

Mock Test Paper - Series II: April, 2026

Date of Paper: 8th April, 2026

Time of Paper: 10 A.M. – 1 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.

Case Scenario 1

In a factory, both direct and indirect employees are entitled to production bonus in accordance with a group incentive scheme, the outline of which is as follows:

- (a) For any production in excess of the standard production which is fixed at 22,400 tonnes per month (of 28 days), a general incentive of ₹ 2,000 per tonne is to be paid in aggregate. The amount payable to each separate group of employees is determined based on an assumed percentage of such excess production being contributed by them which is as follows:

Employee Group	% Contribution in excess production over standard
Direct Employee	60%
Inspection Staff	20%
Maintenance Staff	15%
Supervisory Staff	5%

- (b) Moreover, if the excess production (without considering rejections) is more than 15% above the standard, the direct employees also get a special bonus @ ₹ 400 per tonne for all production in excess of 115% of standard production.
- (c) Inspection staff are penalised @ ₹ 2,500 per tonne for rejection by customers in excess of 3% of production.
- (d) Maintenance staffs are also penalised @ ₹ 2,500 per hour for machine breakdown.
- (e) Actual working days are 25 days in a month.
- (f) Actual production achieved during the month is 27,000 tonnes, of which the customers have rejected 1,000 tonnes.
- (g) Machine breakdown (in 25 days) : 75 hours

On the basis of above Case Scenario, you are required to answer the following MCQs 1 to 5:

1. What is the percentage of excess production to standard production?
 - (A) 20%
 - (B) 15%
 - (C) 35%
 - (D) 45%
2. What will be the general incentive to Direct Employees, Inspection Staff, Maintenance Staff & Supervisory Staff?
 - (A) ₹ 55,20,000, ₹ 18,40,000, ₹ 13,80,000 & ₹ 4,60,000 respectively.
 - (B) ₹ 84,00,000, ₹ 28,00,000, ₹ 21,00,000 & ₹ 7,00,000 respectively.
 - (C) ₹ 55,20,000, ₹ 18,40,000, ₹ 21,00,000 & ₹ 7,00,000 respectively.
 - (D) ₹ 84,00,000, ₹ 28,00,000, ₹ 13,80,000 & ₹ 4,60,000 respectively.
3. What will be the special bonus to Direct Employees?
 - (A) ₹ 28,00,000
 - (B) ₹ 12,00,000
 - (C) ₹ 16,00,000
 - (D) ₹ 15,00,000

4. What will be the amount of penalty that is to be imposed on the Inspection Staff and the Maintenance Staff?
- (A) ₹ 4,75,000 & ₹ 1,87,500 respectively
 (B) ₹ 1,87,500 & ₹ 4,75,000 respectively
 (C) ₹ 7,45,000 & ₹ 1,87,500 respectively
 (D) ₹ 4,75,000 & ₹ 1,78,500 respectively
5. What will be the aggregate production bonus (net of penalty) earned by Direct Employees, Inspection Staff, Maintenance Staff & Supervisory Staff?
- (A) ₹ 1,40,00,000
 (B) ₹ 1,33,37,500
 (C) ₹ 1,24,00,000
 (D) ₹ 1,49,37,500
- (5 x 2 = 10 Marks)**

Case Scenario 2

A company, ABC Professional Services Ltd., is organizing a one-day corporate training workshop as part of its annual employee development program. The objective is to improve managerial efficiency, team coordination, and leadership skills of its employees.

The workshop will be conducted at a premium venue, and may include interactive sessions, guest lectures, and team-building activities.

Due to uncertainty in the number of participants, management wants to evaluate costs at different activity levels using a flexible budgeting approach.

The company plans to conduct the workshop for different numbers of participants. Each training batch can accommodate a maximum of 50 participants. Two trainers will be engaged for each batch.

The company will pay an honorarium of ₹1,000 per trainer. It will also hire the required number of venue and equipment setup.

