Mock Test Paper - Series II: August, 2024

Date of Paper: 21st August, 2024

Time of Paper: 2 P.M. to 5 P.M.

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.

Mr. Vikas, a toy importer has understood the importance of manufacturing in India. He is backed up by the new govt. policies that motivate him to manufacture in India. As per the custom department any import made for the manufacturing under "Made in India", custom duty will be refunded upto 80%. Vikas decided not to import toy from China anymore, instead import raw material from Srilanka, for the manufacturing of toys in India. Under an agreement of Govt. Of India with Srilankan Govt., any impo8rt from Srilanka will receive tax benefits.

Vikas ordered material Xendga & material Zenga from Srilanka. Details are given below:-

	Srilankan Rupees (SLR)
Material Xendga (12,000 units * 125 SLR)	15,00,000
Material Zenga (8,000 units * 225 SLR)	18,00,000
Factory cost	33,00,000
Add: Containers cost	2,00,000
Add: Freight upto loading shipment on ship (paid by exporter)	50,000
F.O.B.	35,50,000

- Ocean Freight is $ 2,000
- Insurance is $ 1,500

When shipment reached India, it was unloaded at Chennai port. Vikas requested to put the goods in custom port's warehouse. Vikas due to cash crunch was not in a position to pay custom duty and therefore did not file the bill of exchange (B.O.E.). Custom authorities charged a penalty of INR 15,000.

Finally, after a month Vikas filled B.O.E. and paid custom duty of 20% on CIF value of the shipment. IGST was also applicable @ 18% on the combined value of CIF & custom duty paid.

He spent further a sum of INR 12,500 to bring the imported goods to his factory. An inspection was done on the goods and it was found that 5% of the goods were broken. This came to management as a surprise because generally such rate of defects on imports is 8%.

Additional Information:

- Exchange rates:
  1) 1 SLR = 0.25 INR
  2) 1 USD = 75 INR
- IGST credits are available.
- Containers were refunded at INR 38,000.
- Indian and Srilankan brokers were paid commission by Vikas on factory cost. Indian broker charged 6% whereas Srilankan broker charged 12%.
- CIF (cost, insurance and Freight) includes F.O.B (Free on Board)., Insurance & Ocean freight.

You are required to answer the following 5 questions:

1. What is the total cost of shipment to be recorded by Vikas?
   (a) INR 13,17,000
   (b) INR 13,04,500
   (c) INR 13,54,500
   (d) INR 13,32,500
2. What is the absorption rate of total cost per unit of Zenga?
   (a) INR 90.28
   (b) INR 84.44
   (c) INR 93.62
   (d) INR 85.77
3. What is the absorption rate of total cost per unit of Xendga?
   (a) INR 52.01
   (b) INR 54.24
   (c) INR 58.13
   (d) INR 68.65

4. Amount of refundable taxes?
   (a) INR 4,13,600
   (b) INR 4,57,600
   (c) INR 2,20,000
   (d) INR 2,37,600
5. If loss of goods was 9% instead of 5%, what will be the amount that will be charged to statement of profit & loss?
   (a) INR 13,045
   (b) INR 19,898.4
   (c) INR 14,178.4
   (d) INR 24,045 **(5 x 2 = 10 Marks)**

Hilfy textiles Ltd. has been a major player in the textile industry, producing high-quality polyester mix cotton fabric. The production process is complex and involves multiple stages, including spinning, weaving, quality control, and packaging. The company has been facing challenges in controlling costs and maintaining profitability, mainly due to fluctuating material costs and labor inefficiencies.

To address these challenges, the company's management has decided to implement a **standard costing** system to better manage costs, set benchmarks, and identify variances. The goal is to gain better control over production costs, improve budgeting accuracy, and enhance decision-making.

Hilfy textiles Ltd. had prepared the following estimation for the month of April:

	Quantity/Time	Rate (₹)	Amount (₹)
Cotton	8,000 m	50.00	4,00,000
Polyester	6,000 m	40.00	2,40,000
Skilled labour	1,000 hours	37.50	37,500
Unskilled labour	800 hours	22.00	17,600

Normal loss was expected to be 10% of total input materials and an idle labour time of 5% of expected labour hours was also estimated.

At the end of the month the following information has been collected from the cost accounting department:

The company has produced 14,800 m finished product by using the followings:

	Quantity/Time	Rate (₹)	Amount (₹)
Cotton	9,000 m	48.00	4,32,000
Polyester	6,500 m	37.00	2,40,500
Skilled labour	1,200 hours	35.50	42,600
Unskilled labour	860 hours	23.00	19,780

On the basis of analysis of standard costing system, company's management wants to take actions like supplier negotiation, process optimisation, employee training, etc.

Being the cost manager of the company, you are required to answer the following five requirements of the management:

6. Compute Material mix variance and Material Yield Variance
   (a) ₹ 1430 (A) & 43,200 (F)
   (b) ₹ 1430 (F) & 43,200 (F)
   (c) ₹ 24,000 (A) & 37,500 (F)
   (d) ₹ 19,300 (A) & 37,500 (F)
7. Compute Material Price Variance for supplier negotiation
   (a) ₹ 18,000 (A)
   (b) ₹ 43,200 (F)
   (c) ₹ 37,500 (A)
   (d) ₹ 37,500 (F)
8. Compute Material Cost Variance
   (a) ₹ 32,500 (F)
   (b) ₹ 24,500 (A)
   (c) ₹ 79,270 (F)
   (d) ₹ 79,270 (A)
9. Compute Labour Efficiency Variance and Labour Yield Variance.
   (a) ₹ 940 (A) & 1,140 (A)
   (b) ₹ 2,424 (A) & 1,556 (A)
   (c) ₹ 2,424 (A) & 1,556 (A)
   (d) ₹ 940 (A) & 1,140 (F)
10. Compute Labour Cost Variance.
    (a) ₹ 884 (A)
    (b) ₹ 1,556 (F)
    (c) ₹ 884 (F)
    (d) ₹ 1,556 (A) **(5 x 2 = 10 Marks)**
11. A company's fixed costs are ₹ 5,00,000, the selling price per unit is ₹ 200, and the variable cost per unit is ₹100. How many units must the company sell to earn the targeted profit of ₹ 2,00,000?
    (a) 2,000 units
    (b) 5,000 units
    (c) 10,000 units

(d) 7,000 units **(2 Marks)**

12. 1200 Kg of a material were input to a process in a period. The normal loss is 8% of input

There is no opening or closing work-in-progress. Output in the period was 1100 Kg. What was the abnormal gain/loss in the period?

(a) Abnormal gain of 12 Kg

(b) Abnormal loss of 12 kg

(c) Abnormal gain of 108 Kg

(d) Abnormal loss of 4 kg **(2 Marks)**

13. ABC Manufacturing allocates its factory overhead costs based on machine hours. The total estimated overhead cost for the year is ₹ 6,00,000, and the company expects to use 30,000 machine hours. During the year, job A used 300 machine hours. What amount of overhead costs should be allocated to this job?

