(GI-1, GI-2, VI-VDI-SI-1,2)

DATE: 08.07.2022 MAXIMUM MARKS: 100 TIMING: 3¼ Hours

PAPER : COSTING

Answer to questions are to be given only in English except in the case of candidates who have opted for Hindi Medium. If a candidate who has not opted for Hindi Medium. His/her answer in Hindi will not be valued.
Question No. 1 is compulsory.
Candidates are also required to answer any Four questions from 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.
Wherever necessary, suitable assumptions may be made and disclosed by way of note.

Question 1:

(a) MST Limited has collected the following data for its two activities. It calculates activity cost rates based on cost driver capacity.

Activity	Cost Driver	Capacity	Cost
Power	Kilowatt hours	50,000 kilowatt hours	Rs. 2,00,000
Quality Inspections	Number of Inspections	10,000 Inspections	Rs. 3,00,000

The company makes three products M, S and T. For the year ended March 31, 2020, the following consumption of cost drivers was reported:

Product	Kilowatt hours	Quality Inspections
M	10,000	3,500
S	20,000	2,500
T	15,000	3,000

Required:

(i) COMPUTE the costs allocated to each product from each activity.
(ii) CALCULATE the cost of unused capacity for each activity.
(iii) DISCUSS the factors the management considers in choosing a capacity level to compute the budgeted fixed overhead cost rate.

(5 Marks)

(b) Following data is available from the costing department of Aarya Ltd. which manufactures and markets a single product:

Materials	Rs. 32 per unit	Fixed Cost (Rs.)	Rs. 10,00,000
Conversion Costs (Variable)	Rs. 24 per unit	Present Sales (units)	90,000
Dealer's Margin (10% of Sale)	Rs. 8 per unit	Capacity Utilization	60 %
Selling Price	Rs. 80 per unit		

There is acute competition in the market, thus extra efforts are necessary to enhance the sales. For this, following suggestions have been proposed:

(i) Reducing selling price by 5 per cent.
(ii) Increasing dealer's margin by 20 per cent over the existing rate.

Which of these two suggestions would you recommend, if the company desires to maintain the present profit? Give reasons.

(5 Marks)

(c) SM Motors Ltd. is a manufacturer of auto components. Following are the details of expenses for the year 2019-20:

		(Rs.)
(i)	Opening Stock of Material	15,00,000
(ii)	Closing Stock of Material	20,00,000
(iii)	Purchase of Material	1,80,50,000
(iv)	Direct Labour	90,50,000
(v)	Factory Overhead	30,80,000
(vi)	Administrative Overhead	20,50,400

During the FY 2020-21, the company has received an order from a car manufacturer where it estimates that the cost of material and labour will be Rs. 80,00,000 and Rs. 40,50,000 respectively. The company charges factory overhead as a percentage of direct labour and administrative overheads as a percentage of factory cost based on previous year's cost.

Cost of delivery of the components at customer's premises is estimated at Rs. 4,50,000. You are required to:

(i) Calculate the overhead recovery rates based on actual costs for 2019-20.

(ii) Prepare a Job cost sheet for the order received and the price to be quoted if the desired profit is 25% on sales.

(5 Marks)

(d) A worker is paid Rs. 10,000 per month and a dearness allowance of Rs. 2,000 p.m. Worker contribution to provident fund is @ 10% and employer also contributes the same amount as the employee. The Employees State Insurance Corporation premium is6.5% of wages of which 1.75% is paid by the employees. It is the firm’s practice to pay 2 months’ wages as bonus each year. The number of working days in a year are 300 of 8 hours each. Out of these the worker isentitled to 15 days leave on full pay. CALCULATE the wage rate per hour for costing purposes.