The following are the other cost estimates:

Particulars	Cost per participant (₹)
Breakfast	80
Lunch	200
Evening Snacks	70
Training Material Kit	150

Other Costs

Particulars	Amount
Hall rent	₹8,000 per batch
Equipment charges	₹2,000 per batch
Guest speaker fees	₹10,000
Event coordination charges	₹5,000

Other information

- No costs are incurred in respect of trainers except the honorarium of ₹ 1,000 per trainer.
- If the number of participants exceeds 100, an additional lump-sum supervision cost of ₹ 3,000 will be incurred.
- A discount of 10% on hall rent will be available more than 3 batches are hired.

Management asked you to prepare a flexible budget and answer the following questions (MCQs 6 to 10):

6. What is the total cost and average cost per participant if there is 40 participants?
(A) Total Cost ₹ 47,000; Avg ₹ 1,175
(B) Total Cost ₹ 35,000; Avg ₹ 875
(C) Total Cost ₹ 37,000; Avg ₹ 925
(D) Total Cost ₹ 40,000; Avg ₹ 1,000
7. What is the total cost and average cost per participant if there is 80 participants?
(A) Total Cost ₹ 69,000; Avg ₹ 862.5
(B) Total Cost ₹ 65,000; Avg ₹ 812.5
(C) Total Cost ₹ 75,000; Avg ₹ 937.5
(D) Total Cost ₹ 79,000; Avg ₹ 987.5
8. What is the total cost and average cost per participant if there is 120 participants?
(A) Total Cost ₹ 1,14,000; Avg ₹ 950
(B) Total Cost ₹ 1,05,000; Avg ₹ 875
(C) Total Cost ₹ 1,08,000; Avg ₹ 900
(D) Total Cost ₹ 1,00,000; Avg ₹ 833

9. What is the total cost and average cost per participant if there is 180 participants?
- (A) Total Cost ₹ 1,45,000; Avg ₹ 805.5
 - (B) Total Cost ₹ 1,50,000; Avg ₹ 833.3
 - (C) Total Cost ₹ 1,52,800; Avg ₹ 848.9
 - (D) Total Cost ₹ 1,38,000; Avg ₹ 766.7
10. What will be your conclusions regarding the break-even level of participants, if the company proposes to charge ₹850 per participant?
- (A) 90 participants
 - (B) 180 participants
 - (C) 110 participants
 - (D) 125 participants
- (5 x 2 = 10 Marks)**

11. A manufacturer of industrial fasteners produces high-strength bolts. Last year, they sold 35,000 bolts at a price of ₹ 50 each. Their total fixed cost was ₹ 7,50,000 (including ₹ 2,50,000 depreciation on machinery) incurred uniformly throughout the year. There was no inventory at the beginning and all bolts produced during the year were shipped out, resulting in no inventory at the end of the year. The company's cash break-even point is 20,000 bolts.

Calculate the amount of total variable costs incurred.

- (A) ₹ 8,57,000
 - (B) ₹ 8,75,000
 - (C) ₹ 4,37,500
 - (D) ₹ 4,73,500
- (2 Marks)**

12. In a workshop, there is a standard requirement of 30 labour hours for producing a wooden toy. The standard wage rate is set at ₹ 20 per hour. In January 2025, the workshop successfully produced 1,000 wooden toys. The payroll records show that 22,800 labour hours were paid including 500 idle hours caused by a temporary power outage. The labour rate variance for the month was ₹ 15,960 (Favourable).

Calculate total actual labour cost incurred in the month of January 2025.

- (A) ₹ 4,40,040
 - (B) ₹ 4,40,140
 - (C) ₹ 4,40,240
 - (D) ₹ 4,30,040
- (2 Marks)**