(a) ₹ 4,000

(b) ₹ 6,000

(c) ₹ 10,000

(d) ₹ 8,000 **(2 Marks)**

14. A factory has a capacity utilization ratio of 85% and its activity ratio is 95%. Which one of the following is the efficiency ratio?

(a) 120%

(b) 110%

(c) 112%

(d) 90% **(2 Marks)**

15. A company uses batch costing and incurs a setup cost of ₹ 20,000 for a batch of 300 units. If direct materials cost ₹ 20 per unit and direct labor costs ₹ 10 per unit, what is the total cost of the batch?

(a) ₹ 25,000

(b) ₹ 29,000

(c) ₹ 32,000

(d) ₹ 7,000 **(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) A skilled worker is paid a guaranteed wage rate of ₹ 150.00 per hour. The standard time allowed for a job is 50 hours. He gets an effective hourly rate of wages of ₹ 180.00 under Rowan Incentive Plan due to saving in time. For the same saving in time, CALCULATE the hourly rate

of wages he will get, if he is placed under Halsey Premium Scheme (50%). **(5 Marks)**

(b) SpeedEx Logistics, established in 2010 and headquartered in Mumbai, India, operates within the transportation and logistics industry as a third-party logistics (3PL) provider. The company's fleet consists of 10 trucks, 15 vans, and 5 trailer, each serving distinct purposes. The records of Truck R-40 reveal the following information for July 2024.

Days Maintained	30
Days Operated	25
Total Hours Operated	300
Total Kilometres Covered	2,500
Total Tonnage Carried (4 tonne-load per trip, return journey empty 2 round trips per day)	

The following further information is made available:

A. Operating Costs for the month: Petrol ₹ 400, oil ₹170, Grease ₹ 90, Wages to driver ₹ 550, Wages to Worker ₹ 350.

B. Maintenance Costs for the month: Repair ₹ 170, Overhaul ₹ 60, Tyres ₹ 150, Garage charges ₹ 100.

C. Fixed Costs for the month based on the estimates for the year: Insurance ₹ 50, Licence, tax etc. ₹ 80, Interest ₹ 40, Other Overheads ₹ 190

D. Capital costs: Cost of acquisition ₹ 54,000; Residual Value at the end of 5 years life ₹ 36,000.

You are required to CALCULATE:

(i) cost per days maintained

(ii) cost per days operated

(iii) cost per hours operated

(iv) cost per kilometres covered

(v) cost per commercial tonne km **(5 Marks)**

(c) Alpha Ltd. has an Annual demand from a single customer for 60,000 Covid-19 vaccines. The customer prefers to order in the lot of 15,000 vaccines per order. The production cost of vaccine is ₹ 5,000 per vaccine. The set-up cost per production run of Covid-19 vaccines is ₹ 4,800. The carrying cost is ₹ 12 per vaccine per month.

You are required to:

(i) FIND the most Economical Production Run.

(ii) CALCULATE the extra cost that company incurs due to production of 15,000 vaccines in a batch. **(4 Marks)**

2. (a) As demand for LED light increases, more entrepreneurs are coming into its manufacturing process. eLED Pvt. Ltd. is also one of the recently formed company whose main business is related to LED lights.

The company has extended its hand into various LED products like COB (Chip On Board) LEDs, SMD (Surface Mounted Device) LEDs, RGB LEDs, Flashing LEDs, Miniature LEDs, OLEDs, Filament Bulbs, etc.

However, at the beginning stage, the company has decided to only assemble the products and enter into manufacturing stage at later years.

The details relating to the first process of mounting for the month of August are given below:

Opening Work-in-Process:	31,000 units
Material	₹ 12,40,000
Labour	₹ 2,32,500
Overheads	₹ 6,97,500
Introduction during the process:	5,89,000 units
Material	₹ 2,29,40,000
Labour	₹ 55,64,500
Overheads	₹ 1,66,93,500

The process involve some wastage as well. The management estimated a normal loss of 5% of total input including opening work-in-process which can be sold out for ₹ 20 per unit. However, the workers reported 46,500 units as scrapped in which 100% material was used along with 80% of Labour and overheads.

5,42,500 units were transferred for next process of soldering.

Some units were still in process and thus, shifted for the next month process of mounting. With 100% material used along with 80% labour and overheads, 31,000 units were shifted.

Following the average method of inventory, you are required to PREPARE:

(i) Statement of cost showing cost per equivalent unit

(ii) Statement of distribution cost

(iii) Process Account (Mounting)

(iv) Normal Loss Account and Abnormal Loss Account. **(10 Marks)**

(b) EXPLAIN the Usefulness/Suitability of ABC. **(4 Marks)**

3. (a) A company manufactures and sells a product, the price of which is controlled by the Government. Raw material required for this product is also made available at a fixed controlled price. The following figures have been called for the previous two accounting years of the company:

	Year- I	Year- II
Quantity Sold (tones)	1,26,000	1,44,000
Price per tone	₹ 185	₹ 185
		(₹ In thousands)
Sales Value	23,310	26,640
Raw Materials	11,340	12,960
Direct Labour	1,512	1,872
Factory, Administration and Selling Expenses	9,702	11,232
Profit	756	576

During the year II direct labour rates increased by 8 $^{1}/_{3}$%. Increases in factory, administration and selling expenses during the year were ₹ 8,10,000 on account of factors other than the increased quantities produced and sold. The managing director desires to know, what quantity if they had produced and sold would have given the company the same net profit per tonne in Year II as it earned during the Year I Advise him. **(7 Marks)**

(b) ABC Ltd is engaged in producing electronic equipments. It has furnished following details related to its products produced during a month:

	Units	Amount (₹)
Opening stock	10,000	5,00,00,000
Purchases	4,90,000	25,20,00,000
Closing stock	17,500	85,00,000
Works-in-progress		
Opening	20,000	1,20,00,000
Closing	10,000	60,50,000
Direct employees' wages, allowances etc.		5,50,50,000
Primary packaging cost (per unit)		140
R&D expenses & Quality control expenses		1,90,00,000
Guards' salaries		20,00,000
Directors' salaries		60,00,000
Consumable stores, depreciation on plant related to factory overhead		3,42,00,000
Product inspection (before primary packaging)		22,00,000
Rearrangement design of factory machine		75,00,000

Administrative overheads related to production		3,45,00,000
Selling expenses		3,94,50,000
Royalty paid for production		3,10,50,000
Cost of web-site (for online sale) maintenance		60,75,000
Gifts & Snacks		30,50,000
GST (credit allowed)		5,50,00,000
AMC cost of CCTV		10,00,000
Hiring of cars for the transportation of employees and guests		25,00,000
Audit and Legal Fees		29,00,000
Secondary packaging cost (per unit)		20

Distribution of the following costs:
Guard's salaries to Factory, Office and Distribution in the ratio 7: 2:1.
Hiring of cars is only for selling and distribution
AMC of CCTV to Factory, Office and Selling in the ratio 6 : 2 : 2.

The company paid EPF of 12% over above basic pay. However, Guards will not receive any incentive or EPF.

It has lucky draws every month giving the first prize of ₹ 1,00,000; 2nd prize of ₹ 50,000, 3rd prize of ₹ 20,000 and three consolation prizes of ₹ 10,000 each to customers buying the product.

