MODEL TEST PAPER 4

INTERMEDIATE: GROUP – II

PAPER – 4: COST AND MANAGEMENT ACCOUNTING

Answers are to be given only in English except in the case of the candidates who have opted for Hindi medium. If a candidate has not opted for Hindi medium his/ her answer in Hindi will not be valued.

Working notes should form part of the answer.

Time Allowed – 3 Hours **Maximum Marks – 100**

1. *The question paper comprises two parts, Part I and Part II.*
2. *Part I comprises Case Scenario based Multiple Choice Questions (MCQs) for 30 marks*
3. *Part II comprises questions which require descriptive type answers for 70 marks.*

PART I – Case Scenario based MCQs

Part I is compulsory.

Write the most appropriate answer to each of the following multiple-choice questions by choosing one of the four options given. All questions are compulsory.

Tropic Pvt Ltd was engaged in the business of manufacturing Product P. The product P required 2 units of Material R. The company intends to sell 24,000 units of Product P and does not wish to retain any closing stock. However the opening stock of Product P is 4,000 units. Raw Material R has to be procured after considering the opening stock of R amounting to 10,000 units. The technical team further confirms that the yield in the course of manufacture of Product P is 80% of the input.

The company presently procures its annual requirement of materials on a quarterly basis from its regular supplier enjoying a discount of 2.5% on the invoice price of the material of ₹ 20 per unit. Every time the company places orders for Material R, it incurs ₹ 125 for each of the order placed. The company also has taken a rented warehouse for storing material R and the annual cost of storage is ₹ 10 per unit. The company appointed Mr. T a Chartered Accountant to review the cost of inventory and provide measures of improvement of cost. After reviewing the material purchase and consumption pattern, Mr. T suggested that the implementation of Wilson's EOQ would be beneficial to the company. He emphasized that the change in the quantity ordered would result in reduction of inventory carrying costs.

Mr. T further reviewed the labour costing and identified that the employees were paid overtime wages to ensure timely completion of projects. Overtime wages comprised of daily wage and 100% of daily wages as overtime premium. Based on the cost record it was understood that every month had 180 hours of regular

working hours which was remunerated at ₹ 200 per hour and Overtime of 20 hours which was remunerated at ₹ 400 per hour. Mr. T suggested that the above time taken may be considered as standard and a scheme of Incentive be introduced to reduce overtime cost. He further indicated that Rowan scheme of incentive be used to measure performance and the improved productivity per hour would be 125 units per hour.

In this regard, address the following queries in line with the suggestions provided by Mr. T to Tropic Pvt Ltd.

1. The annual requirement of Material R to meet the target sales of 24,000 units of Product P is:
   (a) 48,000 units
   (b) 60,000 units
   (c) 40,000 units
   (d) 50,000 units
2. The ordering quantity as per the current inventory policy and the proposed Wilson's Economic order quantity of Material R are:
   (a) Order Quatity as per the current inventory policy – 10,000 units & Economic Order Quantity – 1,000 units
   (b) Order Quantity as per the current inventory policy – 15,000 units & Economic Order Quantity – 1,225 units
   (c) Order Quantity as per the current inventory policy – 12,000 units & Economic Order Quantity – 1,095 units
   (d) Order Quantity as per the current inventory policy – 12,500 units & Economic Order Quantity – 1,118 units
3. The net savings to inventory cost on migration from the current inventory policy to the Wilson's Economic Order Quantity policy would be:
   (a) Savings from EOQ as compared to current discount policy – ₹ 26,820
   (b) Savings from EOQ as compared to current discount policy – ₹ 20,500
   (c) Savings from EOQ as compared to current discount policy – ₹ 33,253
   (d) Savings from EOQ as compared to current discount policy – ₹ 25,546
4. Incentive payable under the Rowan Incentive scheme amounts to:
   (a) ₹ 7,500
   (b) ₹ 6,400

(c) ₹ 6,000

(d) ₹ 8,000

5. The savings in labour cost achieved by implementation of incentive scheme over the overtime payments amounts to:

(a) ₹ 9,600

(b) ₹ 5,600

(c) ₹ 8,000

(d) ₹ 3,200 **(5 x 2 = 10 Marks)**

XYZ Manufacturing Pvt. Ltd. is a prominent company in the electric appliances industry, known for producing a diverse range of high-quality products. The company has built a reputation for reliability and innovation in the manufacturing of household appliances, including fans, mixers, and heaters. XYZ Manufacturing Pvt. Ltd. is dedicated to delivering products that meet the needs of its customers while adhering to the highest standards of quality and performance.

