(GI-1, GI-2, GI-3, GI-4, VI-1 & SI-1)

DATE: 29.07.2019 **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) M/s. SJ Private Limited manufactures 20000 units of a product per month. The cost of placing an order is Rs. 1,500. The purchase price of the raw material is Rs. 100 per kg. The re-order period is 5 to 7 weeks. The consumption of raw materials varies from 200 kg to 300 kg per week, the average consumption being 250 kg. The carrying cost of inventory is 9.75% per annum.

You are required to calculate:

(i) Re-order quantity
(ii) Re-order level
(iii) Maximum level
(iv) Minimum level
(v) Average stock level

(5 Marks)

(b) A manufacturing concern has provided following information related to fixed overheads:

	Standard	Actual
Output in a month	5000 units	4800 units
Working days in a month	25 days	23 days
Fixed overheads	Rs. 5,00,000	Rs. 4,90,000

Compute:

(i) Fixed overhead variance
(ii) Fixed overhead expenditure variance
(iii) Fixed overhead volume variance
(iv) Fixed overhead efficiency variance

(5 Marks)

(c) M/s. X Private Limited is manufacturing a special product which requires a component "SKY BLUE". The following particulars are available for the year ended 31st March, 2018:

Annual demand of "SKY BLUE"	12000 Units
Cost of placing an order	Rs. 1,800
Cost per unit of "SKY BLUE	Rs. 640
Carrying cost per annum	18.75%

The company has been offered a quantity discount of 5 on the purchases of "SKY BLUE" provided the order size is 3000 components at a time.
You are required to:
(i) Compute the Economic Order Quantity.
(ii) Advise whether the quantity discount offer can be accepted.

(5 Marks)

(d) A worker takes 15 hours to complete a piece of work for which time allowed is 20 hours.
His wage rate is Rs. 5 per hour. Following additional information are also available:
Material cost of work Rs. 50
Factory overheads 100% of wages
Calculate the factory cost of work under the following methods of wage payments:
(i) Rowan Plan
(ii) Halsey Plan

(5 Marks)

Question 2:

(a) M/s. HMB Limited is producing a product in 10 batches each of 15000 units in a year and incurring following overheads their on:

	Amount (Rs.)
Material procurement	22,50,000
Maintenance	17,30,000
Set-up	6,84,500
Quality control	5,14,800

The prime costs for the year amounted to Rs. 3,01,39,000.

The company is using currently the method of absorbing overheads on the basis of prime cost. Now it wants to shift to activity-based costing. Information relevant to Activity drivers for a year are as under:

Activity Driver	Activity Volume
No. of purchase orders	1,500
Maintenance hours	9,080
No. of set-ups	2,250
No. of inspections	2,710

The company has produced a batch of 15000 units and has incurred Rs. 26,38,700 and Rs. 3,75,200 on materials and wages respectively.

The usage of activities of the said batch are as follows:

Materials orders	48 orders
Maintenance hours	810 hours
No. of set-ups	40
No. of inspections	25

You are required to:
(i) find out cost of product per unit on absorption costing basis for the said batch.
(ii) determine cost driver rate, total cost and cost per unit of output of the said batch on the basis of activity based costing.

(10 Marks)

(b) The following balances were extracted from a Company's ledger as on 30th June, 2018:

Particulars	Debit (Rs.)	Credit (Rs.)
Raw material control a/c	2,82,450	
Work-in-progress control a/c	2,38,300	
Finished stock control a/c	3,92,500	
General ledger adjustment a/c		9,13,250
Total	9,13,250	9,13,250

The following transactions took place during the quarter ended 30th September, 2018:

		Rs.
(i)	Factory overheads - allocated to work-in-progress	1,36,350
(ii)	Goods furnished - at cost	13,76,200
(iii)	Raw materials purchased	12,43,810
(iv)	Direct wages - allocated to work-in-progress	2,56,800
(v)	Cost of goods sold	14,56,500
(vi)	Raw materials - issued to production	13,60,430
(vii)	Raw materials - credited by suppliers	27,200
(viii)	Raw materials losses - inventory audit	6,000
(ix)	Work-in-progress rejected (with no scrap value)	12,300
(x)	Customer's returns (at cost) of finished goods	45,900

You are required to prepare:
(i) Raw material control a/c
(ii) Work-in-progress control a/c
(iii) Finished stock control a/c
(iv) General ledger adjustment a/c

(10 Marks)

Question 3:

(a) M/s XY Travels has been given a 25 km. long route to run an air- conditioned Mini Bus. The cost of bus is Rs. 20,00,000. It has been insured @3% premium per annum while annual road tax amounts to Rs. 36,000. Annual repairs will be Rs. 50,000 and the bus is likely to last for 5 years. The driver's salary will be Rs. 2,40,000 per annum and the conductor's salary will be Rs. 1,80,000 per annum in addition to 10% of the takings as commission (to be shared by the driver and the conductor equally). Office and administration overheads will be Rs. 18,000 per annum. Diesel and oil will be Rs. 1,500 per 100 km. The bus will make 4 round trips carrying on an average 40 passengers on each trip.
Assuming 25% profit on takings and considering that the bus will run on an average 25 days in a month, you are required to:
(i) prepare operating cost sheet (for the month).
(ii) calculate fare to be charged per passenger km.

