

Mock Test Paper - Series I: March 2026

Date of Paper: 23rd March 2026

Time of Paper: 10 AM – 1 PM

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.

Case Scenario 1

Mr. Sagar, the CFO of Super high Ltd. was shocked to see the plummeting margins in the second quarterly results of the company as presented in the committee meeting. He wondered how can things go so wrong all of a sudden, while he had been awarded for exemplary performance just three months back.

In order to set things right and ensure a positive turnaround, he appointed you to analyze and present a report giving narrative for the downfall.

You begin with seeking information which is presented as under:

There was no change in the selling price of the product from last quarter.

There was no opening or closing stocks of raw material or finished units in the beginning or end of the quarter. However, there were stocks of WIP (work in progress) units.

Opening WIP was 1,000 units which was 60% complete in respect of labour and overheads. Super high Ltd. was engaged in a process where material was fed immediately in the pipe line. The opening WIP was valued at standard cost which turns out to be ₹ 1,04,000 as shown later.

Cost of Material used: ₹ 3,00,000 (6000 units @ 50 ₹ per Kg)

The Cost of Labour and overheads incurred during the quarter was ₹ 3,15,900 and ₹ 1,74,960 respectively.

4,500 completed units were produced and 1,600 units were closing WIP which was 60% complete in respect of labour and overheads. The normal loss in process was 900 units which was 15% of the current input. It was sold as scrap for ₹ 4,200.

The standard cost card showed that 1 unit of finished product would cost ₹ 50 after considering the normal standard loss which is 15% and the labour hours should be 3 hrs. @ ₹ 20 per hour, the cost of overheads per unit should be ₹ 30 per unit.

Opening WIP value:

- Material: $50 \times 1,000 = ₹ 50,000$
- Labour: $60\% \times (3 \text{ hrs} \times ₹ 20 \times 1,000) = ₹ 36,000$
- OH: $60\% \times ₹ 30 \times 1,000 = ₹ 18,000$
- Total Opening WIP = ₹ 1,04,000

1. Equivalent units for material (FIFO) are:

- (A) 5,100
- (B) 6,000
- (C) 6,100
- (D) 4,500

2. Cost per equivalent unit of labour:

- (A) ₹ 65
- (B) ₹ 61.94
- (C) ₹ 70.20
- (D) ₹ 90.26

3. Material Cost Variance and Labour Cost Variance for equivalent units is:

- (A) ₹ 40,800 F and ₹ 40,800 A respectively
- (B) ₹ 28,000 A and ₹ 40,800 F respectively

- (C) ₹ 40,800 A and ₹ 24,300 A respectively
 (D) ₹ 28,000 F and ₹ 25,000 F respectively
4. Standard cost of 4,500 units:
 (A) ₹ 7,00,900
 (B) ₹ 7,90,860
 (C) ₹ 5,15,600
 (D) ₹ 6,30,000
5. Actual cost of 4,500 units:
 (A) ₹ 5,86,500
 (B) ₹ 7,15,500
 (C) ₹ 7,00,900
 (D) ₹ 6,30,000
- (5 x 2 = 10 Marks)**

Case Scenario 2

A manufacturing company is in the process of preparing its cost sheet for the financial year. The management wants to analyze the efficiency of production operations and requires detailed computation of key cost components such as material consumed, prime cost, cost of production, etc.

During the year, the company incurred various expenditures related to raw materials, labour, factory operations, and administrative activities. It also maintained records of inventory levels and work-in-process to ensure accurate cost determination.

The following information has been gathered from the company's records:

		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)	Television programme sponsorship cost	5,00,000

As a production manager you are required to answer the following questions (MCQs 6 to 10):

6. What is the material consumed by the company?
 - (A) ₹ 60,42,000
 - (B) ₹ 62,42,000
 - (C) ₹ 64,00,000
 - (D) ₹ 59,88,000
7. What is the prime cost of the company?
 - (A) ₹ 82,62,000
 - (B) ₹ 85,62,000
 - (C) ₹ 88,82,000
 - (D) ₹ 90,00,000
8. Calculate the work cost after adjusting Work-in-Progress.
 - (A) ₹ 96,64,500
 - (B) ₹ 98,70,500
 - (C) ₹ 92,58,400
 - (D) ₹ 94,68,400

9. What is the cost of production?

- (A) ₹ 1,02,48,000
- (B) ₹ 1,03,86,000
- (C) ₹ 1,05,48,000
- (D) ₹ 1,07,20,000

10. What is the cost of sales?

- (A) ₹ 1,30,98,000
- (B) ₹ 1,25,98,000
- (C) ₹ 1,20,48,000
- (D) ₹ 1,28,90,000

(5 x 2 = 10 Marks)

11. The following expenditures were incurred in P.L. Ltd. for the month of March, 2025:

	Particulars	Amount (₹)
(i)	Product blueprint cost	1,90,000
(ii)	Paid for power & fuel	3,00,000
(iii)	Wages paid to factory workers	80,000
(iv)	Hire charges paid for machinery used	50,000
(v)	Commission paid to marketing manager	35,000
(vi)	Salary to office attendants	45,000
(vii)	Fee paid to technician hired in factory	96,000
(viii)	Administrative overheads	89,000

Calculate the direct expenses for the month.

- (A) ₹ 7,16,000
- (B) ₹ 6,36,000
- (C) ₹ 7,40,000
- (D) ₹ 6,71,000

(2 Marks)

12. 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)

13. BCIC Ltd. is a insurance company. It launched a new term insurance policy Names as Protection Plus. The total cost for the policy during the year is ₹ 1,60,00,000. Total number of policies sold is 410 and total insured value of policies is ₹ 920 crore.

What is the cost per rupee of insured value?

- (A) ₹ 0.0017
(B) ₹ 0.18
(C) ₹ 575
(D) ₹ 2.24

(2 Marks)

14. ICT Ltd. belongs to pharmaceutical industries. The chemical process that ICT Ltd. operates convert one compound into three category of medicines viz. BetaTab, Folick and TegriCap. Though BetaTab and Folick are already converted to final product at split-off point, Tegricap needs further processing along with addition of new compound with it.

The market for BetaTab and Folick is highly active, thus the production is sold at split-off point, however, Tegricap can be sold only after further processing.