The company operates a state-of-the-art factory that is fully equipped with advanced machinery and technology to ensure efficient and consistent production. The factory operates 25 days a month, running multiple shifts to meet the growing demand for its products. The company have spare capacity to additional orders. Each product type—fans, mixers, and heaters—undergoes a meticulous manufacturing process that includes assembly, quality testing, and packaging.

Cost Category	**Amount (₹)**
Fixed Costs (per month)	
Factory Rent	₹ 3,00,000
Depreciation	₹ 2,00,000
Administrative Expenses	₹ 1,00,000
Salaries	₹ 4,00,000
Total Fixed Costs	₹ 10,00,000
Number of units produced per month	10,000 units
(Note: Last month there was an additional special order of 2000 units which resulted in higher production)	
Selling price per unit	₹ 1,500

Additional Info: Raw Materials include Copper, Plastic, and Other Materials. The per unit cost of Copper is ₹ 80 more than the cost of Plastic, while the cost of Other Materials is twice that of Plastic. And the total Raw Material Cost per unit is ₹ 210 more than the combined cost of Copper & Plastic.

The Labour Hour Rate is ₹ 100 per hour. The total labour hours used in the last month were 36,000 Hours. The Utilities Cost per unit is ₹ 100, and the Packaging

Cost per unit is ₹ 50. Being a finance manager of the company, you are required to answer the following:

6. Calculate the contribution margin per unit.
   (a) ₹ 550
   (b) ₹ 600
   (c) ₹ 650
   (d) ₹ 700
7. Determine the break-even point in sales revenue.
   (a) ₹ 31,28,593
   (b) ₹ 25,85,153
   (c) ₹ 27,27,025
   (d) ₹ 27,05,983
8. If the company wants to achieve a target profit of ₹ 5,00,000, what should be the sales volume (in units)?
   (a) 2,000 units
   (b) 2,727 units
   (c) 2,750 units
   (d) 3,000 units
9. What would be the impact on the break-even point if the variable cost per unit increases by 10%?
   (a) 2,178 units
   (b) 2,198 units
   (c) 2,248 units
   (d) 2,258 units
10. Calculate the margin of safety in percentage if the company sells 4,000 units if the variable cost per unit increases by 10%
   (a) 44.85%
   (b) 42.55%
   (c) 45.05%
   (d) 45.75% **(5 x 2 = 10 Marks)**
11. A FMCG company has an annual demand of 50,000 units for its specific product whose setting up cost per batch is ₹ 10,000 and carrying cost per unit per month is ₹ 1. What is the Economic Batch Quantity?
   (a) 7,071 units

(b) 10,000 units

(c) 12,641 units

(d) 9,129 units **(2 Marks)**

12. A furniture company uses premium wood for sofa. Standard quantity of premium wood per sofa is 5 sq. ft. Standard price per sq. ft. of premium wood is ₹ 10. Actual production of sofa is 1,000. Premium wood actually used is 5,300 sq. ft. Actual purchase price of premium wood per sq. ft. is ₹ 10. What is material cost variance?

