CA INTERMEDIATE

SUBJECT- COSTING

Test Code – CIM 8730

(Date :)

(Marks - 100)

Question No. 1 is compulsory.

Attempt any four questions out of the remaining five questions.

Working notes should form part of the answer

QUESTION NO.1

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.

<u>Required:</u>

(i) CALCULATE cost per kg. of material X and Y

(ii) CALCULATE the Economic Order quantity for both the materials.

B. <u>FIND OUT the cost of joint products A and B using contribution margin method from the following data :</u>

Sales

A : 100 kg @ Rs. 60 per kg.

B : 120 kg @ Rs. 30 per kg.

Joint costs

Marginal cost Rs. 4,400

Fixed cost Rs. 3,900

C. ABC Limited started its operation in the year 2013 with a total production capacity of 2,00,000 units. The following information, for two years, are made available to you:

	Year 2013	Year 2014
Sales (units)	80,000	1,20,000
Total Cost (Rs.)	34,40,000	45,60,000

There has been no change in the cost structure and selling price and it is anticipated that it will remain unchanged in the year 2015 also.

Selling price is Rs. 40 per unit.

Calculate :

1. Variable cost per unit.
2. Profit Volume Ratio.

D. Ispat Engineers Limited (IEL) undertook a plant manufacturing work for a client. It will charge a profit mark up of 20% on the full cost of the jobs. The following are the information related to the job:

Direct materials utilised – Rs.1,87,00,000

Direct labour utilised – 2,400 hours at Rs.80 per hour

Budgeted production overheads are Rs. 48,00,000 for the period and are recovered on the basis of 24,000 labour hours.

Budgeted selling and administration overheads are Rs.18,00,000 for the period and recovered on the basis of total budgeted total production cost of Rs.36,00,00,000.

Required:

CALCULATE the price to be charged for the job.

(4 x 5 = 20 Marks)

QUESTION NO.2

A. ABS Enterprises produces a product and adopts the policy to recover factory overheads applying blanket rate based on machine hours. The cost records of the concern reveal the following information:

Budgeted production overheads	Rs. 10,35,000
Budgeted machine hours	Rs. 90,000
Actual machine hours worked	Rs. 45,000
Actual production overheads	Rs. 8,80,000
Production overheads (actual) include-	
Paid to worker as per court's award	Rs. 50,000
Wages paid for strike period	Rs. 38,000
Stores written off	Rs. 22,000
Expenses of previous year booked in current year	Rs. 18,500
Production -	

Finished goods	30,000 units
Sale of finished goods	27,000 units

The analysis of cost information reveals that 1/3 of the under absorption of overheads was due to defective production planning and the balance was attributable to increase in costs.

You are required:

(i) To find out the amount of under absorbed production overheads.

(ii) To give the ways of treating it in Cost Accounts.

(iii) To apportion the under absorbed overheads over the items.

(10 Marks)

B. Asian Mfg. Co. has decided to increase the size of the store. It wants the information about the probability of the individual product lines : Lemon, Grapes and Papaya. It provides the following data for the 2018 for each product line:

Particulars	**Lemon**	**Grapes**	**Papaya**
Revenues (Rs.)	79,350	2,10,060	1,20,990
Cost of goods sold (Rs.)	60,000	1,50,000	90,000
Cost of bottles returned (Rs.)	1,200	0	0
Number of purchase orders placed	36	84	36
Number of deliveries received	30	219	66
Hours of shelf stocking time	54	540	270
Items sold	12,600	1,10,400	30,600

Asian Mfg. Co. also provides the following information for the year 2018:

Activity	**Description of Activity**	**Total Costs (Rs.)**	**Cost Allocation Basis**
Bottle returns	Returning of empty bottles to the store	1,200	Direct tracing to product line
Ordering	Placing of orders of purchases	15,600	156 purchase orders
Delivery	Physical delivery and the receipts of merchandise	25,200	315 deliveries
Self- stocking	Stocking of merchandise on store shelves and ongoing restocking	17,280	864 hours of time
Customer support	Assistance provided to customers including bagging and checkout	30,720	1,53,600 items sold

Required

(i) Asian Mfg. Co. currently allocates store support costs (all costs other than the cost of goods sold) to the product line on the basis of the cost of goods sold of each product line. CALCULATE the operating income and operating income as the percentage of revenue of each product line.