Following information is provided for the current year:

Products	Quantity sold (tons)	Selling price per ton (₹)
BetaTab	372	7,500
Folick	1,054	5,625
TegriCap	1,472	3,750

The selling price is expected to remain the same for coming years.

The total joint manufacturing costs till split-off point is ₹ 62,50,000 and the amount spent for further processing w.r.t. Tegricap is ₹ 31,00,000

The details regarding closing inventories are as follows:

Products	Completed units (tons)
BetaTab	360
Folick	120
TegriCap	50

You are required to COMPUTE the joint cost allocated to BetaTab, Folick and TegriCap using Net realizable value (NRV) method.

- (A) BetaTab- ₹ 15,65,481, Folick - ₹ 33,26,647 and TegriCap - ₹ 13,57,872
- (B) BetaTab - ₹ 23,33,985, Folick - ₹ 28,07,478 and TegriCap - ₹ 11,08,537
- (C) BetaTab - ₹ 19,27,533, Folick - ₹ 23,18,570 and TegriCap - ₹ 20,03,897
- (D) BetaTab - ₹ 11,08,537, Folick - ₹ 28,07,478 and TegriCap - ₹ 23,33,985

(2 Marks)

15. A company manufactures eye-glass frames at the rate of 1,200 frames per month. The company wants to determine the most economical production batch size to minimize total setup and holding costs.

The following information is available:

- Setup cost per batch = ₹ 7,200
- Cost per unit = ₹ 3,240
- Carrying cost = 10% per annum (including storage, cost of capital, and obsolescence)

What is the Economic Batch Quantity (EBQ)?

- (A) 230 frames
- (B) 566 frames
- (C) 800 frames
- (D) 1,200 frames

(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 factory operates 8 hours per day with 6 working days in a week. The worker is paid @ ₹ 500 per day as basic plus 40% dearness allowance. Overtime rate is payable at double the normal hourly rate. The worker is allowed half an hour break for lunch and two tea breaks of 15 minutes each per day. During last week, worker X was present for 5 days. To meet out demand, X has done overtime for 4 hours. X has spent 60% time on Job A and 40% time on Job B. The overtime worked was for Job A only.

Direct material cost incurred are :

Job A : ₹ 5,000

Job B : ₹ 7,500

Overheads are applied @ ₹ 15 per labour hour.

You are required to CALCULATE the total cost of Job A and Job B. **(5 Marks)**

- (b) A manufacturing company disclosed a net loss of ₹ 6,40,000 as per their cost accounts for the year ended 31st March, 2025. However, the financial accounts showed a net profit of ₹ 45,000 for the same period.

Upon scrutiny of both sets of accounts, the following differences were identified:

Particulars	Amount (in ₹)
(i) Transfer fee received	23,000
(ii) Interest on investment received	3,00,000
(iii) Goodwill written-off	38,000
(iv) Depreciation	
– Charged in Financial books	5,00,000
– Recovered in Cost books	6,00,000
(v) Opening stock of raw material	
– Cost books	4,50,000
– Financial books	4,82,000
(vi) Closing stock of finished goods	
– Cost books	12,80,000

– Financial books	13,56,000
(vii) Notional rent of own premises recorded in Cost accounts	3,20,000
(viii) Factory overheads	
– Cost books	2,50,000
– Financial books	1,94,000
(ix) Income-tax provided	1,20,000

You are required to PREPARE Memorandum Reconciliation Account. **(5 Marks)**

- (c) A transport truck starts with a load of 30 MT of goods from Delhi. It unloads 12 MT at Agra and the remaining goods at Jaipur.

On its return journey, the truck carries 20 MT of goods from Jaipur back to Delhi.

The distances between Delhi to Agra, Agra to Jaipur, and Jaipur to Delhi are 230 kms, 240 kms, and 280 kms respectively.

COMPUTE “Absolute MT-Kilometer” and “Commercial MT – Kilometer”.

(MT = Metric Ton or Ton).

(4 Marks)

2. (a) COMPUTE the missing data indicated by the question marks from the following:

Particulars	A	B
Standard Price/ unit	₹ 12	₹ 15
Actual Price/ unit	₹ 15	₹ 20
Standard Input (kgs.)	50	?
Actual Input (kgs.)	?	70
Material Price Variance	?	?
Material Usage Variance	?	₹ 300 Adverse
Material Cost Variance	?	?

Material mix variance for both products together was ₹ 45 Adverse. **(8 Marks)**

- (b) Pentax Limited has prepared its expense budget for 20,000 units in its factory for the year 2026 as detailed below:

	(₹ per unit)
Direct Materials	50
Direct Labour	20
Variable Overhead	15
Direct Expenses	6
Selling Expenses (20% fixed)	15

Factory Expenses (100% fixed)	7
Administration expenses (100% fixed)	4
Distribution expenses (85% variable)	12
Total	129

PREPARE an expense budget for the production of 15,000 units and 18,000 units.

(6 Marks)

3. (a) The following information has been extracted from the books of AB Ltd. for the year ended 31st March, 2025:

Particulars	Material X	Material Y
Average stock (kg.)	59,400 kgs	1,00,800 kgs
Position of stock	Closing stock is more than opening stock by 10,800 kg.	Opening stock is less than closing stock by 28,800 kg.
Inventory turnover ratio	6 times	8 times

You are required to :

- CALCULATE the quantity of each material purchased during the year and value of opening and closing stock.
 - CALCULATE the number of days for which the average inventory is held in respect of each material (Assume 360 days in a year).
 - COMMENT on the movement of inventory of each material. **(5 Marks)**
- (b) The Union Ltd. has the following account balances and distribution of direct charges on 31st March, 2025.

