(GI-11, GI-12+15, GI-13+14, SI-5)

DATE: 13.05.2020 **MAXIMUM MARKS: 100** **TIMING: 3¼ Hours**

PAPER : COST ACCOUNTING

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) Following information relate to a manufacturing concern for the year ended 31st March, 2018:

	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
Wo9rk-in-progres (closing)	1,40,700
Administrative Overheads (related to production)	1,73,000
Distribution Expenses	Rs. 16 per unit
Finished Stock (opening)-1217 Units	6,08,500
Sale of scrap of material	8,000

The firm produced 14000 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 14153 units at a price of Rs. 618 per unit during the year.

Prepare cost sheet of the firm.

(5 Marks)

(b) 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)

(c) CALCULATE from the following figures:

(i) Efficiency ratio

(ii) Activity ratio and

(iii) Capacity ratio.

Budgeted Production	880 units
Standard Hours per unit	10 hours
Actual Production	750 units
Actual Working Hours	6000 hours

(5 Marks)

(d) CALCULATE a suggested fare per passenger-km from the following information for a Mini Bus:

(i) Length of route: 30 km
(ii) Purchase price Rs. 4,00,000
(iii) Part of above cost met by loan, annual interest of which is Rs. 10,000 p.a.
(iv) Other annual charges: Insurance Rs. 15,000, Garage rent Rs. 9,000, Road tax Rs. 3,000, Repairs & maintenance Rs. 15,000, Administrative charges Rs. 5,000.
(v) Running Expenses: Driver & Conductor Rs. 5,000 p.m., Repairs/Replacement of tyre-tube Rs. 3,600 p.a., Diesel and oil cost per km Rs. 5.
(vi) Effective life of vehicle is estimated at 5 years at the end of which it will have a scrap value of Rs. 10,000.
(vii) Mini Bus has 20 seats and is planned to make Six no. two way trips for 25 days/p.m.
(viii) Provide profit @ 20% of total revenue.

(5 Marks)

Question 2:

(a) Aditya Agro Ltd. produces edible oils of different varieties. The monthly demand pattern for the finished products are as follows:

Mustard oil	45,000 Litre
Soybean oil	15,000 Litre
Olive oil	3,000 Litre

To produce one litre of Mustard oil, Soybean oil and Olive oil, 5 kg. of mustards, 6 kg. of soybeans and 4.5 kg. of olives are required respectively. There is no opening and closing stock of materials.

Aditya Agro Ltd. can purchase the materials either from the farmers directly or from the wholesale market. The company can purchase any quantity of materials from the wholesale market but in case of purchase from the farmers, it has to purchase the minimum specified quantity of materials at a time. Following is the material-wise summary related with the purchase of materials:

	Wholesale Market	Farmers
Mustard:		
Minimum Quantity to be purchased	Any quantity	13,50,000 kg.
Purchase price per kg. (Rs.)	15.00	12.50
Central Sales Tax (CST)*	2%	---
Transportation cost per purchase (Rs.)	6,000	15,000
Sorting and piling cost per purchase (Rs.)	----	1,200
Loading cost per 50 kg. (Rs.)	10.00	5.00
Unloading cost per 50 kg. (Rs.)	2.00	2.00
Soybean:		
Minimum Quantity to be purchased	Any Quantity	2,70,000 kg.
Purchase price per kg. (Rs.)	11.00	9.00
Value Added Tax (VAT)**	4%	---
Transportation cost per purchase (Rs.)	9,000	12,000
Sorting and piling cost per purchase (Rs.)	---	800
Loading cost per 50 kg. (Rs.)	10.00	3.00
Unloading cost per 50 kg. (Rs.)	2.00	2.00

Olive:		
Minimum Quantity to be purchased	Any Quantity	1,62,000 kg.
Purchase price per kg. (Rs.)	36.00	28.00
Import duty***	---	10%
Transportation Cost per purchase (Rs.)	3,000	11,000
Sorting and piling cost per purchase (Rs.)	1,800	---
Loading cost per 50 kg. (Rs.)	10.00	25.00
Unloading cost per 50 kg. (Rs.)	2.00	2.00

The company is paying 12.5% p.a. as interest to its bank for cash credit facility and Rs.100 per 100 kg. as rent to the warehouse.

[*CST will be added with the purchase price of mustards; **VAT will not be added with the purchase price of soybeans; ***Import duty will be added with the purchase price of olives.]

You are required to

(i) Calculate the purchase cost of each material
  (a) from Wholesale market
  (b) from the Farmers

(ii) Calculate Economic Order Quantity of each material under the both options.

(iii) Recommend the best purchase option for the material 'olive'.