It also sponsors a television programme every week at a cost of ₹ 20,00,000 per month.

The hiring of cars attracts GST under RCM @5% without credit.

There was a normal scrap of 2,000 units of direct material which realized ₹ 350 per unit. The entire finished product was sold at a profit margin of 25% on sales.

You are required to PREPARE a cost sheet **(7 Marks)**

4. Allurgy Ltd. is into metallic tools manufacturing. It has four production departments. The work performed in every department is fairly uniform, thus the manager of the company created a policy to recover the production overheads of the entire company by adopting a single blanket rate.

The relevant data for a month are given below:

Departments	**Direct Materials (₹)**	**Direct Wages (₹)**	**Factory Overheads (₹)**	**Direct Labour Hours**	**Machine Hours**
Budget:					
Operating	64,35,000	7,92,000	35,64,000	1,98,000	7,92,000

Assembly	11,73,000	24,15,000	9,66,000	6,90,000	69,000
Quality Control	5,10,000	10,50,000	4,20,000	3,00,000	30,000
Packing	9,90,000	6,93,000	12,37,500	4,95,000	-
Actual:	-	-	-	-	-
Operating	77,22,000	9,50,400	38,61,000	2,37,600	9,50,400
Assembly	9,38,400	18,63,000	5,79,600	6,21,000	75,900
Quality Control	4,08,000	8,10,000	2,52,000	2,70,000	33,000
Packing	11,88,000	8,91,000	13,36,500	5,94,000	-

Additional details relating to one of the jobs during the month are also provided below:

Job No. 157

Departments	Direct Materials (₹)	Direct Wages (₹)	Direct Labour Hours	Machine Hours
Operating	11,880	2,376	594	1,782
Assembly	4,140	2,484	828	207
Quality Control	1,800	1,080	360	90
Packing	2,970	594	396	-

During Quality Control phase of this particular Job, the company incurred certain additional expenditure of ₹ 495 on direct wages as there were certain production that was not as perfect as the saleable product. The defective units were normal in nature and after rectification have been brought to the required degree of perfection.

The company adds 25% on the factory cost to cover administration overheads and profit.

You are required to figure out the following:

(a) COMPUTE the overhead absorption rate as per the blanket rate based on the percentage of total factory overheads to total factory wages and determine the selling price of the Job No. 157. **(1 + 2 = 3 Marks)**

(b) The new manager thinks that the machinery is used to a varying degree in the different departments. Thus, it is not appropriate to follow one blanket rate for the whole company. Therefore, suggest an alternative method of absorption of the factory overheads and CALCULATE the overhead rates based on the method so suggested. **(4 Marks)**

(c) DETERMINE the selling price of Job 157 based on the overhead rates calculated in (b) above. **(3 Marks)**

(d) CALCULATE the department-wise under or over recovery of overheads based on the company's current policy and the method suggested in (b) above. **(4 Marks)**

5. (a) The financial books of a company reveal the following data for the year ended 31st March, 2024:

	(₹)
Opening Stock:	
Finished goods 545 units	48,250
Work-in-process	38,000
01.04.2023 to 31.03.2024	
Raw materials consumed	5,00,000
Direct Labour	4,20,000
Factory overheads	3,56,000
Administration overheads	2,10,000
Stores Adjustment debited in financial Account	50,000
Dividend paid	98,000
Bad Debts	16,000
Selling and Distribution Overheads	84,000
Income tax paid	34,000
Interest received	42,000
Sales 14,250 units	13,96,500
Closing Stock: Finished goods 460 units	44,500
Work-in-process	36,200

The cost records provide as under:

- Factory overheads are absorbed at 60% of direct wages.
- Administration overheads are recovered at 20% of factory cost.
- Selling and distribution overheads are charged at ₹ 6 per unit sold.
- Opening Stock of finished goods is valued at ₹ 90 per unit.
- The company values work-in-process at factory cost for both Financial and Cost Profit Reporting.

Required:

(i) Prepare statements for the year ended 31st March, 2024 show
   - the profit as per financial records
   - the profit as per costing records.

(ii) Present a statement reconciling the profit as per costing records with the profit as per Financial Records **(7 Marks)**

(b) PPP Ltd. is currently operating at 80% of its capacity producing 80,000 units. For the past two years, the production is increasing by 10% of its capacity consistently. The cost details are as follows:

	Year 3 (₹)	Year 2 (₹)	Year 1 (Current year) (₹)
Direct Materials	12,00,000	14,00,000	16,00,000
Direct Labour	6,00,000	7,00,000	8,00,000
Factory Overheads	3,20,000	3,40,000	3,60,000
Selling Overheads	3,40,000	3,80,000	4,20,000
Administrative Overheads	1,60,000	1,60,000	1,60,000
	26,20,000	29,80,000	33,40,000

The company is planning for 90% capacity level for next year.

Additional information:

Due to increase in demand of the raw material, the distributor is expected to increase the price by 10% from the next year.

At the beginning of the current year, the dispute occurred between workers and employees regarding wages which lead them to go on strike. Later on, they settled for 20% increase in wages from next year.

Following increases in overhead cost are expected for next year:

Variable Factory Overheads	5%
Fixed Factory Overheads	10%
Variable Selling Overheads	10%
Fixed Selling Overheads	15%
Administrative Overheads	15%

Profit is estimated @ 25% on total cost.

You are required to PREPARE flexible budget for the next year at 90% level of capacity.

Also ascertain profit and contribution. **(7 Marks)**

6. (a) Management of Tillu manufacturing co. is thinking of installing a costing system its company. What practical DIFFICULTIES management will expect and how management will OVERCOME the same? **(5 Marks)**

(b) Anju Ltd. is engaged in production of butter. While producing butter buttermilk is also produced. Buttermilk is identified as by-product of butter. What is the TREATMENT of buttermilk in the cost accounts of Anju Ltd. **(5 Marks)**

(c) Fixed budgets are very simple to understand and less time consuming, however, only flexible budgets are more realistic and practicable because it gives due consideration to behaviour of revenue and cost at different levels of activity. But still there are certain demerits of both the budgets. NARRATE the same. **(4 Marks)**

OR

(c) DISCUSS the objectives of time keeping & time booking. **(4 Marks)**

Mock Test Paper - Series II: August, 2024

Date of Paper: 21st August, 2024

Time of Paper: 2 P.M. to 5 P.M.