(a) ₹ 3,000 (A)

(b) ₹ 4,300 (A)

(c) ₹ 7,300 (A)

(d) ₹ 5,300 (F) **(2 Marks)**

13. One of Pintu Company's cost pools is parts administration. The budgeted overhead cost for that cost pool was ₹ 4,00,000 and the expected activity was 4,000 part types. The actual overhead cost for the cost pool was ₹ 4,20,000 at an actual activity of 5,000 part types. The activity rate for that cost pool was:

(a) ₹ 80 per part type

(b) ₹ 100 per part type

(c) ₹ 105 per part type

(d) ₹ 84 per part type **(2 Marks)**

14. A truck carrying 10 tons of goods over 200 kilometres per day for 26 days in a month. The ton kms applicable is -

(a) 52,000

(b) 20,000

(c) 5200

(d) 260 **(2 Marks)**

15. Standard hours required for doing a work is 100 hours and budgeted hours is 120 hrs while the same work is actually completed by workers in 110 hrs. You are required to calculate the activity ratio:

(a) 109.09%

(b) 83.33%

(c) 90.90%

(d) 110% **(2 Marks)**

PART-II – Descriptive Questions (70 Marks)

*Question No. **1** is compulsory.*

*Attempt any **four** questions out of the remaining **five** questions.*

1. (a) From the following data of Meta Ltd., CALCULATE Cost of production:

		Amount (₹)
(i)	Repair & maintenance paid for plant & machinery	9,80,500
(ii)	Insurance premium paid for inventories	26,000
(iii)	Insurance premium paid for plant & machinery	96,000
(iv)	Raw materials purchased	64,00,000
(v)	Opening stock of raw materials	2,88,000
(vi)	Closing stock of raw materials	4,46,000
(vii)	Wages paid	23,20,000
(viii)	Value of opening Work-in-process	4,06,000
(ix)	Value of closing Work-in-process	6,02,100
(x)	Quality control cost for the products in manufacturing process	86,000
(xi)	Research & development cost for improvement in production process	92,600
(xii)	Administrative cost for:	
	- Factory & production	9,00,000
	- Others	11,60,000
(xiii)	Amount realised by selling scrap generated during the manufacturing process	9,200
(xiv)	Packing cost necessary to preserve the goods for further processing	10,200
(xv)	Salary paid to Director (Technical)	8,90,000
(xvi)	Expenses paid for pollution control and engineering & maintenance	22,000

(5 Marks)

(b) A manufacturing company has disclosed net loss of ₹ 48,700 as per their cost accounting records for the year ended 31st March, 2024. However their financial accounting records disclosed net profit of ₹ 30,400 for the same period. A scrutiny of data of both the sets of books of accounts revealed the following informations:

		₹
(i)	Factory overheads under absorbed	30,500
(ii)	Administrative overheads over absorbed	65,000

(iii)		Depreciation charged in financial accounts	2,25,000
(iv)		Depreciation charged in cost accounts	2,70,000
(v)		Income-tax provision	52,400
(vi)		Transfer fee (credited in financial accounts)	10,200
(vii)		Obsolescence loss charged in financial accounts	20,700
(viii)		Notional rent of own premises charged in cost accounts	49,000
(ix)		Value of opening stock:	
	(a)	in cost accounts	1,38,000
	(b)	in financial accounts	1,15,000
(x)		Value of closing stock:	
	(a)	in cost accounts	1,22,000
	(b)	in financial accounts	1,12,500

PREPARE a Memorandum Reconciliation Account by taking costing loss as base. **(5 Marks)**

(c) A job can be executed either through workman A or B. A takes 32 hours to complete the job while B finishes it in 30 hours. The standard time to finish the job is 40 hours.

The hourly wage rate is same for both the workers. In addition workman A is entitled to receive bonus according to Halsey plan (50%) sharing while B is paid bonus as per Rowan plan. The works overheads are absorbed on the job at ₹ 7.50 per labour hour worked. The factory cost of the job comes to ₹ 2,200 irrespective of the workman engaged.

FIND out the hourly wage rate and cost of raw materials input. Also SHOW cost against each element of cost included in factory cost.

(4 Marks)

2. (a) PQR Company Ltd. provides the following information relating to Process-P:

(i) Opening Work-in-progress - NIL

(ii) Units Introduced - 45,000 units @ ₹ 10 per unit

(iii) Expenses debited to the process:

Direct material	₹ 65,500
Labour	₹ 90,800
Overhead	₹ 1,80,700

(iv) Normal loss in the process - 2% of Input

(v) Work-in progress - 1800 units

Degree of completion

Materials - 100%

Labour - 50%

Overhead - 40%

(vi) Finished output - 42,000 units

(vii) Degree of completion of abnormal loss:

Materials - 100%

Labour - 80%

Overhead - 60%

(viii) Units scrapped as normal loss were sold at ₹ 5 per unit.

