

NOV 2022

Total No. of Questions – 6

Total No. of Printed Pages – 32

Time Allowed – 3 Hours

IPCE (New Syllabus)
Paper - 3

Maximum Marks – 100

Cost and Management Accounting

EAS-H

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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 answers in Hindi will not be valued.

Question No. 1 is compulsory.

Answer any **four** questions from the remaining **five** questions.

Working notes should form part of the answers.

Marks

1. Answer the following :

4×5
=20

- (a) A Ltd. is a pharmaceutical company which produces vaccines for diseases like Monkey Pox, Covid-19 and Chickenpox. A distributor has given an order for 1,600 Monkey Pox Vaccines. The company can produce 80 vaccines at a time. To process a batch of 80 Monkey Pox Vaccines, the following costs would be incurred :

	₹
Direct Materials	– 4,250
Direct wages	– 500
Lab set-up cost	– 1,400

The Production Overheads are absorbed at a rate of 20% of direct wages and 20% of total production cost is charged in each batch for Selling, distribution and administration Overheads. The company is willing to earn profit of 25% on sales value.

You are required to determine:

- (i) Total Sales value for 1,600 Monkey Pox Vaccines
(ii) Selling price per unit of the Vaccine.

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- (b) ABC Bank is having a branch which is engaged in processing of 'Vehicle Loan' and 'Education Loan' applications in addition to other services to customers. 30% of the overhead costs of the branch are estimated to be applicable to the processing of 'Vehicle Loan' applications and 'Education Loan' applications each.

Branch is having four employees at a monthly salary of ₹ 50,000 each, exclusively for processing of Vehicle Loan applications and two employees at a monthly salary of ₹ 70,000 each, exclusively for processing of Education Loan applications.

In addition to above, following expenses are incurred by the Branch :

- Branch Manager who supervises all the activities of branch, is paid at ₹ 90,000 per month.
- Legal charges, Printing & stationery and Advertising Expenses are incurred at ₹ 30,000, ₹ 12,000 and ₹ 18,000 respectively for a month.
- Other Expenses are ₹ 10,000 per month.

You are required to :

- (i) Compute the cost of processing a Vehicle Loan Application on the assumption that 496 Vehicle Loan applications are processed each month.
- (ii) Find out the number of Education Loan Applications processed, if the total processing cost per Education Loan Application is same as in the Vehicle Loan Application as computed in (i) above.

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- (c) MM Ltd. uses 7500 valves per month which is purchased at a price of ₹ 1.50 per unit. The carrying cost is estimated to be 20% of average inventory investment on an annual basis. The cost to place an order and getting the delivery is ₹ 15. It takes a period of 1.5 months to receive a delivery from the date of placing an order and a safety stock of 3200 valves is desired.

You are required to determine:

- (i) The Economic Order Quantity (EOQ) and the frequency of orders.
- (ii) The re-order point.
- (iii) The Economic Order Quantity (EOQ) if the valve costs ₹ 4.50 each instead of ₹ 1.50 each

(Assume a year consists of 360 days)

- (d) ABC Ltd. sells its Product 'Y' at a price of ₹ 300 per unit and its variable cost is ₹ 180 per unit. The fixed costs are ₹ 16,80,000 per year uniformly incurred throughout the year. The Profit for the year is ₹ 7,20,000.

You are required to calculate:

- (i) BEP in value (₹) and units,
- (ii) Margin of Safety
- (iii) Profits made when sales are 24,000 units,
- (iv) Sales in value (₹) to be made to earn a net profit of ₹10,00,000 for the year.

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2. (a) USP Ltd. is the manufacturer of 'double grip motorcycle tyres'. In the manufacturing process, it undertakes three different jobs namely, Vulcanising, Brushing and Striping. All of these jobs require the use of a special machine and also the aid of a robot when necessary. The robot is hired from outside and the hire charges paid for every six months is ₹ 2,70,000. An estimate of overhead expenses relating to the special machine is given below :

- Rent for a quarter is ₹ 18,000.
- The cost of the special machine is ₹ 19,20,000 and depreciation is charged @ 10% per annum on straight line basis.
- Other indirect expenses are recovered at 20% of direct wages.

The factory manager has informed that in the coming year, the total direct wages will be ₹ 12,00,000 which will be incurred evenly throughout the year.

During the first month of operation, the following details are available from the job book :

Number of hours the special machine was used

Jobs	Without the aid of the robot	With the aid of the robot
Vulcanising	500	400
Brushing	1000	400
Striping	—	1200

You are required to :

- Compute the Machine Hour Rate for the company as a whole for a month (A) when the robot is used and (B) when the robot is not used.
- Compute the Machine Hour Rate for the individual jobs i.e. Vulcanising, Brushing and Striping.

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- (b) A skilled worker, in PK Ltd., is paid a guaranteed wage rate of ₹ 15.00 per hour in a 48-hour week. The standard time to produce a unit is 18 minutes. During a week, a skilled worker- Mr. 'A' has produced 200 units of the product. The Company has taken a drive for cost reduction and wants to reduce its labour cost.