(5 Marks)

Question 2:

(a) AD Higher Secondary School (AHSS) offers courses for 11^{th} & 12^{th} standard in three streams i.e. Arts, Commerce and Science. AHSS runs higher secondary classes along with primary and secondary classes, but for accounting purpose it treats higher secondary as a separate responsibility centre. The Managing committee of the school wants to revise its fee structure for higher secondary students. The accountant of the school has provided the following details for a year:

	Amount (Rs.)
Teachers’ salary (25 teachers × Rs. 35,000 × 12 months)	1,05,00,000
Principal’s salary	14,40,000
Lab attendants’ salary (2 attendants × Rs. 15,000 × 12 months)	3,60,000
Salary to library staff	1,44,000
Salary to peons (4 peons × Rs. 10,000 × 12 months)	4,80,000
Salary to other staffs	4,80,000
Examinations expenditure	10,80,000
Office & Administration cost	15,20,000
Annual day expenses	4,50,000
Sports expenses	1,20,000

Other information:

(i)

	Standard 11 & 12			**Primary & Secondary**
	Arts	**Commerce**	**Science**	
No. of students	120	360	180	840

Lab classes in a year	0	0	144	156
No. of examinations in a year	2	2	2	2
Time spent at library per student per year	180 hours	120 hours	240 hours	60 hours
Time spent by principal for administration	208 hours	312 hours	480 hours	1,400 hours
Teachers for 11 & 12 standard	4	5	6	10

(ii) One teacher who teaches economics for Arts stream students also teaches commerce stream students. The teacher takes 1,040 classes in a year, it includes 208 classes for commerce students.

(iii) There is another teacher who teaches mathematics for Science stream students also teaches business mathematics to commerce stream students. She takes 1,100 classes a year, it includes 160 classes for commerce students.

(iv) One peon is fully dedicated for higher secondary section. Other peons dedicate their 15% time for higher secondary section.

(v) All school students irrespective of section and age participates in annual functions and sports activities.

Required:

(a) CALCULATE cost per student per annum for all three streams.

(b) If the management decides to take uniform fee of Rs. 1,000 per month from all higher secondary students, CALCULATE stream wise profitability.

(c) If management decides to take 10% profit on cost, COMPUTE fee to be charged from the students of all three streams respectively.

(10 Marks)

(b) The following figures are related to LM Limited for the year ending 31st March, 2014 :

Sales - 24,000 units @ Rs. 200 per unit;

P/V Ratio 25% and Break-even Point 50% of sales. You are required to calculate:

(i) Fixed cost for the year

(ii) Profit earned for the year

(iii) Units to be sold to earn a target net profit of Rs. 11,00,000 for a year.

(iv) Number of units to be sold to earn a net income of 25% on cost.

(v) Selling price per unit if Break-even Point is to be brought down by 4,000 units.

(10 Marks)

Question 3:

(a) Star Ltd. manufactures chemical solutions for the food processing industry. The manufacturing takes place in a number of processes and the company uses a FIFO process costing system to value work-in-process and finished goods. At the end of the last month, a fire occurred in the factory and destroyed some of the paper files containing records of the process operations for the month.

Star Ltd. needs your help to prepare the process accounts for the month during which the fire occurred. You have been able to gather some information about the month's operating activities but some of the information could not be retrieved due to the damage. The following information was salvaged:

- Opening work-in-process at the beginning of the month was 800 litres, 70% complete for labour and 60% complete for overheads. Opening work-in-process was valued at Rs. 26,640.
- Closing work-in-process at the end of the month was 160 litres, 30% complete for labour and 20% complete for overheads.

- Normal loss is 10% of input and total losses during the month were 1,800 litres partly due to the fire damage.
- Output sent to finished goods warehouse was 4,200 litres.
- Losses have a scrap value of Rs. 15 per litre.
- All raw materials are added at the commencement of the process.
- The cost per equivalent unit (litre) is Rs. 39 for the month made up as follows:

	(Rs.)
Raw Material	23
Labour	7
Overheads	9
	39

Required:

(a) Calculate the quantity (in litres) of raw material inputs during the month.

(b) Calculate the quantity (in litres) of normal loss expected from the process and the quantity (in litres) of abnormal loss / gain experienced in the month.

(c) Calculate the values of raw material, labour and overheads added to the process during the month.

(d) Prepare the process account for the month.

(10 Marks)

(b) Following data is extracted from the books of XYZ Ltd. for the month of January, 2020:

(i) **Estimation-**

Particulars	Quantity (kg.)	Price (Rs.)	Amount (Rs.)
Material-A	800	?	--
Material-B	600	30.00	18,000
			--

Normal loss was expected to be 10% of total input materials.

(ii) **Actuals-**

1480 kg of output produced.