INTERMEDIATE: GROUP – II

PAPER – 4: COST AND MANAGEMENT ACCOUNTING

Suggested Answers/ Solution

PART I – Case Scenario based MCQs

1. (a) Working notes:

Factory cost (33,00,000 x 0.25)	INR 8,25,000
Add: Freight (50,000 x 0.25)	INR 12,500
F.O.B. (Free On Board)	INR 8,37,500
Containers (2,00,000 x 0.25)	INR 50,000
Insurance (1,500 x 75)	INR 1,12,500
Ocean freight (2,000 x 75)	INR 1,50,000
CIF (Cost, Insurance and Freight)	= 8,37,500 + 1,12,500 + 1,50,000
	= INR 11,00,000
Custom duty	= 20% x 11,00,000 = INR 2,20,000
IGST	= 18% x (11,00,000 + 2,20,000)
	= INR 2,37,600
Penalty	= INR 15,000
Commission	
Indian	= 6% x 8,25,000 = INR 49,500
Srilankan	= 12% x 8,25,000 = INR 99,000

Particulars	Amount (INR)
Factory cost	8,25,000
Containers (50,000-38,000)	12,000
Insurance	1,12,500
Ocean freight	1,50,000
Freight inwards	12,500
Commission (49,500+99,000)	1,48,500
Custom duty non-refundable 20%* 2,20,000	44,000
TOTAL	**13,04,500**

2. (a) Good units = 8,000* (1-5%) = 7,600 UNITS

Normal loss to be absorbed in good units. No abnormal loss.

Particulars	**Product Zenga (INR)**
Factory cost	4,50,000
Other cost except commission, insurance and custom duty to be absorbed on the basis of quantity i.e. 12:8 or 3:2 (12,000+1,50,000+12,500)*2/5	69,800
Commission, insurance and custom duty to be absorbed on value basis 15:18 or 5:6 (1,48,500+1,12,500+44,000)*6/11	1,66,363.63
Total Cost	6,86,163.63
Number of good units	7,600 units
Per unit Cost	**90.28**

3. (b) Good units = 12000 * (1-5%) = 11400 units

Particulars	**Product Xendga (INR)**
Factory cost	3,75,000
Other cost (12,000+1,50,000+12,500)*3/5	1,04,700
Commission, insurance and custom duty (1,48,500+1,12,500+44,000)*5/11	1,38,636.36
Total Cost	618,336.36
Number of good units	11,400 units
Per unit Cost	**54.24**

4 (a) Custom duty 80% x 2,20,000 = 1,76,000

Add: IGST = 2,37,600

4,13,600

5. (c) Normal loss upto 8%

Abnormal loss 1%

Total cost of xendga INR 6,18,336.36

Total cost of zenga INR 6,86,163.63

Particulars	**XENGDA (INR)**	**ZENGA (INR)**	**(INR)**
Normal loss of 8%	960 units	640 units	
Good units after normal loss	11,040 units	7,360 units	
Per unit cost to be absorbed in	56 (6,18,336.36/11,040)	93.23 (6,86,163.63/7,360)	

good units (total costs/no of good units after normal loss)			
Abnormal loss in units 1%	120 units	80 units	
Loss in Profit & Loss	56 x 120 = 6,720	93.23 x 80= 7,458.4	14,178.4

6. (a) Material Mix Variance (Cotton + Polyester) = {(RSQ × SP) – (AQ × SP)}
= {7,08,570- 7,10,000}
= 1,430 (A)

Material Yield Variance (Cotton + Polyester) = {(SQ × SP) – (RSQ × SP)}
= {7,51,770 – 7,08,570}
= 43,200 (F)

7. (d) Material Price Variance (Cotton + Polyester) = {(AQ × SP) – (AQ × AP)
= {7,10,000 – 6,72,500}
= 37,500 (F)

8. (c) Material Cost Variance (Cotton + Polyester) = {(SQ × SP) – (AQ × AP)}
= {7,51,770 – 6,72,500}
= 79,270 (F)

Working Note

Material Variances:

Material	SQ (WN-1)	SP (₹)	SQ × SP (₹)	RSQ (WN-2)	RSQ × SP (₹)	AQ	AQ × SP (₹)	AP (₹)	AQ × AP (₹)
Cotton	9,397 m	50	4,69,850	8,857 m	4,42,850	9,000 m	4,50,000	48	4,32,000
Polyester	7,048 m	40	2,81,920	6,643 m	2,65,720	6,500 m	2,60,000	37	2,40,500
	16,445 m		**7,51,770**	**15,500 m**	**7,08,570**	**15,500 m**	**7,10,000**		**6,72,500**

WN-1: Standard Quantity (SQ):

Cotton - $\left(\frac{8,000m}{0.9\times14,000m}\times14,800m\right)$ = 9,396.8 or 9,397 m

Polyester- $\left(\frac{6,000m}{0.9\times14,000m}\times14,800m\right)$ = 7,047.6 or 7048 m

WN- 2: Revised Standard Quantity (RSQ):

Cotton - $\left(\frac{8,000m}{14,000m}\times15,500m\right)$ = 8,857.1 or 8857 m

Polyester - $\left(\frac{6,000m}{14,000m}\times 15,500m\right)$ = 6,642.8 or 6643 m

9. (b) Labour Efficiency Variance (Skilled + Unskilled) = {(SH × SR) – (AH × SR)}

= {61,496 – 63,920}

= 2,424 (A)

Labour Yield Variance (Skilled + Unskilled) = {(SH × SR) – (RSH × SR)}

= {61,496 – 63,052}

= 1,556 (A)

10. (a) Labour Cost Variance (Skilled + Unskilled) = {(SH × SR) – (AH × AR)}

= {61,496 – 62,380}

= 884 (A)

Working Note

Labour Variances:

Labour	SH (WN-3)	SR (₹)	SH × SR (₹)	RSH (WN-4)	RSH × SR (₹)	AH	AH × SR (₹)	AR (₹)	AH × AR (₹)
Skilled	1,116 hrs	37.50	41,850	1144	42,900	1,200	45,000	35.50	42,600
Unskilled	893 hrs	22.00	19,646	916	20,152	860	18,920	23.00	19,780
	2,009 hrs		61,496	2,060	63,052	2,060	63,920		62,380

WN- 3: Standard Hours (SH):

Skilled labour- $\left(\frac{0.95\times 1,000hr.}{0.90\times 14,000m.}\times 14,800m.\right)$ =1,115.87 or 1,116 hrs.

Unskilled labour- $\left(\frac{0.95\times 800hr.}{0.90\times 14,000m.}\times 14,800m.\right)$ = 892.69 or 893 hrs.

WN- 4: Revised Standard Hours (RSH):

Skilled labour- $\left(\frac{1,000hr.}{1,800hr.}\times 2,060hr.\right)$ = 1,144.44 or 1,144 hrs.

Unskilled labour- $\left(\frac{800hr.}{1,800hr.}\times 2,060hr.\right)$ = 915.56 or 916 hrs.