You are required to:

- (i) Calculate wages of Mr. 'A' under each of the following methods :
- A. Time rate,
 - B. Piece-rate with a guaranteed weekly wage,
 - C. Halsey Premium Plan
 - D. Rowan Premium Plan
- (ii) Suggest which bonus plan i.e. Halsey Premium Plan or Rowan Premium Plan, the company should follow.

- (c) XYZ Ltd. is engaged in manufacturing two products- Express Coffee and Instant Coffee. It furnishes the following data for a year:

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Product	Actual Output (units)	Total Machine hours	Total Number of Purchase orders	Total Number of set ups
Express Coffee	5,000	20,000	160	20
Instant Coffee	60,000	1,20,000	384	44

The annual overheads are as under :

Particulars	₹
Machine Processing costs	7,00,000
Set up related costs	7,68,000
Purchase related costs	6,80,000

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You are required to :

- (i) Compute the costs allocated to each product – Express Coffee and Instant Coffee from each activity on the basis of Activity-Based Costing (ABC) method.
- (ii) Find out the Overhead cost per unit of each product- Express coffee and Instant coffee based on (i) above.

3. (a) XYZ Construction Ltd. has obtained a contract of ₹ 25,00,000 in the Financial Year 2021-22. The work on the contract commenced immediately and it is expected that the contract will be completed by 31st March, 2023. Chief accountant of the company has provided following information related to the Contract :

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Particulars	2021-22 (Actual) (in ₹)	2022-23 (Estimated) (in ₹)
Material issued	4,00,000	3,50,000
Wages: Paid	2,50,000	1,40,000
– Prepaid at the end of the year	15,000	–
Plant	2,00,000	–
Sundry Expenses: Paid	50,000	35,000
– Outstanding at the end of the year	7,500	5,000
Office Expenses : Paid	65,000	55,000
– Outstanding at the end of the year	12,500	15,000
Contingency Expenses	–	1,25,000

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Following additional information is also available :

- A part of plant costing ₹12,000 was scrapped and written-off in the F.Y. 2021-22.
- The value of Plant-at-Site on 31st March, 2022 was ₹ 18,000.
- Company would have to spend an additional sum of ₹ 80,000 on the plant in FY. 2022-23 and the residual value of the plant on the completion of contract would be ₹ 10,000.
- A part of material costing ₹ 30,000 was scrapped and sold for ₹ 20,000 in F.Y. 2021-22.
- The value of Material-at-Site on 31st March, 2022 was ₹ 17,000.
- Cash received on account till 31st March, 2022 was ₹ 13,50,000 representing 90% of the work certified.
- The cost of work uncertified on 31st March, 2022 was valued at 20% of work certified.

You are required to :

- (i) Prepare a Contract Account for the year ended 31st March, 2022
- (ii) Calculate Estimated Total Profit on this Contract.

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- (b) N Ltd. produces a product which passes through two processes – Process-I and Process-II. The company has provided following information related to the Financial Year 2021-22: **10**

	Process I	Process II
Raw Material @ ₹ 65 per unit	6,500 units	–
Direct Wages	₹ 1,40,000	₹ 1,30,000
Direct Expenses	30% of Direct Wages	35% of Direct Wages
Manufacturing Overheads	₹ 21,500	₹ 24,500
Realisable value of scrap per unit	₹ 4.00	₹ 16.00
Normal Loss	250 units	500 units
Units transferred to Process II / finished stock	6,000 units	5,500 units
Sales	–	5,000 units

There was no opening or closing stock of work-in-progress.

You are required to prepare :

- (i) Process-I Account
- (ii) Process-II Account
- (iii) Finished Stock Account

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4. (a) An agriculture based company having 210 hectares of land is engaged in growing three different cereals namely, wheat, rice and maize annually. The yield of the different crops and their selling prices are given below :

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	Wheat	Rice	Maize
Yield (in kgs per hectare)	2,000	500	100
Selling price (₹ per kg)	20	40	250

The variable cost data of different crops are given below :

(All figures in ₹ per kg)

Crop	Labour charges	Packing Materials	Other variable expenses
Wheat	8	2	4
Rice	10	2	1
Maize	120	10	20

The company has a policy to produce and sell all the three kinds of crops. The maximum and minimum area to be cultivated for each crop is as follows :

Crop	Maximum area (in hectares)	Minimum Area (in hectares)
Wheat	160	100
Rice	50	40
Maize	60	10

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You are required to :

- (i) Rank the crops on the basis of contribution per hectare.
- (ii) Determine the optimum product mix considering that all the three cereals are to be produced.
- (iii) Calculate the maximum profit which can be achieved if the total fixed cost per annum is ₹ 21,45,000.