(ix) All the units of abnormal loss were sold at ₹ 2 per unit.

You are required to PREPARE:

- Statement of equivalent production.
- Statement showing the cost of finished goods, abnormal loss and closing balance of work-in-progress.
- Process-P account and abnormal loss account. **(10 Marks)**

(b) EXPLAIN the treatment of following items in cost sheet.

(i) Credit for Recoveries

(ii) Packing Cost (primary)

(iii) Joint Products and By-Products

(iv) Quality Control Cost **(4 Marks)**

3. (a) A company manufactures one main product (MN) and two by-products AB and PQ. For the month of January 2024, following details are available:

Total Cost upto separation Point ₹ 2,12,400

	MN	AB	PQ
Cost after separation	-	₹ 35,000	₹ 24,000
No. of units produced	4,000	1,800	3,000
Selling price per unit	₹ 100	₹ 40	₹ 30
Estimated net profit as percentage to sales value	-	20%	30%
Estimated selling expenses as percentage to sales value	30%	15%	15%

There are no beginning or closing inventories.

PREPARE statement showing:

(i) Allocation of joint cost; and

(ii) Product-wise and overall profitability of the company for January 2024. **(6 Marks)**

(b) A mini-bus, having a capacity of 32 passengers, operates between two places - 'A' and 'B'. The distance between the place 'A' and place 'B' is 30 km. The bus makes 10 round trips in a day for 25 days in a month. On an average, the occupancy ratio is 70% and is expected throughout the year.

The details of other expenses are as under:

	Amount (₹)
Insurance	15,600 Per annum
Garage Rent	2,400 Per quarter
Road Tax	5,000 Per annum
Repairs	4,800 Per quarter
Salary of operating staff	7,200 Per month
Tyres and Tubes	3,600 Per quarter
Diesel: (one litre is consumed for every 5 km)	13 Per litre
Oil and Sundries	22 Per 100 km run
Depreciation	68,000 Per annum

Passenger tax @ 22% on total taking is to be levied and bus operator requires a profit of 25% on total taking.

PREPARE operating cost statement on the annual basis and find out the cost per passenger kilometer and one way fare per passenger.

(8 Marks)

4. (a) The following particulars refer to process used in the treatment of material subsequently, incorporated in a component forming part of an electrical appliance:

(i) The original cost of the machine used (Purchased in June 2023) was ₹ 10,000. Its estimated life is 10 years, the estimated scrap value at the end of its life is ₹ 1,000, and the estimated working time per year (50 weeks of 44 hours) is 2,200 hours of which machine maintenance etc., is estimated to take up 200 hours.

No other loss of working time expected. Setting up time, estimated at 100 hours, is regarded as productive time. (Holiday to be ignored).

(ii) Electricity used by the machine during production is 16 units per hour at cost of a 9 paisa per unit. No current is taken during maintenance or setting up.

(iii) The machine required a chemical solution which is replaced at the end of week at a cost of ₹ 20 each time.

(iv) The estimated cost of maintenance per year is ₹ 1,800.

(v) Two attendants control the operation of machine together with five other identical machines. Their combined weekly wages, insurance and the employer's contribution to holiday pay amount ₹ 120.

(vi) Departmental and general works overhead allocated to this machine for the current year amount to ₹ 3,000.

You are required to CALCULATE the machine hour rate of operating the machine. **(6 Marks)**

(b) Anju Limited produces a product 'Pect' which is sold in a 10 Kg. packet. The standard cost card per packet of 'Pect' are as follows:

	₹
Direct materials 10 kg @ ₹ 45 per kg	450
Direct labour 8 hours @ ₹ 50 per hour	400
Variable Overhead 8 hours @ ₹ 10 per hour	80
Fixed Overhead	200
	1,130

Budgeted output for the third quarter of a year was 10,000 Kg. Actual output is 9,000 Kg.