11. (d) Break-even point $= \frac{\text{Fixed Costs} + \text{Targeted Profit}}{(\text{Selling Price per Unit} - \text{Variable Cost per Unit})}$

= (5,00,000 + 2,00,000)/100 = 7,000 units

12. (d) Expected Output = Input Material−Normal Loss

Expected Output = 1,200 Kg−96 Kg=1,104 kg

Abnormal loss = 1,104 kg – 1,100 kg = 4 kg

13. (b) Overhead Rate = Total Estimated Machine Hours/Total Estimated Overhead Cost

= ₹ 6,00,000/30,000 = ₹ 20

Allocated Overhead = Overhead Rate x Machine Hours Used by the Job

= ₹ 20 x 300 hrs = ₹ 6,000

14. (c) Efficiency Ratio = Activity Ratio/Capacity Utilization Ratio

= 0.95/0.85 = 1.117 or 112%

15. (b) Total cost ₹ 20,000 + (300 units × (₹ 20 + ₹10)) = ₹ 29,000

PART-II– Descriptive Questions

1. (a) Increase in hourly rate of wages under Rowan Plan is ₹ 30 i.e. (₹180 – ₹ 150)

$$\frac{\text{Time Saved}}{\text{Time Allowed}} \times ₹150 = ₹30$$ (Please refer Working Note)

Or, $$\frac{\text{Time Saved}}{50 \text{ hours}} \times ₹150 = ₹30$$

Or, Time saved = $\frac{1,500}{150}$ = 10 hours

Therefore, Time Taken is 40 hours i.e. (50 hours – 10 hours)

Effective Hourly Rate under Halsey System:

Time saved	= 10 hours	
Bonus @ 50%	= 10 hours × 50% × ₹ 150	= Rs 750
Total Wages	= (₹150 × 40 hours + ₹ 750)	= Rs 6,750
Effective Hourly Rate = ₹ 6,750 ÷ 40 hours		= ₹ 168.75

Working Note:

Effective hourly rate

$$= \frac{(\text{Time Taken} \times \text{Rate per hour}) + \frac{\text{Time Taken}}{\text{Time Allowed}} \times \text{Time Saved} \times \text{Rate per hour}}{\text{Time Taken}}$$

Or, $$₹180 = \frac{\text{Time Taken} \times \text{Rate per hour}}{\text{Time Taken}} + \frac{\frac{\text{Time Taken}}{\text{Time Allowed}} \times \text{Time Saved} \times \text{Rate per hour}}{\text{Time Taken}}$$

Or, $$₹180 - \frac{\text{Time Taken} \times \text{Rate per hour}}{\text{Time Taken}} = \frac{\text{Time Taken}}{\text{Time Allowed}} \times \text{Time Saved} \times \text{Rate per hour} \times \frac{1}{\text{Time Taken}}$$

Or, ₹ 180 – ₹ 150 = $\frac{\text{Time Saved}}{\text{Time Allowed}} \times$ ₹ 150

(b)

	Particulars	**Amount in ₹**
A	**Operating costs:**	
	Petrol	400
	Oil	170
	Grease	90
	Wages to Driver	550
	Wages to Worker	350
	(A)	1,560
B	**Maintenance Costs:**	
	Repairs	170
	Overhead	60
	Tyres	150
	Garage Charges	100
	(B)	480
C	**Fixed Cost:**	
	Insurance	50
	License, Tax etc	80
	Interest	40
	Other Overheads	190
	Depreciation $\frac{(54{,}000 - 36{,}000)}{5 \times 12}$	300
	(C)	660
	Total Cost (A + B + C)	2,700

(i) Cost per days maintained = ₹ 2700/30 days = ₹ 90

(ii) Cost per days operated = ₹ 2700/25 days = ₹ 108

(iii) Cost per hours operated = ₹ 2700/300 hours = ₹ 9

(iv) Cost per kilometres covered = ₹ 2700/2500 kms = ₹ 1.08

(v) Cost per commercial tonne kms= ₹ 2700/5000 tonne kms = ₹ 0.54

*Commercial tonne kms = Total distance travelled x Average load

$= \frac{(4 \text{ tonnes} + 0 \text{ tonnes})}{2}$ x 2500 kms

= 5000 tonne kms

(c) (i) Calculation of most Economical Production Run

$$= \sqrt{\frac{2 \times 60,000 \times ₹\ 4,800}{12 \times 12}} = 2,000 \text{ Vaccine}$$

(ii) Calculation of Extra Cost due to processing of 15,000 vaccines in a batch

	When run size is 2,000 vaccines	When run size is 15,000 vaccines
Total set up cost	$= \frac{60,000}{2,000} \times ₹\ 4,800$ = ₹ 1,44,000	$= \frac{60,000}{15,000} \times ₹\ 4,800$ = ₹ 19,200
Total Carrying cost	½ × 2,000 × ₹ 144 = ₹ 1,44,000	½ × 15,000 × ₹ 144 = ₹ 10,80,000
Total Cost	₹ 2,88,000	₹ 10,99,200

Thus, extra cost = ₹ 10,99,200 – ₹ 2,88,000 = ₹ 8,11,200

2. (a) (i) Statement of Equivalent Production

Particulars	Input Units	Particulars	Output Units	Equivalent Production			
				Material		Labour & O.H.	
				%	Units	%	Units
Opening WIP	31,000	Completed and transferred to Process (Soldering)	5,42,500	100	5,42,500	100	5,42,500
Units introduced	5,89,000	Normal Loss (5% of 6,20,000)	31,000	--	--	--	--
		Abnormal loss (Balancing figure)	15,500	100	15,500	80	12,400
		Closing WIP	31,000	100	31,000	80	24,800
	6,20,000		6,20,000		5,89,000		5,79,700

Statement showing cost for each element

Particulars	Materials (₹)	Labour (₹)	Overhead (₹)	Total (₹)
Cost of opening work-in-process	12,40,000	2,32,500	6,97,500	21,70,000
Cost incurred during the month	2,29,40,000	55,64,500	1,66,93,500	4,51,98,000
Less: Realisable Value of normal scrap (₹ 20 × 31,000 units)	(6,20,000)	--	--	(6,20,000)
Total cost: (A)	2,35,60,000	57,97,000	1,73,91,000	4,67,48,000
Equivalent units: (B)	5,89,000	5,79,700	5,79,700	
Cost per equivalent unit: (C) = (A ÷ B)	**40.00**	**10.00**	**30.00**	**80.00**

(ii) Statement of Distribution of cost

	Amount (₹)	Amount (₹)
1. Value of units completed and transferred (5,42,500 units × ₹ 80)		4,34,00,000
2. Value of Abnormal Loss:		
- Materials (15,500 units × ₹ 40)	6,20,000	
- Labour (12,400 units × ₹ 10)	1,24,000	
- Overheads (12,400 units × ₹ 30)	3,72,000	11,16,000
3. Value of Closing W-I-P:		
- Materials (31,000 units × ₹ 40)	12,40,000	
- Labour (24,800 units × ₹ 10)	2,48,000	
- Overheads (24,800 units × ₹ 30)	7,44,000	22,32,000
Total		**4,67,48,000**

(iii) Process Account (Mounting)

Particulars	Units	(₹)	Particulars	Units	(₹)
To Opening W.I.P:			By Normal Loss (₹ 20 × 31,000 units)	31,000	6,20,000
- Materials	31,000	12,40,000	By Abnormal loss	15,500	11,16,000
- Labour	--	2,32,500	By Process A/c (Soldering)	5,42,500	4,34,00,000
- Overheads	--	6,97,500	By Closing WIP	31,000	22,32,000
To Materials introduced	5,89,000	2,29,40,000			
To Direct Labour		55,64,500			
To Overheads		1,66,93,500			
	6,20,000	4,73,68,000		6,20,000	4,73,68,000