	Total	Production Depts.		Service Depts.	
		Machine Shop	Packing	General Plant	Stores
Allocated Overheads:	(₹)	(₹)	(₹)	(₹)	(₹)
Indirect labour	29,000	8,000	6,000	4,000	11,000
Maintenance Material	9,900	3,400	1,600	2,100	2,800
Misc. supplies	5,900	1,500	2,900	900	600
Supervisor's salary	16,000	--	--	16,000	--
Cost & payroll salary	80,000	--	--	80,000	--

Overheads to be apportioned:	
Power	78,000
Rent	72,000
Fuel and Heat	60,000
Insurance	12,000
Taxes	8,400
Depreciation	1,20,000

The following data were compiled by means of the factory survey made in the previous year:

	Floor Space	Radiator Section	No. of employees	Investment	H.P. hours
Machine Shop	2,000 Sq. ft.	45	20	8,00,000	3,500
Packing	800 Sq. ft.	90	12	2,40,000	500
General Plant	400 Sq. ft.	30	4	80,000	-
Stores & maintenance	1,600 Sq. ft.	60	8	1,60,000	1,000

Expenses charged to the stores departments are to be distributed to the other departments by the following percentages:

Machine shop 50%; Packing 20%; General Plant 30%;

General Plant overheads is distributed on the basis of number of employees.

- (a) PREPARE an overhead distribution statement with supporting schedules to show computations and basis of distribution.
- (b) DETERMINE the service department distribution by simultaneous equation method. **(9 Marks)**

4. (a) MintCraft Pvt. Ltd. specializes in producing custom-designed award medallions and corporate commemorative coins. The company operates at a monthly production capacity of 12,000 medallions, currently producing and selling 9,000 medallions per month in the domestic market at a price of ₹180 per unit.

The cost data for the month of March, 2025 is as under:

Cost Elements	Amount (₹)
Variable Costs (dependent on units produced)	
Direct Materials (for 9,000 units)	3,42,000

Direct Labour	3,96,000
Variable Batch Costs (180 batches x ₹ 550 per batch)	99,000
Fixed Costs	
Fixed Manufacturing Overhead	3,20,000
Fixed Marketing and Admin	2,10,000

The batch size for MintCraft Pvt. Ltd.'s regular production is 50 medallions per batch. However, the special order received from an international client involves the production of 3,000 medallions, which differs in batch configuration. For this special order, the company is required to manufacture the medallions in 30 batches, with each batch consisting of 100 medallions. The client has offered a price of ₹125 per medallion for this one-time order.

Required:

- (i) SHOULD MintCraft Pvt. Ltd. accept the special order? Support your recommendation with relevant calculations and brief justification.
- (ii) Assume the plant capacity is reduced to 10,000 units due to scheduled maintenance. The special order must be accepted in full or not at all. SHOULD MintCraft accept the special order under these new conditions? PROVIDE brief reasoning supported by contribution margin analysis.

(7 Marks)

- (b) AquaPaints Ltd. is engaged in the manufacturing of water-based paints for the construction industry. The production is carried out in a continuous process, and the company uses the FIFO method to value work-in-process and finished goods. Due to a system failure during the previous month, part of the production data was lost. However, some key information was recovered, and the management has approached you to help prepare the process account for the affected month.

The following details were retrieved:

- Opening work-in-process: 1,200 litres, 50% complete for mixing labour, and 40% complete for utilities overheads. This WIP was valued at ₹ 36,000.
- Closing work-in-process: 250 litres, 30% complete for mixing labour, and 20% complete for utilities overheads.
- Normal process loss: 6% of total input. Actual loss during the month was 1,500 litres, partly due to equipment malfunction.
- Finished output transferred: 5,000 litres.

- Scrap value of normal loss: ₹ 12 per litre.
- All color pigments and base chemicals are added at the start of the process.
- The cost per equivalent litre for the month was:

Cost Element	Rate (₹)
Base Chemicals	21.00
Mixing Labour	6.00
Utilities Overheads	8.00
Total	35.00

- (a) DETERMINE the quantity (in litres) of base chemicals input during the month.
- (b) CALCULATE the normal loss and abnormal loss or gain for the period.
- (c) COMPUTE the total cost of base chemicals, mixing labour, and utilities overheads added during the month.
- (d) PREPARE the Process Account for the month. **(7 Marks)**
5. (a) Jyoti 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 2025 for each product line:

Particulars	Lemon	Grapes	Papaya
Revenues (₹)	79,350	2,10,060	1,20,990
Cost of goods sold (₹)	60,000	1,50,000	90,000
Cost of bottles returned (₹)	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

Jyoti Mfg. Co. also provides the following information for the year 2025:

Activity	Description of Activity	Total Costs (₹)	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) Jyoti 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 Jyoti 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. **(9 Marks)**
- (b) Briefly EXPLAIN Zero-based Budgeting (ZBB) along with its steps **(5 Marks)**
6. (a) SPECIFY the responsibility centre type for each of the following scenarios:

Sr. No.	Particulars	Type of Responsibility Centre
(i)	Decentralised branches of an organisation	
(ii)	Public sector undertaking of Central Government	
(iii)	Customer support department of an e-commerce company	
(iv)	Restaurant unit in a hotel	
(v)	Reservation department of airlines	

(5 Marks)

- (b) XYZ Manufacturing Ltd. is facing high employee turnover and a rise in idle time in its Assembly Department. On investigation, it was found that employees often left due to dissatisfaction with working conditions and lack of incentives. The

Management decided to revise the wage payment system and introduced regular training sessions to enhance skills and morale.

As the Cost Accountant, answer the following:

- (i) IDENTIFY and EXPLAIN two types of employee cost that occur due to employee turnover
- (ii) SUGGEST any two factors that can be taken by the company to improve employee productivity apart from training and wage payment revision.

(5 Marks)

- (c) ABC Manufacturing produces a specialized fastener in batches to meet an annual demand of 24,000 units. The accountant is considering whether to increase the batch size. Currently, the setup cost per batch is significant, but the warehouse manager is concerned about rising inventory holding costs if larger batches are produced. After a meeting, the management asks the Cost Accountant to advise on the best approach.

- (a) EXPLAIN, with reasons, how batch size affects both setup costs and inventory holding costs.
- (b) Briefly DESCRIBE how the company can determine the Economic Batch Quantity (EBQ) and its importance in cost control.

(4 Marks)

OR

- (c) “Cost-Volume-Profit (CVP) analysis is a vital tool for profit planning and decision-making.”

DISCUSS this statement and EXPLAIN the impact of various changes in cost and volume on profit.