Particulars	Quantity (kg.)	Price (Rs.)	Amount (Rs.)
Material-A	900	?	--
Material-B	?	32.50	--
			59,825

(iii) **Other Information-**

Material Cost Variance = Rs. 3,625 (F)

Material Price Variance = Rs. 175 (F)

You are required to CALCULATE:

(i) Standard Price of Material-A;

(ii) Actual Quantity of Material-B;

(iii) Actual Price of Material-A;

(iv) Revised standard quantity of Material-A and Material-B; and

(v) Material Mix Variance.

(10 Marks)

Question 4:

(a) Journalise the following transactions assuming cost and financial accounts are integrated:

		(Rs.)
(i)	Materials issued:	
	Direct	3,25,000
	Indirect	1,15,000
(ii)	Allocation of wages (25% indirect)	6,50,000

(iii)	Under/Over absorbed overheads:	
	Factory (Over)	2,50,000
	Administration (Under)	1,75,000
(iv)	Payment to Sundry Creditors	1,50,000
(v)	Collection from Sundry Debtors	2,00,000

(10 Marks)

(b) A company manufactures one main product (M_1) and two by-products B_1 and B_2. For the month of January 2013, following details are available:
Total Cost upto separation Point Rs. 2,12,400

	M1	**B1**	**B2**
Cost after separation	-	Rs. 35,000	Rs. 24,000
No. of units produced	4,000	1,800	3,000
Selling price per unit	Rs. 100	Rs. 40	Rs. 30
Estimated net profit as percentage to sales value	-	20%	30%
Estimated selling expenses as percentage to sales value	20%	15%	15%

There are no beginning or closing inventories. Prepare statement showing:
(i) Allocation of joint cost; and
(ii) Product-wise and overall profitability of the company for January 2013.

(10 Marks)

Question 5:

(a) HBL Limited produces product 'M' which has a quarterly demand of 20,000 units. Each product requires 3 kg. and 4 kg. of material X and Y respectively. Material X is supplied by a local supplier and can be procured at factory stores at any time, hence, no need to keep inventory for material X. The material Y is not locally available, it requires to be purchased from other states in a specially designed truck container with a capacity of 10 tons.
The cost and other information related with the materials are as follows:

Particulars	**Material –X**	**Material-Y**
Purchase price per kg. (excluding GST)	Rs. 140	Rs. 640
Rate of GST	18%	18%
Freight per trip (fixed, irrespective of quantity)	-	Rs. 28,000
Loss of materials in transit*	-	2%
Loss in process*	4%	5%

*On purchased quantity
Other information:
- The company has to pay 15% p.a. to bank for cash credit facility.
- Input credit is available on GST paid on materials.

Required:
(i) Calculate cost per kg. of material X and Y
(ii) Calculate the Economic Order quantity for both the materials.

(10 Marks)

(b) A machine shop cost centre contains three machines of equal capacities. To operate these three machines nine operators are required i.e. three operators on each machine. Operators are paid Rs. 20 per hour. The factory works for fourtyeight hours in a week which includes 4 hours set up time. The work is jointly done by operators. The operators are paid fully for the forty eight hours. In additions they are paid a bonus of 10 per cent of productive time. Costs are reported for this company on the basis of thirteen four-weekly period.

The company for the purpose of computing machine hour rate includes the direct wages of the operator and also recoups the factory overheads allocated to the machines. The following details of factory overheads applicable to the cost centre are available:

- Depreciation 10% per annum on original cost of the machine. Original cost of the each machine is Rs. 52,000.
- Maintenance and repairs per week per machine is Rs. 60.
- Consumable stores per week per machine are Rs. 75.
- Power : 20 units per hour per machine at the rate of 80 paise per unit.
- Apportionment to the cost centre : Rent per annum Rs. 5,400, Heat and Light per annum Rs. 9,720, foreman's salary per annum Rs. 12,960 and other miscellaneous expenditure per annum Rs. 18,000.

Required:

(i) Calculate the cost of running one machine for a four week period.

(ii) Calculate machine hour rate.

(10 Marks)

Question 6:

(a) Discuss the treatment of by-product cost in cost accounting.

(5 Marks)

(b) Cost of a product or service is required to be expressed in suitable cost unit. State the cost units for the following industries:

(i) Steel
(ii) Automobile
(iii) Transport
(iv) Power

(5 Marks)

(c) Distinguish between cost control and cost reduction.

(5 Marks)

(d) Difference between Bin Card and Store Ledger.

(5 Marks)

__**__