one worker at the previous performance (this may be taken as time allowed)	1,975 hours
Number of working days in a month	24
Number of working hours per day of each worker	8
Actual production during the month	6,120 units

Required:

- (i) Calculate the effective increase in earnings of workers in percentage terms under Halsey and Rowan scheme.
- (ii) Calculate the savings to Z Ltd in terms of direct labour cost per unit under both the schemes.
- (iii) Advise Z Ltd about the selection of the scheme that would fulfil its assurance of incentivising workers and also to adjust with the increase in demand. **(10 Marks)**

(b) The following data are available from the books and records of Q Ltd. for the month of April 2020:

Direct Labour Cost	= ₹ 1,20,000 (120% of Factory Overheads)
Cost of Sales	= ₹ 4,00,000
Sales	= ₹ 5,00,000

Accounts show the following figures:

	1 <sup>st</sup> April, 2020 (₹)	30 <sup>th</sup> April, 2020 (₹)
Inventory:		
Raw material	20,000	25,000
Work-in-progress	20,000	30,000
Finished goods	50,000	60,000
Other details:		
Selling expenses		22,000
General & Admin. expenses		18,000

You are required to prepare a cost sheet for the month of April 2020 showing:

- (i) Prime Cost
- (ii) Works Cost
- (iii) Cost of Goods sold
- (iv) Cost of Sales and Profit **(10 Marks)**

**Question 3**

(a) Two manufacturing companies A and B are planning to merge. The details are as follows:

	A	B
Capacity utilization (%)	90	60
Sales (₹)	63,00,000	48,00,000
Variable Cost (₹)	39,60,000	22,50,000
Fixed Cost (₹)	13,00,000	15,00,000

Assuming that the proposal is implemented, calculate:

- (i) Break-Even sales of the merged plant and the capacity utilization at that stage.
- (ii) Profitability of the merged plant at 80% capacity utilization.
- (iii) Sales Turnover of the merged plant to earn a profit of ₹ 60,00,000.
- (iv) When the merged plant is working at a capacity to earn a profit of ₹ 60,00,000, what percentage of increase in selling price is required to sustain an increase of 5% in fixed overheads. **(10 Marks)**

(b) XYZ Ltd. is engaged in the manufacturing of toys. It can produce 4,20,000 toys at its 70% capacity on per annum basis. Company is in the process of determining sales price for the financial year 2020-21. It has provided the following information:

Direct Material	₹ 60 per unit
Direct Labour	₹ 30 per unit
Indirect Overheads:	

Fixed	₹ 65,50,000 per annum
Variable	₹ 15 per unit
Semi-variable	₹ 5,00,000 per annum up to 60% capacity and ₹ 50,000 for every 5% increase in capacity or part thereof up to 80% capacity and thereafter ₹ 75,000 for every 10% increase in capacity or part thereof.

Company desires to earn a profit of ₹ 25,00,000 for the year. Company has planned that the factory will operate at 50% of capacity for first six months of the year and at 75% of capacity for further three months and for the balance three months, factory will operate at full capacity.

You are required to:

- (1) Determine the average selling price at which each of the toy should be sold to earn the desired profit.
- (2) Given the above scenario, advise whether company should accept an offer to sell each Toy at:
  - (a) ₹ 130 per Toy
  - (b) ₹ 129 per Toy

(10 Marks)

#### Question 4

- (a) Mayura Chemicals Ltd buys a particular raw material at ₹ 8 per litre. At the end of the processing in Department- I, this raw material splits-off into products X, Y and Z. Product X is sold at the split-off point, with no further processing. Products Y and Z require further processing before they can be sold. Product Y is processed in Department-2, and Product Z is processed in Department-3. Following is a summary of the costs and other related data for the year 2019-20:

Particulars	Department		
	1	2	3
Cost of Raw Material	₹ 4,80,000	-	-
Direct Labour	₹70,000	₹ 4,50,000	₹ 6,50,000
Manufacturing Overhead	₹48,000	₹ 2,10,000	₹ 4,50,000
	Product		
	X	Y	Z
Sales (litres)	10,000	15,000	22,500
Closing inventory (litres)	5,000	-	7,500
Sale Price per litre (₹)	30	64	50

There were no opening and closing inventories of basic raw materials at the beginning as well as at the end of the year. All finished goods inventory in litres was complete as to processing. The company uses the Net-realizable value method of allocating joint costs.

You are required to prepare:

- (i) Schedule showing the allocation of joint costs.
- (ii) Calculate the Cost of goods sold of each product and the cost of each item in Inventory.
- (iii) A comparative statement of Gross profit.