(10 Marks)

(b) Jigyasa Boutiques LLP. (JBL) takes contract on job works basis. It works for various fashion houses and retail stores. It has employed 26 workers and pays them on time rate basis. On an average an employee is allowed 2 hours for boutique work on a piece of garment. In the month of March 2014, two workers Margaret and Jennifer were given 30 pieces and 42 pieces of garments respectively for boutique work. The following are the details of their work:

	Margaret	Jennifer
Work assigned	30 pcs.	42 pcs.
Time taken	28 hours	40 hours

Workers are paid bonus as per Halsey System. The existing rate of wages is Rs. 50 per hour. As per the new wages agreement the workers will be paid Rs. 55 per hour w.e.f. 1st April 2014. At the end of the month March 2014, the accountant of the company has calculated wages to these two workers taking Rs. 55 per hour.

(i) From the above information calculate the amount of loss that the company has incurred due to incorrect rate selection.

(ii) What would be the loss incurred by the JBL due to incorrect rate selection if it had followed Rowan scheme of bonus payment.

(iii) Amount that could have been saved if Rowan scheme of bonus payment was followed.

(iv) Do you think Rowan scheme of bonus payment is suitable for JBL?

(10 Marks)

Question 3:

(a) Vision Ltd. manufactures luggage trolleys for airports. The factory, in which the company undertakes all of its production, has two production departments- 'Fabrication' and 'Assembly', and two service departments- 'Stores' and 'Maintenance'.

The following information have been extracted from the company's budget for the financial year ended 31st March, 2014:

Allocated Overhead Costs	Rs.
Fabrication Department	15,52,000
Assembly Department	7,44,000
Stores Department	2,36,000

Maintenance Department	1,96,000
Other Overheads	Rs.
Factory rent	15,28,000
Factory building insurance	1,72,000
Plant & machinery insurance	1,96,000
Plant & Machinery Depreciation	2,65,000
Subsidy for staffs' canteen	4,48,000

Direct Costs	Rs.	Rs.
Fabrication Department:		
Material	63,26,000	
Labour	8,62,000	71,88,000
Assembly Department:		
Material	1,42,000	
Labour	13,06,000	14,48,000

The following additional information is also provided:

	Fabrication Department	Assembly Department	Stores Department	Maintenance Department
Floor area (square meters)	24,000	10,000	2,500	3,500
Value of plant & machinery (Rs.)	16,50,000	7,50,000	75,000	1,75,000
No. of stores requisitions	3,600	1,400	---	---
Maintenance hours required	2,800	2,300	400	---
No. of employees	120	80	38	12
Machine hours	30,00,000	60,000		
Labour hours	70,000	26,00,000		

Required:

(a) Prepare a table showing the distribution of overhead costs of the two service departments to the two production departments using step method; and

(b) Calculate the most appropriate overhead recovery rate for each department.

(c) Using the rates calculated in part (b) above, calculate the full production costs of the following job order:
Job number IGI2014

Direct Materials	Rs. 1,15,200
Direct Labour:	
Fabrication Department	240 hours @ Rs. 18 per hour
Assembly Department	180 hours @ Rs. 18 per hour
Machine hours required	
Fabrication Department	210 hours
Assembly Department	150 hours

(10 Marks)

(b) Gopal Milk Co-Operative Society (GMCS) collects raw milk from the farmers of Ramgarh, Pratapgarh and Devgarh panchayats and processes these milk to make various dairy products. GMCS has its own vehicles (tankers) to collect and bring the milk to the processing plant. Vehicles are parked in the GMCS's garage situated within the plant compound. Following are the some information related with the vehicles:

	Ramgarh	Pratapgarh	Devgarh
No. of vehicles assigned	4	3	5
No. of trips a day	3	2	2
One way distance from the processing plant	24 k.m.	34 k.m.	16 k.m.
Toll tax paid p.m. (Rs.)	2,850	3,020	---

All the 5 vehicles assigned to Devgarh panchayat, were purchased five years back at a cost of Rs. 9,25,000 each. The 4 vehicles assigned to Ramgarh panchayat, were purchased two years back at a cost of Rs. 11,02,000 each and the remaining vehicles assigned to Pratapgarh were purchased last year at a cost of Rs. 13,12,000 each. With the purchase of each vehicle a two years free servicing warranty is provided. A vehicle gives 10 kmpl mileage in the first two year of purchase, 8 kmpl in next two years and 6 kmpl afterwards. The vehicles are subject to depreciation of 10% p.a. on straight line basis irrespective of usage. A vehicle has the capacity to carry 25,000 litres of milk but on an average only 70% of the total capacity is utilized.