(4 Marks)

Mock Test Paper - Series I: March 2026

Date of Paper: 23rd March 2026

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INTERMEDIATE: GROUP – II

PAPER – 4: COST AND MANAGEMENT ACCOUNTING

Suggested Answers/ Solution

PART I – Case Scenario based MCQs

Case Scenario 1

1. (A) 5,100

Equivalent Production (FIFO Method)

Input Details	Units	Output Particulars	Units	Equivalent Production					
				Material		Labour		Overheads	
				%	Units	%	Units	%	Units
Opening WIP	1,000	From Opening WIP	1,000	-	-	40	400	40	400
Fresh inputs	6,000	From fresh units	3,500	100	3,500	100	3,500	100	3,500
		Normal loss	900	-	-	-	-	-	-
		Closing WIP	1,600	100	1,600	60	960	60	960
	7,000		7,000		5,100		4,860		4,860

2. (A) ₹ 65

Cost per Equivalent Units (EU):

Element	Total cost (₹)	Equivalent units (EU)	Cost per EU (₹)
Value of raw material introduced	3,00,000		
Less: Scrap value of normal loss	(4,200)		
Total value of raw material	2,95,800	5,100	$2,95,800/5,100 = ₹ 58$
Labour	3,15,900	4,860	$3,15,900/4,860 = ₹ 65$
Overheads	1,74,960	4,860	$1,74,960/4,860 = ₹ 36$

3. (C) ₹ 40,800 A and ₹24,300 A respectively

Material Cost Variance for Equivalent units

Actual Material Cost = 2,95,800 (3,00,000 – 4,200)

Standard Price = ₹ 50

Equivalent units of Material = 5,100

Standard cost = 5,100 × 5 = ₹ 2,55,000

Material Cost Variance = Standard Cost – Actual Cost
= (2,55,000 – 2,95,800)
= ₹40,800 Adverse

Labour Cost Variance for Equivalent units

Actual cost of labour on completed units = ₹ 3,15,900

Standard rate per unit = ₹ 60

Standard cost = 4,860 × 60 = ₹ 2,91,600

Labour Cost Variance = Standard Cost – Actual Cost
= (₹ 2,91,600 - ₹ 3,15,900)
= ₹ 24,300 (A)

4. (D) ₹ 6,30,000

Standard Cost per Unit

Material: = 50

Labour: 3 hrs × 20 = 60

Overhead Costs = 30

Total Standard Cost = ₹140 per unit

Standard Cost of 4,500 Units

= 4,500 × 140

= ₹6,30,000

5. (C) ₹7,00,900

Completion of Opening WIP

Labour: $400 \times 65 = 26,000$
OH: $400 \times 36 = 14,400$
Add: opening cost: $= 1,04,000$
 $= ₹ 1,44,400$

Started & Completed (3,500 units)

Material $= 3,500 \times 58 = 2,03,000$
Labour $= 3,500 \times 65 = 2,27,500$
OH $= 3,500 \times 36 = 1,26,000$
 $= ₹ 5,56,500$

Total Cost of 4,500 Units

$= 1,44,400 + 5,56,500$
 $= ₹ 7,00,900$

Case Scenario 2

6. (B) ₹ 62,42,000
7. (B) ₹ 85,62,000
8. (D) ₹ 94,68,400
9. (C) ₹ 1,05,48,000
10. (A) ₹ 1,30,98,000

Working Note:

Calculation of Cost of Production of A Ltd. for the period.....

Particulars	Amount (₹)
Raw materials purchased	64,00,000
Add: Opening stock	2,88,000
Less: Closing stock	(4,46,000)
Material consumed	62,42,000.00

Wages paid	23,20,000.00
Prime cost	85,62,000.00
Repair and maintenance cost of plant & machinery	9,80,500.00
Insurance premium paid for inventories	26,000.00
Insurance premium paid for plant & machinery	96,000.00
Gross Work Cost	96,64,500.00
Add: Opening value of W-I-P	4,06,000.00
Less: Closing value of W-I-P	(6,02,100)
Work Cost	94,68,400.00
Quality control cost	86,000.00
Research & development cost	92,600.00
Administrative overheads related with factory and production	9,00,000.00
Less: Amount realised by selling scrap	(9,200)
Add: Primary packing cost	10,200.00
Cost of Production	1,05,48,000.00
Administrative overheads (Other)	11,60,000.00
Salary paid to Director (Technical)	8,90,000
Television programme sponsorship cost	5,00,000
Cost of Sales	1,30,98,000.00

11. (B) ₹ 6,36,000

Calculation of Direct Expenses:

	Particulars	Amount (₹)
(i)	Product blueprint cost	1,90,000
(ii)	Paid for power & fuel	3,00,000
(iii)	Wages paid to factory workers	NIL
(iv)	Hire charges paid for machinery used	50,000
(v)	Commission paid to marketing manager	NIL
(vi)	Salary to office attendants	NIL
(vii)	Fee paid to technician hired in factory	96,000
(viii)	Administrative overheads	NIL
		6,36,000

Notes:

- a. Wages paid to factory workers is direct employee cost.
- b. Commission paid to marketing manager come under selling expenses.
- c. Salary to office attendants is classified under office and administration cost.
- d. Administrative overhead is indirect expense.

12. (B) 83.33%

$$\begin{aligned}\text{Activity Ratio} &= \frac{\text{Standard Hours}}{\text{Budgeted Hours}} \times 100 \\ &= 83.33\%\end{aligned}$$

13. (A) ₹ 0.0017

$$\begin{aligned}\text{Cost per rupee of insured value} &= \frac{\text{Total Cost}}{\text{Total Insured Value}} \\ &= \frac{1.6 \text{ cr}}{920 \text{ cr}} = ₹ 0.0017\end{aligned}$$

14. (B) BetaTab - ₹ 23,33,985, Folick - ₹ 28,07,478 and TegriCap - ₹ 11,08,537

Calculation of total production of BetaTab, Folick and TegriCap

Products	Quantity sold (tons)	Quantity of closing inventories (tons)	Total production
(1)	(2)	(3)	(4) = [(2) + (3)]
BetaTab	372	360	732
Folick	1,054	120	1,174
TegriCap	1,472	50	1,522

Calculation of Net Realisable Value (at split-off point)

	Products			Total (₹)
	BetaTab	Folick	TegriCap	
Total Production (tons) (A)	732	1,174	1,522	
Selling price per ton (₹) (B)	7,500	5,625	3,750	

