(Marks - 100)

Question No. 1 is compulsory and attempt any four out of remaining five questions.

QUESTION NO.1 **(5*4 = 20 MARKS)**

A. A company sells its product at Rs. 15 per unit. In a period, if it produces and sells 8,000 units, it incurs a loss of Rs. 5 per unit. If the volume is raised to 20,000 units, it earns a profit of Rs. 4 per unit. **CALCULATE break – even point both in terms of rupees as well as in units.**

B. 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:

a. Re-order quantity
b. Re-order level
c. Maximum level
d. Minimum level
e. Average stock level

C. APFL Ltd. deals in plumbing materials and also provides plumbing services to its customers. On 12th August, 2019, APFL received a job order for a students' hostel to supply and fitting of plumbing materials. The work is to be done on the basis of specification provided by the hostel owner. Hostel will be inaugurated on 5th September, 2019 and the work is to be completed by 3rd September, 2019. Following are the details related with the job work:

Direct Materials

APFL uses a weighted average method for the pricing of materials issues.

Opening stock of materials as on 12th August 2019:

- 15mm GI Pipe, 12 units of 15 feet size @ Rs.600 each
- 20mm GI Pipe, 10 units of 15 feet size @ Rs.660 each
- Other fitting materials, 60 units @ Rs. 26 each
- Stainless Steel Faucet, 6 units @ Rs. 204 each
- Valve, 8 units @ Rs. 404 each

Purchases:

On 16th August 2019:

- 20mm GI Pipe, 30 units of 15 feet size @ Rs. 610 each
- 10 units of Valve @ Rs. 402 each

On 18th August 2019:

- Other fitting materials, 150 units @ Rs. 28 each
- Stainless Steel Faucet, 15 units @ Rs. 209 each

On 27th August 2019:

- 15mm GI Pipe, 35 units of 15 feet size @ Rs.628 each
- 20mm GI Pipe, 20 units of 15 feet size @ Rs.660 each
- Valve, 14 units @ Rs. 424 each

Issues for the hostel job:

On 12th August 2019:

- 20mm GI Pipe, 2 units of 15 feet size
- Other fitting materials, 18 units

On 17th August 2019:

- 15mm GI Pipe, 8 units of 15 feet size
- Other fitting materials, 30 units

On 28th August 2019:

- 20mm GI Pipe, 2 units of 15 feet size
- 15mm GI Pipe, 10 units of 15 feet size
- Other fitting materials, 34 units
- Valve, 6 units

On 30th August:

- Other fitting materials, 60 units
- Stainless Steel Faucet, 15 units

Direct Labour:

Plumber: 180 hours @ Rs. 50 per hour (includes 12 hours overtime)

Helper: 192 hours @ Rs.35 per hour (includes 24 hours overtime)

Overtimes are paid at 1.5 times of the normal wage rate.

Overheads:

Overheads are applied @ Rs. 13 per labour hour.

Pricing policy:

It is company's policy to price all orders based on achieving a profit margin of 25% on sales price.

<u>You are required to</u>

(a) CALCULATE the total cost of the job.

(b) CALCULATE the price to be charged from the customer.

D. ADV Pvt. Ltd. manufactures a product which requires skill and precision in work to get quality products. The company has been experiencing high labour cost due to slow speed of work. The management of the company wants to reduce the labour cost but without compromising with the quality of work. It wants to introduce a bonus scheme but is indifferent between the Halsey and Rowan scheme of bonus.

For the month of November 2019, the company budgeted for 24,960 hours of work. The workers are paid Rs.80 per hour.

Required:

a. CALCULATE and suggest the bonus scheme where the time taken (in %) to time allowed to complete the works is (a) 100% (b) 75% (c) 50% & (d) 25% of budgeted hours.