The following expenditure is related with the vehicles:

Salary to a Driver (a driver for each vehicle)	Rs. 18,000 p.m.
Salary to a Cleaner (a cleaner for each	Rs. 11,000 p.m.
vehicle)	
Allocated garage parking fee	Rs. 1,350 per vehicle per month
Servicing cost	Rs. 3,000 for every complete 5,000 k.m.
	run.
price of diesel per litre	Rs. 58.00

From the above information you are required to calculate

(i) Total operating cost per month for each vehicle. (Take 30 days for the month).

(ii) Vehicle operating cost per litre of milk.

(10 Marks)

Question 4:

(a) Oleum Refinery Ltd. refines crude oil and produces two joint product Gasoline and HSD in the ratio of 4:6. The refining is done in three processes.

Crude oil is first fed in Process-A, from where the two products Gasoline and HSD are get separated. After separation from Process-A, Gasoline and HSD are further processed in Process- B and Process- C respectively. During the month of July, 2014, 4,50,000 Ltr. of crude oil were processed in Process-A at a total cost of Rs. 1,71,99,775.

In Process-B, Gasoline is further processed at a cost of Rs. 10,80,000.

In Process- C, HSD is further processed at a cost of Rs. 1,35,000.

The Input output ratio for the each process is as follows:

Process- A 1 : 0.80

Process- B 1 : 0.95

Process- C 1 : 0.90

The details of sales during the month are:

	Gasoline	HSD
Quantity sold (Ltr.)	1,32,000	1,88,000
Sales price per Ltr.(Rs.)	68	46

There were no opening stocks. If these products were sold at split-off point, the selling price of Gasoline and HSD would be Rs. 64 and Rs. 41 per Ltr. respectively.

Required:

(i) Prepare a statement showing the apportionment of joint cost to Gasoline and HSD in proportion of sales value at split off point.

(ii) Prepare a statement showing the cost per Ltr. of each product indicating joint cost, processing cost and total cost separately.

(iii) Prepare a statement showing the product wise profit or loss for the month.

(10 Marks)

(b) The standard material cost for a normal mix of one tonne of product "Captain" based on:

Raw Material	Usage (in tonne)	Price per tonne
A	0.740	Rs. 12,000
B	0.400	Rs. 23,500
C	0.640	Rs. 18,000

During the month of July, 2014, 18 tonnes of product "Captain" were produced from:

Raw Material	Consumption (tonnes)	Cost (Rs.)
A	13.12	1,62,000
B	7.10	1,65,200
C	11.50	2,07,000

Required to Calculate:

a. Material Cost Variance
b. Material Price Variance
c. Material Usage Variance
d. Material Mix Variance
e. Material Yield Variance

(10 Marks)

Question 5:

(a) Maxim Ltd. manufactures a product "N-joy". In the month of August 2014, 14,000 units of the product "N-joy" were sold, the details are as under:

	(Rs.)
Sale Revenue	2,52,000
Direct Material	1,12,000
Direct Labour	49,000
Variable Overheads	35,000
Fixed Overheads	28,000

A forecast for the month of September 2014 has been carried out by the General manger of Maxim Ltd. As per the forecast, price of direct material and variable overhead will be increased by 10% and 5% respectively.

Required to calculate:

a. Number of units to be sold to maintain the same quantum of profit that made in August 2014.
b. Margin of safety in the month of August 2014 and September 2014.

(10 Marks)

(b) A Light Motor Vehicle manufacturer has prepared sales budget for the next few months, and the following draft figures are available:

Month	No. of vehicles
October	4,000
November	3,500
December	4,500
January	6,000
February	6,500

To manufacture a vehicle, a standard cost of Rs. 2,85,700 is incurred and sold through dealers at an uniform selling price of Rs. 3,95,600 to customers. Dealers are paid 12.5% commission on selling price on sale of a vehicle.

Apart from other materials four units of Part-X are required to manufacture a vehicle. It is a policy of the company to hold stocks of Part-X at the end of the each month to cover 40% of next month's production. 4,800 units of Part-X are in stock as on 1st October.

There are 950 nos. of completed vehicles are in stock as on 1st October and it is policy to have stocks at the end of each month to cover 20% of the next month's sales.

You are required to

(a) Prepare Production budget (in nos.) for the month of October, November, December and January.

(b) Prepare a Purchase budget for Part-X (in units) for the months of October, November and December.

(c) Calculate the budgeted gross profit for the quarter October to December.

(10 Marks)

Question 6:

(a) What is Cost accounting? Enumerate its important objectives.

(5 Marks)

(b) EXPLAIN the difference between Cost Control and Control Reduction.

(5 Marks)

(c) DEFINE Controllable Cost and Uncontrollable Cost.

(5 Marks)

(d) What is inter-process profit? State its advantages and disadvantages.

(5 Marks)

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