Final sales value of total production (₹) [(A) x (B)]	54,90,000	66,03,750	57,07,500	1,78,01,250
Less: Additional cost (₹)	-	-	(31,00,000)	(31,00,000)
Net realisable value (₹) (at split-off point)	54,90,000	66,03,750	26,07,500	1,47,01,250

Joint cost allocated using Net Realisable Value (at split-off point):

$$\frac{\text{Total Joint cost}}{\text{Total Net Realisable Value}} \times \text{Net Realisable Value of each product}$$

$$\begin{aligned} \text{BetaTab} &= \left(\frac{\text{₹ } 62,50,000}{\text{₹ } 1,47,01,250} \right) \times \text{₹ } 54,90,000 \\ &= \text{₹ } 23,33,985 \end{aligned}$$

$$\begin{aligned} \text{Folick} &= \left(\frac{\text{₹ } 62,50,000}{\text{₹ } 1,47,01,250} \right) \times \text{₹ } 66,03,750 \\ &= \text{₹ } 28,07,478 \end{aligned}$$

$$\begin{aligned} \text{TegriCap} &= \left(\frac{\text{₹ } 62,50,000}{\text{₹ } 1,47,01,250} \right) \times \text{₹ } 26,07,500 \\ &= \text{₹ } 11,08,537 \end{aligned}$$

15. (C) 800 frames

EBQ For frames manufacturing

$$EBQ = \sqrt{\frac{2DS}{C}}$$

Where, D = Annual demand for the product = 1,200 X 12 = 14,400 frames

S = Setting up cost per batch = ₹ 7,200

C = Carrying cost per unit of production = 10% of ₹ 3,240 = ₹ 324

$$EBQ = \sqrt{\frac{2 \times 14,400 \times 7,200}{324}} = 800 \text{ frames}$$

PART II – Descriptive Question

1. (a) Calculation of total cost of Job A and Job B

	Job A	Job B
Particulars	Amount (in ₹)	Amount (in ₹)
Direct Material Cost (Given)	5,000	7,500
Labour Cost (see working note)	2,900	1,400
Overheads	375 (21 hrs + 4 hrs x ₹15 per hour)	210 (14 hrs x ₹ 15 per hour)
Total	8,275	9,110

Working Note:

Normal time worked = $(8 \text{ hrs} - \frac{1}{2} \text{ hr} - \frac{1}{2} \text{ hr}) \times 5 \text{ day} = 35 \text{ Hrs}$

Normal hourly wages earned

= $(\text{₹ } 500 \text{ Basic} + \text{₹ } 200 \text{ D.A}) \times 5 \text{ days} / 35 \text{ Hrs}$

= ₹ 100 per hour

Overtime Wages = $2 \times 100 \text{ per hour} = \text{₹ } 200 \text{ per hour}$

Cost of wages for Job A: = $(35 \text{ hrs} \times 100 \times 60\%) + 4 \text{ hrs} \times 200$

= ₹ 2,100 + ₹ 800

= ₹ 2,900

Cost of Wages of Job B: = $(35 \text{ hrs} \times 100 \times 40\%)$

= ₹ 1,400

- (b) Memorandum Reconciliation Account

Debit	Amount (₹)	Credit	Amount (₹)
Net loss as per costing books	6,40,000	Transfer fee recorded in financial books	23,000
Goodwill written off not recorded in cost books	38,000	Interest on investment not included in costs	3,00,000
Under valuation of opening stock in cost accounts	32,000	Depreciation overcharge in cost books	1,00,000

Income tax not provided in costs	1,20,000	Under valuation of closing stock (finished goods) in cost accounts	76,000
Net profit as per financial books	45,000	Notional rent charges in cost books	3,20,000
		Factory overheads over recovered in cost books	56,000
Total	8,75,000	Total	8,75,000

(c) Weighted Average or Absolute basis – MT – Kilometer:

$$= (30 \text{ MT} \times 230 \text{ Kms}) + (18 \text{ MT} \times 240 \text{ Kms}) + (20 \text{ MT} \times 280 \text{ Kms})$$

$$= 6,900 + 4,320 + 5,600 = \mathbf{16,820 \text{ MT - Kilometer}}$$

Simple Average or Commercial basis – MT – Kilometer:

$$= \left\{ \frac{(30 + 18 + 20)}{3} \right\} \text{ MT} \times \{(230 + 240 + 280) \text{ Kms}\}$$

$$= 22.667 \text{ MT} \times 750 \text{ Kms} = \mathbf{17,000 \text{ MT – Kilometer (approx.)}}$$

2. (a) (i) Standard input (kgs.) of Material- B:

Material usage variance = Std. Rate (Std. Quantity – Actual Quantity)

$$₹ 300 \text{ Adverse} = ₹ 15 (\text{SQ} - 70)$$

$$\text{Or, } -300 = 15 \text{ SQ} - 1,050$$

$$\text{Or, } \text{SQ} = 50 \text{ kgs.}$$

(ii) **Actual Input (kgs) of Material- A:**

Let the actual input in for Material-A is X kgs.

Material Mix Variance = Std. Price (Actual Quantity in Std. mix – Actual Quantity)

Or, Material Mix Variance (A+B) = Material Mix Variance for Material - A + Material Mix Variance for Material -B

$$\text{Or, } -45 = \left[₹ 12 \left\{ \left(\frac{X+70}{2} \right) - X \right\} \right] + \left[₹ 15 \left\{ \left(\frac{X+70}{2} \right) - 70 \right\} \right]$$

$$\text{Or, } -45 = \left[₹ 12 \left\{ \frac{X+70-2X}{2} \right\} \right] + \left[₹ 15 \left\{ \frac{X+70-140}{2} \right\} \right]$$

$$\text{Or, - 45} = [\text{₹ } 12\{\frac{70-X}{2}\}] + [\text{₹ } 15\{\frac{X-70}{2}\}]$$

$$\text{Or, - 45} = [-6X + 420] + [\frac{15X - 1,050}{2}]$$

$$\text{Or, - 45} = [\frac{-12X + 840 + 15X - 1,050}{2}]$$

$$\text{Or, - 90} = 3X - 210$$

$$\text{Or, } X = \frac{120}{3} = 40 \text{ kgs.}$$

(iii) (a) Material Price Variance of A = Actual Quantity (Std. Rate – Actual Rate)