(10 Marks)

(b) An electronic gadget manufacturer has prepared sales budget for the next few months. In this respect, following figures are available:

Months	Electronic gadgets' sales
January	5000 units
February	6000 units
March	7000 units

April	7500 units
May	8000 units

To manufacture an electronic gadget, a standard cost of Rs. 1,500 is incurred and it is sold through dealers at an uniform price of Rs. 2,000 per gadget to customers. Dealers are given a discount of 15% on selling price.

Apart from other materials, two units of batteries are required to manufacture a gadget. The company wants to hold stock of batteries at the end of each month to cover 30% of next month's production and to hold stock of manufactured gadgets to cover 25% of the next month's sale.

3250 units of batteries and 1200 units of manufactured gadgets were in stock on 1st January.

Required:

(i) Prepare production budget (in units) for the month of January, February, March and April.

(ii) Prepare purchase budget for batteries (in units) for the month of January, February and March and calculate profit for the quarter ending on March.

(10 Marks)

Question 4:

(a) M/s. NOP Limited has its own power plant and generates its own power. Information regarding power requirements and power used are as follows:

	Production Dept.		Service Dept.	
	A	B	X	Y
	(Horse power hours)			
Needed capacity production	20,000	25,000	15,000	10,000
Used during the quarter ended September 2018	16,000	20,000	12,000	8,000

During the quarter ended September 2018, costs for generating power amounted to Rs. 12.60 lakhs out of which Rs. 4.20 lakhs was considered as fixed cost.

Service department X renders services to departments A, B, and Y in the ratio of 6:4:2 whereas department Y renders services to department A and B in the ratio of 4: 1. The direct labour hours of department A and B are 67500 hours and 48750 hours respectively.

Required:

1. Prepare overheads distribution sheet.
2. Calculate factory overhead per labour hour for the dept. A and dept. B.

(10 Marks)

(b) Alpha Ltd. is engaged in the production of a product A which passes through 3 different process - Process P, Process Q and Process R. The following data relating to cost and output is obtained from the books of accounts for the month of April 2017:

Particulars	Process P	Process Q	Process R
Direct Material	38,000	42,500	42,880
Direct Labour	30,000	40,000	50,000

Production overheads of Rs. 90,000 were recovered as percentage of direct labour.

10,000 kg of raw material @ Rs. 5 per kg.was issued to Process P. There was no stock of materials or work in process. The entire output of each process passes directly to the next process and finally to warehouse. There is normal wastage, in processing, of 10 %. The scrap value of wastage is Rs. 1 per kg. The output of each process transferred to next process and finally to warehouse are as under:

Process P = 9,000 kg
Process Q = 8,200 kg
Process R = 7,300 kg
The company fixes selling price of the end product in such a way so as to yield a profit of 25% selling price.
Prepare Process P, Q and R accounts. Also calculate selling price per unit of end product.

(10 Marks)

Question 5:

(a) A group of 'Health Care Services' has decided to establish a Critical Care Unit in a metro city with an investment of Rs. 85 lakhs in hospital equipment's. The unit's capacity shall be of 50 beds and 10 more beds, if required, can be added.
Other information for a year are as under:

	(Rs.)
Building Rent	2,25,000 per month
Manager Salary (Number of Manager-03)	50,000 per month to each one
Nurses Salary (Number of Nurses-24)	18,000 per month to each Nurse
Ward boy's Salary (Number of ward boys' -24)	9,000 per month per person
Doctor's payment (Paid on the basis of number of patients attended and time spent by them)	5,50,000 per month
Food and laundry services (variable)	39,53,000
Medicines to patients (variable)	22,75,000 per year
Administrative Overheads	28,00,000 per year
Depreciation on equipments	15% per annum on original cost

It was reported that for 200 days in a year 50 beds were occupied, for 105 days 30 beds were occupied and for 60 days 20 beds were occupied.
The hospital hired 250 beds at a charge of Rs. 950 per bed to accommodate the flow of patients. However, this never exceeded the normal capacity of 50 beds on any day.
Find out:
(i) Profit per patient day, if hospital charges on an average Rs. 2,500 per day from each patient.
(ii) Break even point per patient day (Make calculation on annual basis)

(10 Marks)

(b) Following information relate to a manufacturing concern for the year ended 31st March, 2012:

	(Rs.)
Raw Material (opening)	2,28,000
Raw Material (closing)	3,05,000
Purchases of Raw Material	42,25,000
Freight Inwards	1,00,000
Direct wages paid	12,56,000
Direct wages-outstanding at the end of the year	1,50,000
Factory Overheads	20% of prime cost
Work-in-progress (opening)	1,92,500
Work-in-progress (closing)	1,40,700
Administrative Overheads (related to production)	1,73,000
Distribution Expenses	Rs. 16 per unit
Finished Stock (opening)- 1,217 Units	6,08,500
Sale of scrap of material	8,000

The firm produced 14,000 units of output during the year. The stock of finished goods at the end of the year is valued at cost of production. The firm sold 14,153 units at a price of Rs. 618 per unit during the year.
PREPARE cost sheet of the firm.

(10 Marks)

Question 6: (ANSWER ANY FOUR OF THE FOLLOWING)

(a) Mention and explain types of responsibility centres.

(5 Marks)

(b) Explain obsolescence and circumstances under which materials become obsolete. State the steps to be taken for its treatment.

(5 Marks)

(c) State the bases of apportionment of following overhead costs:
(i) Air-conditioning
(ii) Time keeping
(iii) Depreciation of plant and machinery
(iv) Power/steam consumption
(v) Electric power (Machine operation)

(5 Marks)

(d) How are By-products treated in Costing?

(5 Marks)

(e) Explain 'Activity Based Budgeting'.

(5 Marks)

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