13. Product Y yields two by-products A and B. The joint cost of manufacture is ₹ 2,00,000. Sales of A and B are ₹ 80,000 and ₹ 50,000 respectively. Manufacturing expenses after separation of A and B are ₹ 10,000 and ₹ 8,000 respectively while their respective estimated selling expenses on sales is 20% for both products. The estimated profit on sales of A and B is 25% and 30% respectively. What is the cost of product Y after adjusting joint cost apportioned to by-products A and B?
- (A) ₹ 1,50,000
 (B) ₹ 1,49,000
 (C) ₹ 1,82,000
 (D) ₹ 1,20,000 **(2 Marks)**
14. A company manufactures a product with a monthly demand of 2,000 units. Each unit costs ₹ 50 to produce, and the setup cost per batch is ₹ 3,000. The company incurs a storage cost of ₹ 2 per unit per month and applies an annual interest rate of 18% on capital tied up in inventory. The finished goods are stored for an average of 2 months before being sold.
- Considering both storage cost and opportunity cost based on the average inventory holding period, what is the Economic Batch Quantity (EBQ)?
- (A) 2,376 units
 (B) 1,095 units
 (C) 1,200 units
 (D) 1,400 units **(2 Marks)**
15. XYZ Ltd. manufactures a single product 'Z'. The company by using traditional costing method absorbs all production overheads based on machine hours. The machine hour rate of overheads is ₹ 50 per hour. Actual production overhead incurred were ₹ 12,00,000 (including ₹ 1,30,000 on account of written off obsolete stores and ₹ 75,000 wages being paid for the strike period). Actual machine hours worked during the year were 18,500 hours.
- Calculate the amount of under-absorption of production overheads during the year.
- (A) ₹ 70,000
 (B) ₹ 2,75,000
 (C) ₹ 1,45,000
 (D) ₹ 2,00,000 **(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) Alpha Tech Industries Pvt. Ltd. is a mid-sized company that manufactures electronic components for solar inverters. In the financial year 2024, the company produced 10,000 units of its flagship controller unit. Due to rising demand for renewable energy products, the company is planning to scale operations in 2025.

Below are the actual production costs for the year 2024:

Particulars	Amount (₹)
Direct Material Consumed	15,00,000
Direct Labour (Wages)	9,00,000
Factory Overheads:	
- Fixed Overheads (Depreciation, Salaries, etc.)	4,50,000
- Variable Overheads (Utilities, Consumables)	3,00,000
Total Production Cost (2024)	31,50,000

Due to a long-term supply contract and growing market demand, the company is planning the following changes in 2025:

1. Target production will rise due to the addition of a second shift and hiring of 50% more factory workers.
2. Due to the higher number of new hires and training time, the overall efficiency is expected to drop by 15%.
3. Cost Adjustments:
 - The company signed a new bulk procurement deal, reducing direct material costs by 8%.
 - Due to inflation and increased scale, variable overheads are expected to increase by 70%.
 - Fixed overheads (including salaries, rent, etc.) will rise by 10% due to new administrative hires and expansion.
4. Alpha Tech wants to maintain a 12.5% profit margin on selling price in 2025 to remain competitive and cover expansion-related risks.

ASCERTAIN the cost of production and selling price.

(5 Marks)

- (b) The following details are available of Process X for August 2025:

(1)	Opening work-in-progress	8,000 units
	Degree of completion and cost:	
	Material (100%)	₹ 63,900
	Labour (60%)	₹ 10,800
	Overheads (60%)	₹ 5,400
(2)	Input 1,82,000 units at	₹ 7,56,900
(3)	Labour paid	₹ 3,28,000
(4)	Over heads incurred	₹ 1,64,000
(5)	Units scrapped	14,000
	Degree of completion:	
	Material	100%
	Labour and overhead	80%
(6)	Closing work-in-process	18000 units
	Degree of completion:	
	Material	100%
	Labour and overhead	70%
(7)	1,58,000 units were completed and transferred to next process.	
(8)	Normal loss is 8% of total input including opening work-in-process	
(9)	Scrap value is ₹ 8 per unit to be adjusted in direct material cost	

You are required to COMPUTE, assuming that average method of inventory is used:

- (i) Equivalent production, and
(ii) Cost per unit **(5 Marks)**
- (c) Fruit Ltd. produces "Mango Burst", a popular beverage. It is reviewing their material costs for the month of March, 2025.

Following data is available :

- (i) Standard cost: Each bottle of "Mango Burst" should use 0.5 kg. of mangoes, costing ₹ 30 per kg.