$$= 40 \text{ kg. } (12 - 15) = \text{₹ } 120 \text{ Adverse}$$

(b) Material Price Variance of B = 70 kg. (15 – 20) = ₹ 350 Adverse

(iv) Material usage variance of A

$$= \text{Std. Rate (Std. Quantity – Actual Quantity)}$$

$$= 12 (50 - 40) = \text{₹ } 120 \text{ Favourable}$$

(v) (a) Material Cost variance of A = Std. Cost – Actual Cost

$$= (50 \text{ kgs.} \times \text{₹ } 12) - (40 \text{ kgs.} \times \text{₹ } 15)$$

$$= 600 - 600 = \text{Nil}$$

(b) Material Cost variance of B

$$= (50 \text{ kgs.} \times \text{₹ } 15) - (70 \text{ kgs.} \times \text{₹ } 20)$$

$$= 750 - 1,400 = \text{₹ } 650 \text{ Adverse}$$

(b) **Expense Budget of M/s Pentax Ltd.**

Particulars	20,000 Units (₹)	15,000 Units (₹)	18,000 Units (₹)
Direct Material	10,00,000 (20,000 x 50)	7,50,000 (15,000 x 50)	9,00,000 (18,000 x 50)
Direct Labour	4,00,000 (20,000 x 20)	3,00,000 (15,000 x 20)	3,60,000 (18,000 x 20)

Variable Overhead	3,00,000 (20,000 x 15)	2,25,000 (15,000 x 15)	2,70,000 (18,000 x 15)
Direct Expenses	1,20,000 (20,000 x 6)	90,000 (15,000 x 6)	1,08,000 (18,000 x 6)
Selling Expenses (Variable)*	2,40,000 (20,000 x 12)	1,80,000 (15,000 x 12)	2,16,000 (18,000 x 12)
Selling Expenses (Fixed)* (3 x 20,000)	60,000	60,000	60,000
Factory Expenses (Fixed) (7 x 20,000)	1,40,000	1,40,000	1,40,000
Administration Expenses (Fixed) (4 x 20,000)	80,000	80,000	80,000
Distribution Expenses (Variable)**	2,04,000 (10.20 x 20,000)	1,53,000 (10.20 x 15,000)	1,83,600 (10.20 x 18,000)
Distribution Expenses (Fixed)** (1.80 x 20,000)	36,000	36,000	36,000
	25,80,000	20,14,000	23,53,600

*Selling Expenses: Fixed cost per unit = ₹ 15 x 20% = ₹ 3

Fixed Cost = ₹ 3 x 20,000 units = ₹ 60,000

Variable Cost Per unit = ₹ 15 – ₹ 3 = ₹ 12

**Distribution Expenses: Fixed cost per unit = ₹ 12 x 15% = ₹ 1.80

Fixed Cost = ₹ 1.80 x 20,000 units = ₹ 36,000

Variable cost per unit = ₹ 12 – ₹ 1.80 = ₹ 10.20

3. (a) (i) Inventory Turnover Ratio (X) = Material Consumed / Average Stock
6 = Material Consumed / 59,400
Material consumed (X) = 3,56,400 kg. (59,400 x 6)
Material Y = Material Consumed / Average Stock
8 = Material Consumed / 1,00,800

Material Consumed = 8,06,400 kg. (1,00,800 x 8)

Average Stock = $\frac{\text{Opening stock} + \text{Closing Stock}}{2}$

Let opening stock is assumed to A Kg.

Closing stock will be = A+10,800

Material X = $\frac{A+A+10,800}{2}$ = 59,400 Kgs

2A = 1,08,000

A = 54,000 Kg.

Opening Stock X = 54,000 Kg.

Closing Stock X = 54,000 + 10,800 = 64,800 Kgs.

Material Y = $\frac{A+A+28,800}{2}$ = 1,00,800 Kgs.

2A = 1,72,800

A = 86,400 = Opening Stock Y

Closing Stock Y = 86,400 + 28,800 = 1,15,200 Kg.

Purchases = Material Consumed + Closing Stock
- Opening Stock

Material X = 3,56,400 + 64,800 - 54,000

= 3,67,200 Kgs.

Material Y = 8,06,400 + 1,15,200 - 86,400

= 8,35,200 Kgs.

(ii) Number of days for which the average inventory is held:

Number of Days in a year/ Inventory turnover ratio

Material X = 360/6 = 60 days

Material Y = 360/8 = 45 days

(iii) Comments:

Material Y is fast moving than that of Material X because it was held for 45 days against 60 days of X material.

(b) Overhead Distribution Statement

	Production Departments		Service Departments	
	Machine Shops	Packing	General Plant	Stores
Allocated Overheads:	(₹)	(₹)	(₹)	(₹)
Indirect labour	8,000	6,000	4,000	11,000
Maintenance Material	3,400	1,600	2,100	2,800
Misc. supplies	1,500	2,900	900	600
Supervisor's salary	--	--	16,000	--
Cost & payroll salary	--	--	80,000	--
Total allocated overheads	12,900	10,500	1,03,000	14,400
Add: Apportioned Overheads (As per Schedule below)	1,84,350	70,125	22,775	73,150
	1,97,250	80,625	1,25,775	87,550

Schedule of Apportionment of Overheads

Item of Cost	Basis	Production Departments		Service Departments	
		Machine Shops (₹)	Packing (₹)	General Plant (₹)	Stores (₹)
Power	HP hours (7 : 1 : - : 2)	54,600	7,800	--	15,600
Rent	Floor space (5 : 2 : 1 : 4)	30,000	12,000	6,000	24,000
Fuel & Heat	Radiator sec. (3 : 6 : 2 : 4)	12,000	24,000	8,000	16,000
Insurance	Investment (10 : 3 : 1 : 2)	7,500	2,250	750	1,500
Taxes	Investment (10 : 3 : 1 : 2)	5,250	1,575	525	1,050
Depreciation	Investment (10 : 3 : 1 : 2)	75,000	22,500	7,500	15,000
		1,84,350	70,125	22,775	73,150

(b) Re-distribution of Overheads of Service Departments to Production Departments:

Let, the total overheads of General Plant = 'a' and the total overheads of Stores = 'b'

$$a = 1,25,775 + 0.3b \text{(i)}$$

$$b = 87,550 + 0.2a \text{(ii)}$$

Putting the value of 'b' in equation no. (i)

$$a = 1,25,775 + 0.3 (87,550 + 0.2a)$$

$$\text{Or } a = 1,25,775 + 26,265 + 0.06a$$

$$\text{Or } 0.94a = 1,52,040 \quad \text{Or } a = 1,61,745 \text{ (appx.)}$$

Putting the value of a = 1,61,745 in equation no. (ii) to get the value of 'b'

$$b = 87,550 + 0.2 \times 1,61,745 = 1,19,899$$

Secondary Distribution Summary

Particulars	Total (₹)	Machine Shops (₹)	Packing (₹)
Allocated and Apportioned overheads as per Primary distribution	2,77,875	1,97,250.00	80,625.00
- General Plant	1,61,745	80,872.50 $(1,61,745 \times \frac{5}{10})$	48,523.50 $(1,61,745 \times \frac{3}{10})$
- Stores	1,19,899	59,949.50 $(1,19,899 \times 50\%)$	23,979.80 $(1,19,899 \times 20\%)$
		3,38,072.00	1,53,128.30

4. (a) Statement of Contribution Margin on Accepting the Special Order of 3,000 Medallions

Particulars	₹
Sales Revenue (3,000 medallions x ₹ 125 per medallion)	3,75,000
Less: Variable Costs	
• Direct Materials (3,000 medallions x ₹ 38 per medallion*)	1,14,000

• Direct Labour (3,000 medallions x ₹ 44 per medallion*)	1,32,000
• Setups, Quality Control, Handling (30 batches x ₹ 550 per batch)	16,500
Contribution Margin	1,12,500

*Rates derived from regular cost data:

→ Direct Materials = ₹3,42,000 / 9,000 units = ₹38/unit

→ Direct Labour = ₹3,96,000 / 9,000 units = ₹44/unit

Decision – When Capacity Is 12,000 Medallions:

The plant has 3,000 units of unused capacity (12,000 – 9,000), and the special order fits within this limit. Since fixed costs will not increase and the order provides a positive contribution margin of ₹ 1,12,500, MintCraft Pvt. Ltd. should accept the special order, as it will increase operating profit.

Statement of Contribution Margin Loss Due to Capacity Constraint (When Capacity = 10,000 Medallions):

Particulars	₹
Gain in Contribution Margin from Special Order	1,12,500
Less: Loss of Contribution Margin on 2,000 Medallions of Regular Sales (W.N.1 & W.N.2)	(1,74,000)
Net Loss in Contribution Margin	(61,500)

Decision – When Capacity Is 10,000 Medallions:

Accepting the special order means MintCraft must reduce 2,000 medallions from its regular, higher-priced domestic sales. The loss in contribution from regular sales exceeds the gain from the special order, resulting in a net contribution loss of ₹ 61,500. Therefore, the special order should not be accepted under capacity constraint.

Working Notes:

W.N. 1: Contribution Margin on Current 9,000 Medallions

Particulars	₹
Sales Revenue (9,000 x ₹ 180)	16,20,000

Less: Variable Costs	
• Direct Materials (9,000 x ₹38)	3,42,000
• Direct Labour (9,000 x ₹44)	3,96,000
• Setup, Handling, QC (180 batches x ₹550)	99,000
Contribution Margin	7,83,000

W.N. 2: Contribution Margin on 7,000 Medallions (after reducing 2,000 units)

Particulars	₹
Sales Revenue (7,000 x ₹180)	12,60,000
Less: Variable Costs	
• Direct Materials (7,000 x ₹38)	2,66,000
• Direct Labour (7,000 x ₹44)	3,08,000
• Setup, Handling, QC (140 batches x ₹550)	77,000
Contribution Margin	6,09,000

Loss of Contribution Margin = ₹ 7,83,000 – ₹ 6,09,000 = ₹ 1,74,000

(b) (a) Calculation of Base Chemicals Input During the Month:

Quantities Entering Process	Litres	Quantities Leaving Process	Litres
Opening WIP	1,200	Transfer to Finished Goods	5,000
Base Chemicals Input (Bal. Fig.)	5,550	Process Losses	1,500
		Closing WIP	250
Total Input	6,750	Total Output	6,750

(b) Calculation of Normal Loss and Abnormal Loss/Gain

- **Normal Loss** = 6% of Total Input
- = 6% of 6,750 = 405 litres
- **Actual Loss** = 1,500 litres
- **Abnormal Loss** = 1,500 – 405 = 1,095 litres (Abnormal Loss)

(c) **Calculation of Values of Base Chemicals, Labour, and Overheads Added**

Cost Element	Rate per Litre (₹)	Equivalent Units (Ltr)	Total Cost (₹)
Base Chemicals	21	5,145	1,08,045
Mixing Labour	6	5,570	33,420
Utilities Overheads	8	5,665	45,320
Subtotal			1,86,785
Add: Scrap value of Normal Loss (405 x 12)			4,860
Total Cost Added to Process			1,91,645

Workings: Statement of Equivalent Units (Litres)

Input Details	Units	Output details	Units	Equivalent Production					
				Material		Labour		Overheads	
				Units	(%)	Units	(%)	Units	(%)
Opening WIP	1,200	Units completed:							
Units introduced	5,550	- Opening WIP	1,200	--	--	600	50	720	60
		- Fresh inputs	3,800	3,800	100	3,800	100	3,800	100
		Normal loss	405	--	--	--	--	--	--
		Abnormal loss	1,095	1,095	100	1,095	100	1,095	100
		Closing WIP	250	250	100	75	30	50	20
	6,750		6,750	5,145		5,570		5,665	

(d) **Working Note:**

Particulars	Equivalent Units (EU)	Cost per EU (₹)	Amount (₹)	Amount (₹)
(i) Opening W-I-P completed during the period				
Labour	600	6	3,600	
Overheads	720	8	5,760	9,360
Add: Cost of W-I-P at beginning	--	--	--	36,000