(iv) Normal Loss A/c

Particulars	Units	(₹)	Particulars	Units	(₹)
To Process Account (Mounting)	31,000	6,20,000	By Cost Ledger Control A/c	31,000	6,20,000
	31,000	6,20,000		31,000	6,20,000

Abnormal Loss A/c

Particulars	Units	(₹)	Particulars	Units	(₹)
To Process Account (Mounting)	15,500	11,16,000	By Cost Ledger Control A/c	15,500	3,10,000

			By Costing Profit & Loss A/c		8,06,000
	15,500	11,16,000		15,500	11,16,000

(b) ABC is particularly needed by organisations for product costing in the following situations:

1. **High amount of overhead**: When production overheads are high and form significant costs, ABC is more useful than traditional costing system.
2. **Wide range of products**: ABC is most suitable, when, there is diversity in the product range or there are multiple products.
3. **Presence of non-volume related activities**: When non-volume related activities e.g. material handling, inspection set-up, are present significantly and traditional system cannot be applied, ABC is a superior and better option. ABC will identify non-value-adding activities in the production process that might be a suitable focus for attention or elimination.
4. **Stiff competition**: When the organisation is facing stiff competition and there is an urgent requirement to compute cost accurately and to fix the selling price according to the market situation, ABC is very useful. ABC can also facilitate in reducing cost by identifying non-value-adding activities in the production process that might be a suitable focus for attention or elimination.

3. (a)

Contribution *per tonne*	**(₹)**
Sales Price	185.00
Variable Cost:	
Material (W.N.-1)	90.00
Labour (W.N.-2)	13.00
Variable Overhead (W.N.-3)	40.00
Contribution	42.00
Profit Required (₹7,56,000 /1,26,000 tonnes)	6.00
Balance Contribution *per tonn*e for meeting Fixed Costs	36.00
Fixed Costs (W.N.-4)	54,72,000
Quantity Required (₹54,72,000 ÷ ₹36)	1,52,000 tonnes

Working Notes

1. Materials Cost per tonne in Year II ₹90

$$\left(\frac{₹1,29,60,000}{1,44,000 \text{tonnes}}\right)$$

2. Labour Cost per tonne in Year II ₹13

$\left(\frac{₹18,72,000}{1,44,000 tonnes}\right)$

3. Variable portion of Factory, Administration and Sell. Expenditure, etc

	₹
Total in Year II	1,12,32,000
Less: Increase otherwise than on account of increased turnover	8,10,000
	1,04,22,000
Less: Amount Spent in Year I	97,02,000
Increase	7,20,000
Increase in Quantity Sold	18,000 tonnes
Variable Expenses per tonne	₹40

$\left(\frac{₹7,20,000}{18,000 tonnes}\right)$

4. Fixed portion of Factory, Administration and Selling Expenses (Yr. 2) ₹1,12,32,000

Variable Expenses @ ₹ 40 per tonne ₹57,60,000

Fixed Portion ₹54,72,000

(b) Cost Sheet

Particulars	Units	Amount (₹)
Material		
Opening stock	10,000	5,00,00,000
Add: Purchases	4,90,000	25,20,00,000
Less: Closing stock	(17,500)	(85,00,000)
	4,82,500	**29,35,00,000**
Less: Normal wastage of materials realized @ ₹ 350 per unit	(2,000)	(7,00,000)
Material consumed		29,28,00,000
Direct employee's wages and allowances		5,50,50,000
Direct expenses- Royalty paid for production		3,10,50,000
Prime cost	4,80,500	**37,89,00,000**
Factory overheads - Consumable stores, depreciation etc.		3,42,00,000
Rearrangement design of factory machine		75,00,000
Gross Works Cost	4,80,500	**38,64,00,000**
Add: Opening WIP	20,000	1,20,00,000
Less: Closing WIP	(10,000)	(60,50,000)

Factory/Works Cost	4,90,500	**39,23,50,000**
Administration Overheads related to production		3,45,00,000
R&D expenses and Quality control cost		1,90,00,000
AMC cost of CCTV installed at factory premises		6,00,000
Guard Salaries for factory premises		14,00,000
Product Inspection		22,00,000
Add: Primary packaging cost @ ₹ 140 per unit		6,86,70,000
Cost of production	4,90,500	**51,87,20,000**
Administration Overheads		
Guard salaries for office		4,00,000
Audit and legal fees		29,00,000
Director's Salaries		60,00,000
EPF Director's Salaries @12%		7,20,000
AMC cost for CCTV installed at office.		2,00,000
Selling and Distribution Overheads		
Cost of maintaining website for online sale		60,75,000
Secondary packaging cost @ ₹ 20 per unit	4,90,500	98,10,000
Gift and snacks		30,50,000
Guard salaries for selling department		2,00,000
AMC cost for CCTV installed at selling department		2,00,000
Hiring charges of cars		25,00,000
Add: GST @5% on RCM basis		1,25,000
Television programme sponsorship cost		20,00,000
Customers' prize cost*		2,00,000
Selling expenses		3,94,50,000
Cost of sales		**58,64,75,000**
Add: Profit @ 25% on sales or 33.333% of cost		19,54,89,712
Sales value		**78,19,64,712**

***Customers' prize cost:**

	Amount (₹)
1st Prize	1,00,000
2nd Prize	50,000
3rd Prize	20,000

Consolation Prizes (3 × ₹10,000)	30,000
Total	**2,00,000**

***Customers' prize cost:**

	Amount (₹)
1st Prize	1,00,000
2nd Prize	50,000
3rd Prize	20,000
Consolation Prizes (3 × ₹10,000)	30,000
Total	**2,00,000**

4. Computation of overhead absorption rate

(as per the blanket rate)

Department	**Budgeted factory Overheads (₹)**	**Budgeted direct wages (₹)**
Operating	35,64,000	7,92,000
Assembly	9,66,000	24,15,000
Quality Control	4,20,000	10,50,000
Packing	12,37,500	6,93,000
Total	**61,87,500**	**49,50,000**

$$\text{Overhead absorption rate} = \frac{\text{Budgeted factory Overheads}}{\text{Budgeted direct wages}} \times 100$$

$$= \frac{61,87,500}{49,50,000} \times 100$$

= 125% of Direct wages

Selling Price of the Job No. 157

Particulars	**Operating (₹)**	**Assembly (₹)**	**Quality Control (₹)**	**Packing (₹)**	**Total (₹)**
Direct Materials	11,880	4,140	1,800	2,970	20,790
Direct Wages	2,376	2,484	1,080	594	6,534
Rectification cost of normal defectives			495		495
Overheads [(125% x (6,534 + 495)]					8,786.25
Total Factory Cost					**36,605.25**
Add: Mark-up (25% x ₹ 36,605.25)					9,151.31
Selling Price					**45,756.56**

(b) As the machinery is used to a varying degree in different departments, the use of **departmental rates** is to be preferred. The overhead recovery rates in different departments would be as follows:

(i) Operating Department: The use of machine hours is the predominant factor of production in Operating Department. Hence, machine hour rate should be used to recover overheads.