(Assume that there are no other constraints applicable to this company)

- (b) PNME Ltd. manufactures two types of masks- 'Disposable Masks' and 'Cloth Masks'. The cost data for the year ended 31st March, 2022 is as follows :

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	₹
Direct Materials	12,50,000
Direct Wages	7,00,000
Production Overhead	4,00,000
Total :	23,50,000

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It is further ascertained that :

- Direct material cost per unit of Cloth Mask was twice as much of Direct material cost per unit of Disposable Mask.
- Direct wages per unit for Disposable Mask were 60% of those for Cloth Mask.
- Production overhead per unit was at same rate for both the types of the masks.
- Administration overhead was 50% of Production overhead for each type of mask.
- Selling cost was ₹ 2 per Cloth Mask.
- Selling Price was ₹ 35 per unit of Cloth Mask.
- No. of units of Cloth Masks sold- 45,000
- No. of units of Production of

Cloth Masks : 50,000

Disposable Masks : 1,50,000

You are required to prepare a cost sheet for Cloth Masks showing:

- (i) Cost per unit and Total Cost.
- (ii) Profit per unit and Total Profit.

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5. (a) Y Ltd. manufactures "Product M" which requires three types of raw materials – "A", "B" & "C". Following information related to 1st quarter of the F.Y. 2022-23 has been collected from its books of accounts. The standard material input required for 1,000 kg of finished product 'M' are as under :

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Material	Quantity (Kg.)	Std. Rate per Kg. (₹)
A	500	25
B	350	45
C	250	55
	1100	
Standard Loss	100	
Standard Output	1000	

During the period, the company produced 20,000 kg of product 'M' for which the actual quantity of materials consumed and purchase prices are as under :

Material	Quantity (Kg.)	Purchase price per Kg. (₹)
A	11,000	23
B	7,500	48
C	4,500	60

You are required to calculate :

- (i) Material Cost Variance
- (ii) Material Price Variance for each raw material and Product 'M'
- (iii) Material Usage Variance for each raw material and Product 'M'
- (iv) Material Yield Variance

Note: Indicate the nature of variance i.e. Favourable or Adverse.

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- (b) 'X' Ltd. follows Non-Integrated Accounting System. Financial Accounts of the company show a Net Profit of ₹ 5,50,000 for the year ended 31st March, 2022. The chief accountant of the company has provided following information from the Financial Accounts and Cost Accounts :

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Sr. No.	Particulars	(₹)
(i)	Legal Charges provided in financial accounts	15,250
(ii)	Interim Dividend received credited in financial accounts	4,50,000
(iii)	Preliminary Expenses written off in financial accounts	25,750
(iv)	Over recovery of selling overheads in cost accounts	11,380
(v)	Profit on sale of capital asset credited in financial accounts	30,000
(vi)	Under valuation of closing stock in cost accounts	25,000
(vii)	Over recovery of production overheads in cost accounts	10,200
(viii)	Interest paid on Debentures shown in financial accounts	50,000

Required :

Find out the Profit (Loss) as per Cost Accounts by preparing a Reconciliation Statement.

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- (c) ASR Ltd mainly produces Product 'L' and gets a by-Product 'M' out of a joint process. The net realizable value of the by-product is used to reduce the joint production costs before the joint costs are allocated to the main product. During the month of October 2022, company incurred joint production costs of ₹ 4,00,000. The main Product 'L' is not marketable at the split off point. Thus, it has to be processed further. Details of company's operation are as under:

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Particulars	Product L	By- Product M
Production (units)	10,000	200
Selling pricing per kg	₹ 45	₹ 5
Further processing cost	₹1,01,000	—

You are required to find out:

- (i) Profit earned from Product 'L'.
- (ii) Selling price per kg of product 'L', if the company wishes to earn a profit of ₹ 1,00,000 from the above production.

Answer any four of the following :

4×5
=20

- (a) Which system of inventory management is known as 'Demand pull' or 'Pull through' system of production ? Explain. Also, specify the two principles on which this system is based.

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(b) Indicate, for following items, whether to be shown in the Cost Accounts or Financial Accounts :

- (i) Preliminary expenses written off during the year
- (ii) Interest received on bank deposits
- (iii) Dividend, interest received on investments
- (iv) Salary for the proprietor at notional figure though not incurred
- (v) Charges in lieu of rent where premises are owned
- (vi) Rent receivables
- (vii) Loss on sale of Fixed Assets
- (viii) Interest on capital at notional figure though not incurred
- (ix) Goodwill written off
- (x) Notional Depreciation on the assets fully depreciated for which book value is Nil.

(c) PP Limited is in the process of implementation of Activity Based Costing System in the organisation. For this purpose, it has identified the following Business Functions in its organisation :

- (i) Research and Development
- (ii) Design of Products, Services and Procedures
- (iii) Customer Service
- (iv) Marketing
- (v) Distribution

You are required to specify two cost drivers for each Business Function Identified above.

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- (d) Define Budget Manual. What are the salient features of Budget Manual ?
- (e) Mention the cost units (physical measurements) for the following Industry/product :
- (i) Automobile
 - (ii) Gas
 - (iii) Brick works
 - (iv) Power
 - (v) Steel
 - (vi) Transport (by road)
 - (vii) Chemical
 - (viii) Oil
 - (ix) Brewing
 - (x) Cement
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