(10 Marks)

- (b) ABC Ltd. manufactures three products X, Y and Z using the same plant and resources. It has given the following information for the year ended on 31st March, 2020:

	X	Y	Z
Production Quantity (units)	1200	1440	1968
Cost per unit:			
Direct Material (₹)	90	84	176
Direct Labour (₹)	18	20	30

Budgeted direct labour rate was ₹ 4 per hour and the production overheads, shown in table below, were absorbed to products using direct labour hour rate. Company followed Absorption Costing Method. However, the company is now considering adopting Activity Based Costing Method.

	Budgeted Overheads (₹)	Cost Driver	Remarks
Material Procurement	50,000	No. of orders	No. of orders was 25 units for each product.
Set-up	40,000	No. of production Runs	All the three products are produced in production runs of 48 units.
Quality Control	28,240	No. of Inspections	Done for each production run.
Maintenance	1,28,000	Maintenance hours	Total maintenance hours were 6,400 and was allocated in the ratio of 1:1:2 between X, Y & Z.

Required:

1. Calculate the total cost per unit of each product using the Absorption Costing Method.
2. Calculate the total cost per unit of each product using the Activity Based Costing Method. **(10 Marks)**

### Question 5

- (a) ABC Health care runs an Intensive Medical Care Unit. For this purpose, it has hired a building at a rent of ₹ 50,000 per month with the agreement to bear the repairs and maintenance charges also.

The unit consists of 100 beds and 5 more beds can comfortably be accommodated when the situation demands. Though the unit is open for patients all the 365 days in a year, scrutiny of accounts for the year 2020 reveals that only for 120 days in the year, the unit had the full capacity of 100 patients per day and for another 80 days, it had, on an average only 40 beds occupied per day. But, there were occasions when the beds were full, extra beds were hired at a charge of ₹ 50 per bed per day. This did not come to more than 5 beds above the normal capacity on any one day. The total hire charges for the extra beds incurred for the whole year amounted to ₹ 20,000.

The unit engaged expert doctors from outside to attend on the patients and the fees were paid on the basis of the number of patients attended and time spent by them which on an average worked out to ₹ 30,000 per month in the year 2020.

The permanent staff expenses and other expenses of the unit were as follows:

	₹
2 Supervisors each at a per month salary of	5,000
4 Nurses each at a per month salary of	3,000
2 Ward boys each at a per month salary of	1,500
Other Expenses for the year were as under:	
Repairs and Maintenance	28,000
Food supplied to patients	4,40,000
Caretaker and Other services for patients	1,25,000
Laundry charges for bed linen	1,40,000
Medicines supplied	2,80,000
Cost of Oxygen etc. other than directly borne for treatment of patients	75,000
General Administration Charges allocated to the unit	71,000

Required:

- (i) What is the profit per patient day made by the unit in the year 2020, if the unit recovered an overall amount of ₹ 200 per day on an average from each patient.
- (ii) The unit wants to work on a budget for the year 2021, but the number of patients requiring medical care is a very uncertain factor. Assuming that same revenue and expenses prevail in the year 2021 in the first instance, work out the number of patient days required by the unit to break even.

**(10 Marks)**

- (b) Premier Industries has a small factory where 52 workers are employed on an average for 25 days a month and they work 8 hours per day. The normal down time is 15%. The firm has introduced standard costing for cost control. Its monthly budget for November, 2020 shows that the budgeted variable and fixed overhead are ₹ 1,06,080 and ₹ 2,21,000 respectively.

The firm reports the following details of actual performance for November, 2020, after the end of the month:

Actual hours worked	8,100 hrs.
Actual production expressed in standard hours	8,800 hrs.
Actual Variable Overheads	₹ 1,02,000
Actual Fixed Overheads	₹ 2,00,000

You are required to calculate:

- (i) Variable Overhead Variances:
  - (a) Variable overhead expenditure variance.
  - (b) Variable overhead efficiency variance.
- (ii) Fixed Overhead Variances:
  - (a) Fixed overhead budget variance.
  - (b) Fixed overhead capacity variance.
  - (c) Fixed overhead efficiency variance.
- (iii) Control Ratios:
  - (a) Capacity ratio.
  - (b) Efficiency ratio.
  - (c) Activity ratio.

**(10 Marks)**

### Question 6

Answer any four of the following:

- (a) State how the following items are treated in arriving at the value of cost of material purchased:

- (i) Detention Charges/Fines
- (ii) Demurrage
- (iii) Cost of Returnable containers
- (iv) Central Goods and Service Tax (CGST)
- (v) Shortage due to abnormal reasons.

- (b) State the limitations of Budgetary Control System.

- (c) Explain Blanket Overhead Rate and Departmental Overhead Rate. How they are calculated? State the conditions required for the application of Blanket Overhead Rate.

- (d) State the method of costing that would be most suitable for:

- (i) Oil Refinery
- (ii) Interior Decoration
- (iii) Airlines Company
- (iv) Advertising
- (v) Car Assembly

- (e) Give any five examples of the impact of use of Information Technology in Cost Accounting.

**(4 x 5 = 20 Marks)**