- (ii) Actual production: 50,000 bottles of “Mango Burst”.
- (iii) Actual material usage: 26,000 kgs of mangoes.
- (iv) Actual material cost: The total cost of the mangoes used was ₹ 7,67,000.

You are required to CALCULATE:

- (i) Material Price Variance
- (ii) Material Usage Variance
- (iii) Material Cost Variance **(4 Marks)**

2. (a) GreenLeaf Furniture Ltd., a small but rapidly growing manufacturer of bespoke wooden furniture, has prepared its operating budget for the forthcoming year (figures in ₹000s). The company supplies premium handcrafted items to interior designers, boutique resorts, and high-end retail outlets. Due to rising demand for sustainable and custom-made furniture, GreenLeaf has recently expanded its workshop capacity, although it still operates close to full utilisation during peak months. The annual budget reflects management's efforts to control costs while maintaining craftsmanship standards, and it serves as the basis for setting selling prices, estimating profitability, and negotiating large contracts for the year.

Particulars	Amount (₹000)
Budgeted Sales revenue	2,000
Direct materials	360
Direct labour	640
Factory overheads — Variable	220
Factory overheads — Fixed	260
Administration overheads — Fixed	180
Sales commission (variable)	100
Fixed selling overheads	40
Budgeted Profit	200

Company pricing policy: all production and selling overheads other than prime costs (i.e., everything except direct materials and direct labour) are recovered as a percentage of direct wages. After total cost is computed, the company adds a markup equal to one-ninth (1/9) of total cost to arrive at the selling price (this markup is intended to give the budgeted profit).

Situation: A boutique lakeside hotel approaches GreenLeaf directly to place a one-off order for a set of custom dining tables. Because the client is buying directly

(no dealer commission) and the order will be produced in addition to the budgeted output, GreenLeaf estimates the extra prime costs for the special order as follows:

- Direct materials: ₹ 45,000
- Direct labour: ₹ 75,000

Using its standard pricing policy, GreenLeaf prepared a quotation of ₹ 2,37,500 for the special order. The hotel, however, says it can only pay ₹ 1,80,000 and asks whether GreenLeaf will accept that price.

Management is reluctant to accept any order below the company's calculated total cost because they believe this will cause a loss.

Required:

1. STATE and EXPLAIN the arguments for and against accepting the hotel's offer of ₹ 180,000 for the special order. Consider:
 2. Provide a clear RECOMMENDATION to the management (accept / reject / accept with conditions). **(7 Marks)**
- (b) *Skyline Travels Pvt. Ltd.*, a New Delhi-based cab rental company, offers transportation services to tourists across major destinations including Delhi, Lucknow, and Ayodhya. With the objective of enhancing its customer base and attracting more tourists, the company has recently introduced an exclusive four-day tour package covering the route Delhi-Lucknow-Ayodhya-Delhi. This package is designed to provide a seamless and comfortable travel experience, combining convenience with cost-effectiveness. The management has compiled relevant operational and cost-related information pertaining to this package to evaluate its feasibility, pricing strategy, and profitability.

Distance Delhi to Lucknow (Km.)	555
Distance between Lucknow to Ayodhya (Km.)	135
Distance between Ayodhya to Delhi (Km.)	690
Price of diesel in Delhi	₹ 89 per litre
Price of diesel in Lucknow	₹ 92 per litre
Price of diesel in Ayodhya	₹ 93 per litre
Mileage of cab per litre of diesel (Km.)	18
Chauffeur's salary	₹ 18,000 per month
Cost of the cab	₹ 14,50,000

Expected life of the cab	3,00,000 kms.
Servicing cost	₹ 45,000 after every 40,000 kilometres run.
Chauffeur's meal allowance	₹ 120 for every 200 kilometres of completed journey
Other set up and office cost	₹ 6,000 per month.

Skyline Travels Pvt. Ltd. has entered tie-ups with fuel service centres at Delhi, Lucknow, and Ayodhya to facilitate diesel refilling for its cabs through a fuel passbook system. As per company policy, fuel is filled only to the extent required to reach the next destination.