The overhead recovery rate based on machine hours would be calculated as follows:

$$\textbf{Machine hour rate} = \frac{\text{Budgeted factory Overheads}}{\text{Budgeted machine hours}}$$

$$= \frac{₹\ 35,64,000}{7,92,000} = ₹\ 4.50 \text{ per hour}$$

(ii) Assembly Department: Direct labour hours is the main factor of production in Assembly Department. Hence, direct labour hour rate should be used to recover overheads.

The overhead recovery rate based on direct labour hours would be calculated as follows:

$$\textbf{Direct labour hour rate} = \frac{\text{Budgeted factory Overheads}}{\text{Budgeted direct labour hours}}$$

$$= \frac{₹\ 9,66,000}{6,90,000} = ₹\ 1.40 \text{ per hour}$$

(iii) Quality Control Department: Direct labour hours is the main factor of production in Quality Control Department. Hence, direct labour hour rate should be used to recover overheads.

The overhead recovery rate based on direct labour hours would be calculated as follows:

$$\textbf{Direct labour hour rate} = \frac{\text{Budgeted factory Overheads}}{\text{Budgeted direct labour hours}}$$

$$= \frac{₹\ 4,20,000}{3,00,000} = ₹\ 1.40 \text{ per hour}$$

(iv) Packing Department: Direct labour hours is the main factor of production in Packing Department. Hence, direct labour hour rate should be used to recover overheads.

The overhead recovery rate based on direct labour hours would be calculated as follows:

$$\textbf{Direct labour hour rate} = \frac{\text{Budgeted factory Overheads}}{\text{Budgeted direct labour hours}}$$

$$= \frac{₹\ 12,37,500}{4,95,000} = ₹\ 2.50 \text{ per hour}$$

(c) Selling Price of Job No. 157

[based on the overhead rates calculated in (b) above]

Particulars	Operating (₹)	Assembly (₹)	Quality Control (₹)	Packing (₹)	Total (₹)
Direct Materials	11,880	4,140	1,800	2,970	20,790
Direct Wages	2,376	2,484	1,080	594	6,534
Rectification cost of normal defectives			495		495
Overheads (refer working note)					10,672
Total Factory Cost					**38,491**
Add: Mark-up (25% x ₹ 38,491)					9,622.75
Selling Price					**48,113.75**

Working note:

Overhead Statement

Department	Basis	Hours	Rate (₹)	Overheads (₹)
Operating	Machine hour	1,782	4.50	8,019
Assembly	Direct labour hour	828	1.40	1,159
Quality Control	Direct labour hour	360	1.40	504
Packing	Direct labour hour	396	2.50	990
			Total	**10,672**

(d) Department-wise statement of under or over recovery of overheads

(i) As per the current policy

Particulars	Operating (₹)	Assembly (₹)	Quality Control (₹)	Packing (₹)	Total (₹)
Direct wages (Actual)	9,50,400	18,63,000	8,10,000	8,91,000	45,14,400
Overheads recovered @ 125% of Direct wages: (A)	11,88,000	23,28,750	10,12,500	11,13,750	56,43,000
Actual overheads: (B)	38,61,000	5,79,600	2,52,000	13,36,500	60,29,100
(Under)/Over recovery of overheads: (A–B)	**(26,73,000)**	**17,49,150**	**7,60,500**	**(2,22,750)**	**(3,86,100)**

(ii) As per the method suggested

	Machine hours (Operating)	Direct labour hours (Assembly)	Direct labour hours (Quality Control)	Direct labour hours (Packing)	Total (₹)
Hours worked	9,50,400	6,21,000	2,70,000	5,94,000	
Rate/hour (₹)	4.50	1.40	1.40	2.50	
Overhead recovered (₹): (A)	42,76,800	8,69,400	3,78,000	14,85,000	70,09,200
Actual overheads (₹): (B)	38,61,000	5,79,600	2,52,000	13,36,500	60,29,100
(Under)/Over recovery: (A–B)	**4,15,800**	**2,89,800**	**1,26,000**	**1,48,500**	**9,80,100**

5. (a) (i) Statement of Profit as per financial records

(for the year ended March 31, 2024)

	(₹)		(₹)
To Opening stock of Finished Goods	48,250	By Sales	13,96,500
To Work-in-process	38,000	By Closing stock of finished Goods	44,500
To Raw materials consumed	5,00,000	By Work-in-Process	36,200
To Direct labour	4,20,000	By Interest received	42,000
To Factory overheads	3,56,000	By Loss	3,35,050
To Administration overheads	2,10,000		
To Selling & distribution overheads	84,000		
To Dividend paid	98,000		
To Bad debts	16,000		
To Stores adjustment	50,000		
To Income tax	34,000		
	18,54,250		**18,54,250**

Statement of Profit as per costing records

(for the year ended March 31,2024)

	(₹)
Sales revenue (A) *(14,250 units)*	13,96,500
Cost of sales:	
Opening stock *(545 units x ₹ 90)*	49,050
Add: Cost of production of 14,165 units *(Refer to working note 2)*	14,08,560

Less: Closing stock (₹ 99.44 x 460 units)	45,742
Production cost of goods sold (14,250 units)	14,11,868
Selling & distribution overheads	
(14,250 units x ₹ 6)	85,500
Cost of sales: (B)	14,97,368
Profit/Loss: {(A) – (B)}	(1,00,868)

(ii) Statement of Reconciliation

(Reconciling the profit as per costing records with the profit as per financial records)

	(₹)	*(₹)*
Loss as per Cost Accounts		(1,00,868)
Add: Administration overheads over absorbed (₹ 2,34,760 – ₹ 2,10,000)	24,760	
Opening stock overvalued (₹ 49,050 – ₹ 48,250)	800	
Interest received	42,000	
Selling & distribution overheads over recovered (₹ 85,500 – ₹ 84,000)	1,500	69,060
		(31,808)
Less: Factory overheads over recovered (₹ 3,56,000 - ₹2,52,000)	1,04,000	
Closing stock overvalued (₹ 45,742 – ₹ 44,500)	1,242	
Stores adjustment	50,000	
Income tax	34,000	
Dividend	98,000	
Bad debts	16,000	(3,03,242)
Loss as per financial accounts		(3,35,050)

Working notes:

1. Number of units produced	
	Units
Sales	14,250
Add: Closing stock	460
Total	14,710
Less: Opening stock	545
Number of units produced	14,165

2. Cost Sheet	
	(₹)
Raw materials consumed	5,00,000
Direct labour	4,20,000
Prime cost	9,20,000
Factory overheads	2,52,000
(60% of direct wages)	
Factory cost	11,72,000
Add: Opening work-in-process	38,000
Less: Closing work-in-process	36,200
Factory cost of goods produced	11,73,800
Administration overheads	2,34,760
(20% of factory cost)	
Cost of production of 14,165 units (Refer to working note 1)	14,08,560
Cost of production per unit: ₹ 14,08,560 / 14,165	99.44

(b) **PPP Ltd.**

Budget for 90% capacity level for the next year

Budgeted production (units)		**90,000**
	Per Unit (₹)	**Amount (₹)**
Direct Material (note 2)	22	19,80,000
Direct Labour (note 3)	12	10,80,000
Variable factory overhead (note 4)	2.10	1,89,000
Variable selling overhead (note 5)	4.40	3,96,000
Variable cost	**40.50**	**36,45,000**
Fixed factory overhead (note 4)		2,20,000
Fixed selling overhead (note 5)		1,15,000
Administrative overhead (note 6)		1,84,000
Fixed cost		**5,19,000**
Total cost		**41,64,000**
Add: Profit 25% on total cost		10,41,000
Sales		**52,05,000**
Contribution (Sales – Variable cost)		**15,60,000**

Working Notes:

1. At 80% level of capacity (current year), the production is 80,000 units.

   Thus, total level of capacity is 1,00,000 units.