Actual cost for this quarter are as follows :

	₹
Direct Materials 8,900 Kg @ ₹ 46 per Kg.	4,09,400
Direct Labour 7,000 hours @ ₹ 52 per hour	3,64,000
Variable Overhead incurred	72,500
Fixed Overhead incurred	1,92,000

You are required to CALCULATE:

(i) Material Usage Variance

(ii) Material Price Variance

(iii) Material Cost Variance

(iv) Labour Efficiency Variance

(v) Labour Rate Variance

(vi) Labour Cost Variance

(vii) Variable Overhead Cost Variance

(viii) Fixed Overhead Cost Variance **(8 Marks)**

5. (a) Bicon Ltd. manufactures two products using two types of materials and one grade of labour. Shown below is an extract from the company's working papers for the next month's budget:

	Product - A	**Product-B**
Budgeted sales (in units)	2,400	3,600
Budgeted material consumption per unit (in kg):		
Material-X	5	3
Material-Y	4	6
Standard labour hours allowed per unit of product	3	5

Material-X and Material-Y cost ₹ 4 and ₹ 6 per kg and labours are paid ₹ 25 per hour. Overtime premium is 50% and is payable, if a worker works for more than 40 hours a week. There are 180 direct workers.

The target productivity ratio (or efficiency ratio) for the productive hours worked by the direct workers in actually manufacturing the products is 80%. In addition the non-productive down-time is budgeted at 20% of the productive hours worked.

There are four 5-days weeks in the budgeted period and it is anticipated that sales and production will occur evenly throughout the whole period.

It is anticipated that stock at the beginning of the period will be:

Product-A	400 units
Product-B	200 units
Material-X	1,000 kgs.
Material-Y	500 kgs.

The anticipated closing stocks for budget period are as below:

Product-A	4 days sales
Product-B	5 days sales
Material-X	10 days consumption
Material-Y	6 days consumption

Required:

CALCULATE the Material Purchase Budget and the Wages Budget for the direct workers, showing the quantities and values, for the next month. **(7 Marks)**

(b) Icecold a FMCG Company manufactures and sells three flavors of ice cream:

Dark chocolate, Chocolate, and Butterscotch. The batch size for the ice cream is limited to 1,000 ice cream based on the size of the fridge and ice cream molds owned by the company. Based on budgetary projections, the information listed below is available:

	Dark chocolate	**Chocolate**	**Butterscotch**
Projected sales in units	500,000	800,000	600,000
PER UNIT data:			
Selling price	₹ 80	₹ 75	₹ 60
Direct materials	₹ 20	₹ 15	₹ 14
Direct labor	₹ 4	₹ 2	₹ 2
Hours per 1000-unit batch:			
Direct labor hours	20	10	10
Fridge hours	1	1	1
Packaging hours	0.5	0.5	0.5

Total overhead costs and activity levels for the year are estimated as follows:

Activity	**Overhead costs**	**Activity levels**
Direct labor		2,400 hours
Fridge	₹ 2,10,00,000	1,900 fridge hours
Packaging	₹ 1,50,00,000	950 packaging hours
	₹ 3,60,00,000	

Required:

a. With the help of ABC system, for the Chocolate ice cream:

1. Compute the activity-cost-driver rate

2. Compute the estimated overhead costs per thousand ice cream.

3. Compute the estimated operating profit per thousand ice cream.

b. With the help of traditional system (with direct labor hours as the overhead allocation base), for the Chocolate ice cream, compute the estimated operating profit per thousand ice cream. **(7 Marks)**

6. (a) EXPLAIN the types of responsibility centres. **(5 Marks)**

(b) EXPLAIN the efficiency rating procedures of the employees. **(5 Marks)**

(c) WHAT are the essential pre-requisites for integrated accounts? **(4 Marks)**

OR

(d) WHAT are the principles of estimation of costs and benefits? **(4 Marks)**