You are required to COMPUTE the package price (inclusive of GST @ 5%) to be quoted for the four-day Delhi-Lucknow-Ayodhya-Delhi tour, assuming that the company desires to earn a profit of 25% on its net takings (i.e., excluding GST). Take 30 days in a month. **(7 Marks)**

3. (a) ZED Limited is working by employing 50 skilled workers, it is considering the introduction of incentive scheme-either Halsey scheme (with 50% bonus) or Rowan scheme of wage payment for increasing the labour productivity to cope up the increasing demand for the product by 40%. It is believed that proposed incentive scheme could bring about an average 20% increase over the present earnings of the workers; it could act as sufficient incentive for them to produce more.

Because of assurance, the increase in productivity has been observed as revealed by the figures for the month of April, 2025.

Hourly rate of wages (guaranteed)	₹ 30
Average time for producing one unit by one worker at the previous performance (This may be taken as time allowed)	1.975 hours
Number of working days in the month	24
Number of working hours per day of each worker	8
Actual production during the month	6,120 units

Required:

- (i) CALCULATE the effective rate of earnings under the Halsey scheme and the Rowan scheme.

- (ii) CALCULATE the savings to the ZED Limited in terms of direct labour cost per piece.
- (iii) ADVISE ZED Limited about the selection of the scheme to fulfill their assurance. **(6 Marks)**

- (b) Stellar Equipments Pvt. Ltd. manufactures advanced renewable-energy control modules used in solar and wind-power systems. During the financial year ending 31st March 2025, the company upgraded its testing laboratory, strengthened quality assurance, and revised its overhead absorption methods. The following financial data has been extracted from the company's financial books:

Opening Stock

- Finished Goods: 1,050 units — ₹ 1,31,250
- Work-in-Process — ₹ 46,500

Expenses for the Year (01.04.2024 to 31.03.2025)

Particulars	Amount (₹)
Raw Materials Consumed	9,60,000
Direct Labour	6,10,000
Factory Overheads	3,45,000
Goodwill Written Off	1,20,000
Administrative Overheads	4,10,000
Interest Paid	96,000
Bad Debts	35,000
Selling & Distribution Overheads	88,000
Loss on Obsolete Inventory	42,000
Interest Received	27,000
Rent Received	96,000

Sales

- Units Sold: 18,700 units
- Total Sales: ₹ 26,18,000

Closing Stock

- Finished Goods: 620 units — ₹ 82,160
- Work-in-Process — ₹ 59,400

The cost records provide as under:

1. Factory overheads are absorbed at 50% of direct wages.
2. Administration overheads are recovered at 18% of factory cost.
3. Selling & Distribution overheads are charged at ₹ 6 per unit sold.
4. Opening Stock of Finished Goods is valued at ₹ 125 per unit under cost accounts.
5. Work-in-Process is valued at factory cost in both financial and cost records.
6. Loss on obsolete inventory is treated as abnormal loss and excluded from cost accounts.

You are required to:

- (i) PREPARE statements for the year ended 31st March 2025 showing:
 - Profit as per Financial Records
 - Profit as per Costing Records
- (ii) PREPARE a Reconciliation Statement between the profit as per Cost Accounts and the profit as per Financial Accounts. **(8 Marks)**

4. (a) ABC Steel Ltd has its own Captive Power Generation Unit, which has two users, Rolling Mill Department and Finishing Department. When the plans were prepared for the power plant, top management decided that its practical capacity should be 2,00,000 machine hours. Annual budgeted practical capacity fixed costs are ₹ 15,00,000 and budgeted variable costs are ₹ 5 per machine-hour. The following data are available:

	Rolling Mill Department	Finishing Department	Total
Actual Usage in 2025-26 (Machine hours)	65,000	45,000	1,10,000
Practical capacity for each department (Machine hours)	1,10,000	90,000	2,00,000

Required

- (i) ALLOCATE the Power Generation Unit cost to the rolling mill and the finishing department using a single rate method in which the budgeted rate is calculated using practical capacity and costs are allocated based on actual usage.