   Therefore, Year 2 is at 70% capacity and Year 3 is at 60% capacity as the production is increasing by 10% of its capacity consistently.

2. Direct Material

	(₹)		(₹)
80% Capacity	16,00,000	70% Capacity	14,00,000
70% Capacity	14,00,000	60% Capacity	12,00,000
10% change in capacity	**2,00,000**	10% change in capacity	**2,00,000**

   For 10% increase in capacity, the total direct material cost regularly changes by ₹ 2,00,000

   Thus, Direct material cost (variable) = ₹ 2,00,000 ÷ 10,000 = ₹ 20

   After 10% increase in price, direct material cost per unit = ₹ 20 × 1.10 = ₹ 22

   Direct material cost at 90,000 budgeted units = 90,000 × ₹ 22 = ₹ 19,80,000

3. Direct labour:

	(₹)		(₹)
80% Capacity	8,00,000	70% Capacity	7,00,000
70% Capacity	7,00,000	60% Capacity	6,00,000
10% change in capacity	**1,00,000**	10% change in capacity	**1,00,000**

   For 10% increase in capacity, direct labour cost regularly changes by ₹ 1,00,000.

   Direct labour cost per unit = ₹ 1,00,000 ÷ 10,000 = ₹ 10

   After 20% increase in price, direct labour cost per unit = ₹ 10 × 1.20 = ₹ 12

   Direct labour for 90,000 units = 90,000 units × ₹ 12 = ₹ 10,80,000.

4. Factory overheads are semi-variable overheads:

	(₹)		(₹)
80% Capacity	3,60,000	70% Capacity	3,40,000
70% Capacity	3,40,000	60% Capacity	3,20,000
10% change in capacity	**20,000**	10% change in capacity	**20,000**

Variable factory overhead = ₹ 20,000 ÷ 10,000 units = ₹ 2

Variable factory overhead for 80,000 units = 80,000 × ₹ 2 = ₹ 1,60,000

Fixed factory overhead = ₹ 3,60,000 – ₹ 1,60,000 = ₹ 2,00,000.

Variable factory overhead after 5% increase = ₹ 2 × 1.05 = ₹ 2.10

Fixed factory overhead after 10% increase = ₹ 2,00,000 × 1.10 = ₹ 2,20,000.

5. Selling overhead is semi-variable overhead:

	(₹)		(₹)
80% Capacity	4,20,000	70% Capacity	3,80,000
70% Capacity	3,80,000	60% Capacity	3,40,000
10% change in capacity	**40,000**	10% change in capacity	**40,000**

Variable selling overhead = ₹ 40,000 ÷ 10,000 units = ₹ 4

Variable selling overhead for 80,000 units = 80,000 × ₹ 4 = ₹ 3,20,000.

Fixed selling overhead = ₹ 4,20,000 – ₹ 3,20,000 = ₹ 1,00,000

Variable selling overhead after 10% increase = ₹ 4 × 1.10 = ₹ 4.40

Fixed selling overhead after 15% increase = ₹ 1,00,000 × 1.15 = ₹ 1,15,000

6. Administrative overhead is fixed:

After 15% increase = ₹ 1,60,000 × 1.15 = ₹ 1,84,000

6. (a) The Practical difficulties with which a Cost Accountant is usually confronted with while installing a costing system in a manufacturing company are as follows:

(i) *Lack of top management support:* Installation of a costing system does not receive the support of top management. They consider it as interference in their work. They believe that such, a system will involve additional paperwork. They also have a misconception in their minds that the system is meant for keeping a check on their activities.

(ii) *Resistance from cost accounting departmental staff*: The staff resist because of fear of loosing their jobs and importance after the implementation of the new system.

(iii) *Non co-operation from user departments:* The foremen, supervisor and other staff members may not cooperate in providing requisite data, as this would not only add to their responsibilities but will also increase paper work of the entire team as well.

(iv) *Shortage of trained staff:* Since cost accounting system's installation involves specialised work, there may be a shortage of trained staff.

To overcome these practical difficulties, necessary steps required are:

- Sell the idea to top management and convince them of the utility of the system.
- Resistance and non co-operation can be overcome by behavioural approach. To deal with the staff concerned effectively.
- Proper training should be given to the staff at each level
- Regular meetings should be held with the cost accounting staff, user departments, staff and top management to clarify their doubts/ misgivings.

(b) Buttermilk is a by-product of butter and treatment of by-product in cost accounting is as follows.

(i) When they are of small total value, the amount realized from their sale may be dealt as follows:

- Sales value of the by-product may be credited to Profit and Loss Account and no credit be given in Cost Accounting. The credit to Profit and Loss Account here is treated either as a miscellaneous income or as additional sales revenue.
- The sale proceeds of the by-product may be treated as deduction from the total costs. The sales proceeds should be deducted either from production cost or cost of sales.

(ii) When the by-products are of considerable total value: Where by-products are of considerable total value, they may be regarded as joint products rather than as by- products. To determine exact cost of by-products the costs incurred upto the point of separation, should be apportioned over by-products and joint products by using a logical basis.

(iii) When they require further processing: In this case, the net realisable value of the by-product at the split-off point may be arrived at by subtracting the further processing cost from realisable value of by-product. If the value is small, it may be treated as discussed in (i) above.

(c)

Demerits of Fixed Budget
1. It does not suite a dynamic organization and may give misleading results. A poor or good performance may remain un-noticed.
2. It is not suitable for long period.

3. It is also found unsuitable particularly when the business conditions are changing constantly.
4. Accurate estimates are not possible.

Demerits of Flexible Budget
1. The formulation of flexible budget is possible only when there is proper accounting system maintained, perfect knowledge about the factors of production and various business circumstances is available.
2. Flexible Budget also requires the system of standard costing in business.
3. It is very expensive and labour oriented.

OR

(c) Objectives of time keeping and time booking: Time keeping has the following two objectives:

(i) *Preparation of Payroll:* Wage bills are prepared by the payroll department on the basis of information provided by the time keeping department.

(ii) *Computation of Cost:* Labour cost of different jobs, departments or cost centers are computed by costing department on the basis of information provided by the time keeping department.

The objectives of time booking are as follows:

(i) To ascertain the labour time spent on a job and the idle labour hours.

(ii) To ascertain labour cost of various jobs and products.

(iii) To calculate the amount of wages and bonus payable under the wage incentive scheme.

(iv) To compute and determine overhead rates and absorption of overheads under the labour and machine hour method.

(v) To evaluate the performance of labour by comparing actual time booked with standard or budgeted time.