QUESTION NO.2 **(10*2 = 20 MARKS)**

A. In an Oil Mill, four products emerge from a refining process. The total cost of input during the quarter ending March 2019 is Rs.22,20,000. The output, sales and additional processing costs are as under:

Products	Output in Litres	Additional processing cost after split off (Rs.)	Sales value (Rs.)
A	8,000	6,45,000	25,87,500
B	4,000	1,35,000	2,25,000
C	2,000	-	90,000
D	4,000	22,500	6,75,000

In case these products were disposed-off at the split off point that is before further processing, the selling price per litre would have been:

A (Rs.)	B (Rs.)	C (Rs.)	D (Rs.)
225.00	90.00	45.00	112.50

PREPARE a statement of profitability based on:

a. If the products are sold after further processing is carried out in the mill.
b. If they are sold at the split off point.

B. SMP Pvt. Ltd. manufactures three products using three different machines. At present the overheads are charged to products using labour hours. The following statement for the month of September 2019, using the absorption costing method has been prepared:

Particulars	Product X (using machine A)	Product Y (using machine B)	Product Z (using machine C)
Production units	45,000	52,500	30,000
Material cost per unit (Rs.)	350	460	410

Wages per unit @ Rs.80 per hour	240	400	560
Overhead cost per unit (Rs.)	240	400	560
Total cost per unit (Rs.)	830	1,260	1,530
Selling price (Rs.)	1,037.50	1,575	1912.5

The following additional information is available relating to overhead cost drivers.

Cost driver	Product X	Product Y	Product Z	Total
No. of machine set-ups	40	160	400	600
No. of purchase orders	400	800	1,200	2,400
No. of customers	1,000	2,200	4,800	8,000

Actual production and budgeted production for the month is same. Workers are paid at standard rate. Out of total overhead costs, 30% related to machine set-ups, 30% related to customer order processing and balance portion related to customer complaint management.

Required:

(i) COMPUTE overhead cost per unit using activity based costing method.

(ii) DETERMINE the selling price of each product based on activity-based costing with the same profit mark-up on cost.

QUESTION NO.3 **(10*2 = 20 MARKS)**

A. V 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, 2019:

Particulars	Rs.
Allocated Overhead Costs	
Fabrication Department	15,52,000
Assembly Department	7,44,000
Stores Department	2,36,000
Maintenance Department	1,96,000
Other Overheads	
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:

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

(ii) CALCULATE the most appropriate overhead recovery rate for each department.

(iii) Using the rates calculated in part (ii) above, CALCULATE the full production costs of the following job order:

Job number IGI2019

Direct Materials	Rs. 2,30,400
Direct Labour:	
Fabrication Department	240 hours @ Rs. 50 per hour
Assembly Department	180 hours @ Rs. 50 per hour
Machine hours required:	
Fabrication Department	210 hours
Assembly Department	180 hours

B. 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. 3,18,000

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.

QUESTION NO.4 **(10*2 = 20 MARKS)**

A. PJ Ltd. manufacturers hockey sticks. It sells the products at Rs. 500 each and makes a profit of Rs. 125 on each stick. The company is producing 5000 sticks annually by using 50% of its machinery capacity.

The cost of each stick is as under:

Direct Material	Rs. 150
Direct Wages	Rs. 50
Works Overhead	Rs. 125 (50% fixed)
Selling expenses	Rs. 50 (25% variable)

The anticipation for the next year is that cost will go up as under:

Fixed charges	10%
Direct Wages	20%
Direct Material	5%

There will not be any change in selling price.

There is an additional order for 2000 sticks in the next year.

Calculate the lowest price that can be quoted so that the company can earn the same profit as it earned in the current year?