- (ii) ALLOCATE the Power Generation Unit cost to the rolling mill and the finishing department, using the dual -rate method in which fixed costs are allocated based on practical capacity and variable costs are allocated based on actual usage.
- (iii) ALLOCATE the Power Generation Unit cost to the rolling mill and the finishing department using the dual-rate method in which the fixed-cost rate is calculated using practical capacity, but fixed costs are allocated to the cutting and welding department based on actual usage. Variable costs are allocated based on actual usage.
- (iv) COMMENT on your results in requirements (i), (ii) and (iii). **(9 Marks)**
- (b) "Calculation of variances in standard costing is not an end in itself, but a means to an end." DISCUSS. **(5 Marks)**
- 5. (a) M/s Nova Private Limited has a normal production capacity of 48,000 units of toys per annum. The estimated costs of production are as under:
 - (i) Direct Material ₹ 55 per unit
 - (ii) Direct Labour ₹ 32 per unit (subject to a minimum of ₹ 84,000 p.m.)
 - (iii) Factory Overheads:
 - (a) Fixed ₹ 4,80,000 per annum
 - (b) Variable ₹ 14 per unit
 - (c) Semi-variable ₹ 1,50,000 per annum up to 60% capacity and additional ₹ 60,000 for every 20% increase in capacity or proportionately.
 - (iv) Administrative Overheads related to factory ₹ 6,72,000 per annum (fixed)
 - (v) Selling overheads are incurred at ₹ 10 per unit.
 - (vi) Each unit of raw material yields scrap which is sold at the rate of ₹ 7 per unit.
 - (vii) In year 2025, the factory worked at 60% capacity for the first four months but it was expected that it would work at 90% capacity for the remaining eight months.
 - (viii) During the first four months, the selling price per unit was ₹ 180.

You are required to:

- (i) Prepare a cost sheet showing Prime Cost, Works Cost, Cost of Production and Cost of Sales.
 - (ii) Calculate the selling price per unit for remaining eight months to achieve the total annual profit of ₹ 15,60,000. **(8 Marks)**
- (b) XYZ Engg. Ltd. manufactures two types of specialized components Alpha and Beta.

Following data pertains to their operations for the month of October 2024:

Component	Units produced and sold	Direct material cost per unit (₹)	Direct labour cost per unit (₹)
Alpha	8,000	25	18
Beta	12,000	15	12

Activity	Cost Driver	Alpha	Beta	Total Overhead Cost
Material Handling	Purchase Orders	30 Orders	20 Orders	₹ 60,000
Production Set-up	Machine Set-ups	80 Set-ups	100 Set-ups	₹ 1,44,000

You are required to:

- (i) CALCULATE the cost driver rates for each overhead activity.
 - (ii) CALCULATE the total cost and cost per unit of producing and selling each component using Activity-Based Costing (ABC).
 - (iii) Use ABC data calculated above and ANALYSE, whether outsourcing the production set-up for Alpha would be financially advantageous, if a specialized firm has offered to do production set-up at a contract price of ₹ 600 per machine set-up. **(6 Marks)**
6. (a) STATE cost unit of the following Industry Sector:

Industry Sector	Cost Unit
Oil	
Professional services	
Education	

Brick-making	
Education	
Brick-making	
Engineering	
Electricity	
Hotel/Catering	
Coal mining	
Brewing	
Hospitals	

(5 Marks)

- (b) DESCRIBE Unit Costing and Batch Costing. GIVE three examples of industries for each method where these are used. Also, EXPLAIN the costing procedure in batch costing. **(5 Marks)**
- (c) DESCRIBE briefly idle time and explain the treatment of idle time in cost accounts in following situations:
- (i) The setting up time for the machine in case of Direct Worker Mr. A.
 - (ii) Normal break time for lunch in case of Indirect Worker Mr. B.
 - (iii) Time lost due to breakdown of machine in case of Worker Mr. C.

(4 Marks)

OR

- (c) DISCUSS Feedback Control and Feedforward Control system of budgetary control. **(4 Marks)**

Mock Test Paper - Series II: April, 2026

Date of Paper: 8th April, 2026

Time of Paper: 10 A.M. – 1 P.M.