Complete cost of 1,200 litres of opening W-I-P	1,200			45,360
(ii) Cost of units introduced and completely processed units	3,800	35	1,33,000	1,33,000
Cost of 5,000 completed units (i) + (ii)	5,000			1,78,360
(iii) Abnormal Loss	1095	35	38,325	38,325
(iv) Closing W-I-P				
Material	250	21	5,250	
Labour	75	6	450	
Overheads	50	8	400	6,100

Calculate of Cost of material added:

Base chemical: 1,08,045

Add: Realisable value of Scrap: 4,200

Cost of material added 1,12,905

Process Account for the Month

Particulars	Litres	Amount (₹)	Particulars	Litres	Amount (₹)
To Opening WIP	1,200	36,000	By Finished Goods (Output)	5,000	1,78,360
To Base Chemicals	5,550	1,12,905	By Normal Loss (405 x 12)	405	4,860
To Mixing Labour	—	33,420	By Abnormal Loss (1,095 x 35)	1,095	38,325
To Utilities Overheads	—	45,320	By Closing WIP	250	6,100
Total	6,750	2,27,645	Total	6,750	2,27,645

5. (a) (i) Absorption Costing System

Operating Income -

Particulars	Lemon	Grapes	Papaya	Total
Revenue	79,350	2,10,060	1,20,990	4,10,400
Less: Cost of Goods Sold	60,000	1,50,000	90,000	3,00,000
Less: Store Support Cost (2:5:3)	18,000	45,000	27,000	90,000

Operating Income	1,350	15,060	3,990	20,400
Operating Income (%)	1.70	7.17	3.30	4.97

(ii) **ABC System**

Overhead Allocation Rate -

Activity	Total Costs (₹)	Quantity of Cost Allocation Base	Overhead Allocation Rate (₹)
Ordering	15,600	156 Purchase Orders	100.00
Delivery	25,200	315 Delivering Orders	80.00
Shelf Stocking	17,280	864 Self Stocking Hours	20.00
Customer Support	30,720	1,53,600 Items Sold	0.20

Store Support Cost -

Particulars	Cost Driver	Lemon	Grapes	Papaya	Total
Bottle Returns	Direct	1,200	0	0	1,200
Ordering	Purchase Orders	3,600	8,400	3,600	15,600
Delivery	Deliveries	2,400	17,520	5,280	25,200
Self -Stocking	Hours of time	1,080	10,800	5,400	17,280
Customer Support	Items Sold	2,520	22,080	6,120	30,720
Grand Total		10,800	58,800	20,400	90,000

Operating Income -

Particulars	Lemon	Grapes	Papaya	Total
Revenue	79,350	2,10,060	1,20,990	410,400
Less: Cost of Goods Sold	60,000	1,50,000	90,000	300,000
Less: Store Support Cost	10,800	58,800	20,400	90,000
Operating Income	8,550	1,260	10,590	20,400
Operating Income (%)	10.78	0.60	8.75	4.97

- (b) Zero-based Budgeting (ZBB) is defined as a method of budgeting which requires each cost element to be specifically justified, though the activities to which the budget relates are not being undertaken for the first time. The cost of each activity has to be justified and without justification, the budget allowance is zero.

ZBB involves the following stages:

- (i) Identification and description of Decision packages
- (ii) Evaluation of Decision packages
- (iii) Ranking (Prioritisation) of the Decision packages
- (iv) Allocation of resources

6. (a)

Sr. No.	Particulars	Type of Responsibility Centre
(i)	Decentralised branches of an organisation	Profit Centre
(ii)	Public sector undertaking of Central Government	Investment Centre
(iii)	Customer support department of an e-commerce company	Cost Centre
(iv)	Restaurant unit in a hotel	Profit Centre
(v)	Reservation department of airlines	Revenue Centre

(b) (i) Two types of costs which are associated with employee turnover are:

(a) **Preventive Costs:** The cost incurred to prevent employee turnover or keep it as lowest as possible. Cost incurred for prevention of employee turnover includes the following:

- (i) Cost of medical benefit provided to the employees;
- (ii) Cost incurred on employees' welfare like pension etc.
- (iii) Cost on other benefits with an objective to retain employees.

(b) **Replacement Costs:** These are the costs which arise due to employee turnover. If employees leave soon after they acquire the necessary training and experience of good work, additional costs will have to be incurred on new workers, *i.e.*, cost of recruitment, training and induction, abnormal breakage and scrap and extra wages and overheads due to the inefficiency of new workers.

(ii) **The important factors which must be taken into consideration for increasing employee productivity are as follows:**

1. Employing only those workers who possess the right type of skill.
2. Placing a right type of person to a right job.

3. Taking appropriate measures to avoid the situation of excess or shortage of employees.
 4. Carrying out work study for fixation of wages and for the simplification and standardisation of work.
- (c) (i) **Explanation of the impact of batch size on setup and holding costs:** If the size is higher, the set up cost may decline due to lesser number of set ups required; but units in inventory will go up leading to higher holding costs. If the lot size is lower, lower inventory holding costs are accomplished but only with higher set up costs.
- (ii) **Determination and importance of EBQ:** Economic batch quantity is the size of a batch where total cost of set-up and holding costs are at minimum. This relationship is such that with the higher batch size, holding cost shows a tendency to increase whereas set-up costs show a declining trend. The point where both the cost lines intersect each other represents the lowest cost combination. The economic batch size or Economic Batch Quantity may be determined by calculating the total cost for a series of possible batch sizes and checking which batch size gives the minimum cost. Alternatively, a formula can be derived which is similar to determination of Economic Order Quantity (EOQ). The objective here being to determine the production lot (batch size) that optimizes on both set up and inventory holding costs.

OR

- (c) Cost-Volume-Profit (CVP) analysis is a managerial tool showing the relationship between various ingredients of profit planning viz., cost, selling price and volume of activity. As the name suggests, cost volume profit (CVP) analysis is the analysis of three variables, cost, volume and profit. Such an analysis explores the relationship between costs, revenue, activity levels and the resulting profit. It aims at measuring variations in cost and volume.

An understanding of CVP analysis is extremely useful to management in budgeting and profit planning.

It elucidates the impact of the following on the net profit:

- (i) Changes in selling prices,
- (ii) Changes in volume of sales,
- (iii) Changes in variable cost,
- (iv) Changes in fixed cost.