B. Following details are provided by M/s ZIA Private Limited for the quarter ending 30 September, 2018:

(i)	Direct expenses	Rs. 1,80,000
(ii)	Direct wages being 175% of factory overheads	Rs. 2,57,250
(iii)	Cost of goods sold	Rs. 18,75,000
(iv)	Selling & distribution overheads	Rs. 60,000
(v)	Sales	Rs. 22,10,000
(vi)	Administration overheads are 10% of factory overheads	

Stock details as per Stock Register:

Particulars	**30.06.2018 (Rs.)**	**30.09.2018 (Rs.)**
Raw material	2,45,600	2,08,000
Work-in-progress	1,70,800	1,90,000
Finished goods	3,10,000	2,75,000

You are required to prepare a cost sheet showing:

(i) Raw material consumed

(ii) Prime cost

(iii) Factory cost

(iv) Cost of goods sold

(v) Cost of sales and profit

QUESTION NO.5 **(10*2 = 20 MARKS)**

A. KT Ltd. produces a product EMM which passes through two processes before it is completed and transferred to finished stock. The following data relate to May 2019:

Particulars	Process		Finished stock
	A(Rs.)	B(Rs.)	(Rs.)
Opening Stock	5,000	5,500	10,000
Direct Materials	9,000	9,500	
Direct Wages	5,000	6,000	
Factory Overheads	4,600	2,030	
Closing Stock	2,000	2,490	5,000
Inter-process profit included in opening stock		1,000	4,000

Output of Process A is transferred to Process B at 25% profit on the transfer price and output of Process B is transferred to finished stock at 20% profit on the transfer price. Stock in process is valued at prime cost. Finished stock is valued at the price at which it is received from Process B. Sales during the period are Rs. 75,000.

Prepare the Process cost accounts and Finished stock account showing the profit element at each stage.

B. V Ltd. produces and markets a very popular product called 'X'. The company is interested in presenting its budget for the second quarter of 2019.

The following information are made available for this purpose:

(i) It expects to sell 50,000 bags of 'X' during the second quarter of 2019 at the selling price of Rs. 900 per bag.

(ii) Each bag of 'X' requires 2.5 kgs. of a raw – material called 'Y' and 7.5 kgs. of raw – material called 'Z'.

(iii) Stock levels are planned as follows:

Particulars	Beginning of Quarter	End of Quarter
Finished Bags of 'X' (Nos.)	15,000	11,000
Raw – Material 'Y' (Kgs.)	32,000	26,000
Raw – Material 'Z' (Kgs.)	57,000	47,000
Empty Bag (Nos.)	37,000	28,000

(iv) 'Y' cost Rs.120 per Kg., 'Z' costs Rs.20 per Kg. and 'Empty Bag' costs Rs.80 each.

(v) It requires 9 minutes of direct labour to produce and fill one bag of 'X'. Labour cost is Rs.50 per hour.

(vi) Variable manufacturing costs are Rs.45 per bag. Fixed manufacturing costs Rs.30,00,000 per quarter.

(vii) Variable selling and administration expenses are 5% of sales and fixed administration and selling expenses are Rs.20,50,000 per quarter.

Required

(i) PREPARE a production budget for the said quarter.

(ii) PREPARE a raw – material purchase budget for 'Y', 'Z' and 'Empty Bags' for the said quarter in quantity as well as in rupees.

(iii) COMPUTE the budgeted variable cost to produce one bag of 'X'.

(iv) PREPARE a statement of budgeted net income for the said quarter and show both per unit and total cost data.

QUESTION NO.6 (ANY FOUR) **(5*4 = 20 MARKS)**

A. 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:

a. Fixed overhead variance
b. Fixed overhead expenditure variance
c. Fixed overhead volume variance
d. Fixed overhead efficiency variance

B. What are the cases when a flexible budget is found suitable?
C. Journalize the following transactions in cost books under Non – Integrated system of accounting.

(i)	Credit Purchase of material	Rs. 27,000
(ii)	Manufacturing overhead charged to production	Rs. 6,000
(iii)	Selling and distribution overheads recovered from sales	Rs. 4,000
(iv)	Indirect wages incurred	Rs. 8,000
(v)	Material returned from production to stores	Rs. 9,000

D. Mention and explain types of responsibility centres.
E. DISTINGUISH between Job and Batch costing.