(ii) If Asian Mfg. Co. allocates store support costs (all costs other than the cost of goods sold) to the product lines on the basis of ABC system, CALCULATE the operating income and operating income as the percentage of revenue of each product line.

(iii) SHOW a comparison statement.

(10 Marks)

QUESTION NO.3

A. A Ltd. Co. has capacity to produce 1,00,000 units of a product every month. Its works cost at varying levels of production is as under:

Level	Works cost per unit (Rs.)
10%	400
20%	390
30%	380
40%	370
50%	360
60%	350
70%	340
80%	330
90%	320
100%	310

Its fixed administration expenses amount to Rs. 1,50,000 and fixed marketing expenses amount to Rs. 2,50,000 per month respectively. The variable distribution cost amounts to Rs. 30 per unit.

It can sell 100% of its output at Rs. 500 per unit provided it incurs the following further expenditure:

(a) It gives gift items costing Rs. 30 per unit of sale,

(b) It has lucky draws every month giving the first prize of Rs. 50000 , 2nd prize of Rs. 25000, 3rd prize of Rs. 10000 and three consolation prizes of Rs. 5000 each to customers buying the product.

(c) it spends Rs. 1,00,000 on refreshments served every month to its customers

(d) it sponsors a television programme every week at a cost of Rs. 2000000 per month.

It can market 30% of its output at Rs. 550 per unit without incurring any of the expenses referred to in (a) to (d) above.

PREPARE a cost sheet for the month showing total cost and profit at 30% and 100% capacity level.

(10 Marks)

B. The standard cost of a chemical mixture is as follows:

60% of Material A @ Rs. 50 per kg

40% Material B @ Rs. 60 per kg

A standard loss of 25% on output is expected in production. The cost records for a period has shown the following usage.

540 kg of Material A @ Rs. 60 per kg

260 kg of Material B @ Rs. 50 per kg

The quantity processed was 680 kilograms of good product.

From the above given information

Calculate:

(i) Material Cost Variance

(ii) Material Price Variance

(iii) Material Usage Variance

(iv) Material Mix Variance

(v) Material Yield Variance.

(10 Marks)

QUESTION NO.4

A. Star Ltd. manufactures chemical solutions for the food processing industry. The manufacturing takes place in a number of processes and the company uses FIFO method 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 papers 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 1,600 litres, 70% complete for labour and 60% complete for overheads. Opening work-in-process was valued at Rs. 1,06,560.
- Closing work-in-process at the end of the month was 320 litres, 30% complete for labour and 20% complete for overheads.
- Normal loss is 10% of input and total losses during the month were 1,200 litres partly due to the fire damage.
- Output sent to finished goods warehouse was 8,400 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.78 for the month made up as follows:

	(Rs.)
Raw Material	46
Labour	14
Overheads	18
	78

Required:

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

(ii) 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.

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

(iv) Prepare the process account for the month.

(10 Marks)

B. Zico Ltd. has its factory at two locations viz Nasik and Satara. Rowan plan is used at Nasik factory and Halsey plan at Satara factory.

Standard time and basic rate of wages are same for a job which is similar and is carried out on similar machinery. Normal working hours is 8 hours per day in a 5 day week.

Job at Nasik factory is completed in 32 hours while at Satara factory it has taken 30 hours. Conversion costs at Nasik and Satara are Rs. 5,408 and Rs. 4,950 respectively. Overheads account for Rs. 25 per hour.

Required:

a. To find out the normal wage; and

b. To compare the respective conversion costs.

(10 Marks)

QUESTION NO.5

A. SMC is a public school having five buses each plying in different directions for the transport of its school students. In view of a larger number of students availing of the bus service the buses work two shifts daily both in the morning and in the afternoon. The buses are garaged in the school. The work-load of the students has been so arranged that in the morning the first trip picks up senior students and the second trip plying an hour later picks up the junior students. Similarly in the afternoon the first trip takes the junior students and an hour later the second trip takes the senior students home.

The distance travelled by each bus one way is 10 km. The school works 25 days in a month and remains closed for vacation in May, June and December. Bus fee, however, is payable by the students for all 12 months in a year.

The details of expenses for a year are as under:

Driver's salary	Rs. 9,000 per month per driver
Cleaner's salary	Rs. 6,000 per month
(Salary payable for all 12 months)	
(one cleaner employed for all the five buses)	
Licence fee, taxes, etc.	Rs. 8,600 per bus per annum
Insurance	Rs. 10,000 per bus per annum
Repairs & maintenance	Rs. 35,000 per bus per annum
Purchase price of the bus	Rs. 15,00,000 each
Life of each bus	12 years
Scrap value of buses at the end of life	Rs. 3,00,000
Diesel cost	Rs. 65.00 per litre

Each bus gives an average mileage of 4 km. per litre of diesel.

Seating capacity of each bus is 50 students.

The seating capacity is fully occupied during the whole year.

Students picked up and dropped within a range upto 5 km. of distance from the school are charged half fare and fifty per cent of the students travelling in each trip are in this category. Ignore interest. Since the charges are to be based on average cost you are required to :

(i) Prepare a statement showing the expenses of operating a single bus and the fleet of five buses for a year.

(ii) Work out the average cost per student per month in respect of –

(A) students coming from a distance of upto 5 km. from the school and

(B) students coming from a distance beyond 5 km. from the school.

(10 Marks)

B. A Vehicle manufacturer has prepared sales budget for the next few months, and the following draft figures are available:

Month	**No. of vehicles**
October	40,000
November	35,000
December	45,000
January	60,000
February	65,000

To manufacture a vehicle a standard cost of Rs.11,42,800 is incurred and sold through dealers at a uniform selling price of Rs.17,14,200 to customers. Dealers are paid 15% 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 each month to cover 40% of next month's production. 48,000 units of Part-X are in stock as on 1st October.

There are 9,500 nos. of completed vehicles 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.

<u>You are required to -</u>

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

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

(iii) CALCULATE the budgeted gross profit for the quarter October to December.

(10 Marks)

QUESTION NO.6

Answer any four of the following:

A. A manufacturing company has disclosed a net loss of Rs 2,25,000 as per their cost accounting records for the year ended March 31, 2019. However, their financial accounting records disclosed a net loss of Rs 2,70,000 for the same period. A scrutiny of data of both the sets of books of accounts revealed the following information:

		(Rs)
(i)	Factory overheads under-absorbed	5,000
(ii)	Administration overheads over-absorbed	3,000
(iii)	Depreciation charged in financial accounts	70,000
(iv)	Depreciation charged in cost accounts	80,000
(v)	Interest on investments not included in cost accounts	20,000
(vi)	Income-tax provided in financial accounts	65,000
(vii)	Transfer fees (credit in financial accounts)	2,000
(viii)	Preliminary expenses written off	3,000
(ix)	Over-valuation of closing stock of finished goods in cost accounts	7,000

Required:

PREPARE a Memorandum Reconciliation Account.

B. Explain the meaning of 'Waste' and 'Spoilage' and give the accounting treatment for each one.

C. Distinguish between cost accounting and management accounting.

D. Discuss the Escalation Clause in a Contract.

E. DISCUSS the essential features of a good cost accounting system.

(4 x 5 = 20 Marks)