INTERMEDIATE: GROUP – II
PAPER – 4: COST AND MANAGEMENT ACCOUNTING
ANSWERS

Part 1

1. (C) 35%

Working Notes

Standard production for 28 days = 22,400 tonnes

Standard production Per day = $22,400 \div 28 = 800$ tonnes

For 25 days:

Standard = $800 \times 25 = 20,000$ tonnes

Actual production = 27,000 tonnes

Excess production = $27,000 - 20,000 = 7,000$ tonnes

% Excess Production = $\frac{7,000}{20,000} \times 100 = 35\%$

2. (B) ₹ 84,00,000, ₹ 28,00,000, ₹ 21,00,000 & ₹ 7,00,000 respectively.

General Incentive

Total incentive = $7,000 \times 2,000 = ₹ 1,40,00,000$

Group	%	Amount (₹)
Direct	60%	84,00,000
Inspection	20%	28,00,000
Maintenance	15%	21,00,000
Supervisory	5%	7,00,000

3. (C) ₹ 16,00,000

Special Bonus (Direct Employees)

115% of standard = $20,000 \times 115\% = 23,000$ tonnes

Eligible production = 27,000 – 23,000 = 4,000 tonnes

Bonus = 4,000 × 400 = ₹ 16,00,000

4. (A) ₹ 4,75,000 & ₹ 1,87,500 respectively

Penalties

Inspection Staff:

Allowed rejection = 3% × 27,000 = 810 tonnes

Excess rejection = 1,000 – 810 = 190 tonnes

Penalty = 190 × 2,500 = ₹ 4,75,000

Maintenance Staff:

Penalty = 75 × 2,500 = ₹ 1,87,500

5. (D) ₹ 1,49,37,500

Net Aggregate Bonus

Total Incentives = General (1,40,00,000) + Special (16,00,000)
= ₹ 1,56,00,000

Total Penalties = 4,75,000 + 1,87,500 = ₹ 6,62,500

Net Bonus = 1,56,00,000 – 6,62,500 = ₹ 1,49,37,500

6. (A) Total Cost ₹ 47,000; Avg ₹ 1,175
7. (D) Total Cost ₹ 79,000; Avg ₹ 987.5
8. (A) Total Cost ₹ 1,14,000; Avg ₹ 950
9. (C) Total Cost ₹ 1,52,800; Avg ₹ 848.9

Flexible Budget

Level of participants	40	80	120	180
Variable Costs (₹)				
Breakfast @ ₹ 80	3,200	6,400	9,600	14,400
Lunch @ ₹ 200	8,000	16,000	24,000	36,000
Evening Snacks @ ₹ 70	2,800	5,600	8,400	12,600
Training Material Kit @ ₹ 150	6,000	12,000	18,000	27,000
Variable cost @ ₹ 500	20,000	40,000	60,000	90,000

Semi-variable costs (₹)				
Hall rent	8,000	16,000	24,000	28,800
Equipment charges	2,000	4,000	6,000	8,000
Trainer honorarium	2,000	4,000	6,000	8,000
	12,000	24,000	36,000	44,800
Fixed costs (₹)				
Guest speaker fees	10,000	10,000	10,000	10,000
Event coordination charges	5,000	5,000	5,000	5,000
Additional supervision cost	–	–	3,000	3,000
	<u>15,000</u>	<u>15,000</u>	<u>18,000</u>	<u>18,000</u>
Total Cost	<u>47,000</u>	<u>79,000</u>	<u>1,14,000</u>	<u>1,52,800</u>
Average Cost per participant (Total Cost/Number of Participants)	1,175	987.5	950	848.89

10. (B) 180 Participants

Calculation of Break-even Level of Participants

Collection per participant = ₹ 850

Variable cost per participant = ₹ 500

Contribution per participant = ₹ 350

Semi-variable & Fixed Costs at Different Levels

Level of participants	50	100	150	200
Semi-variable costs (₹)	12,000	24,000	36,000	44,800
Fixed costs (₹)	15,000	15,000	18,000	18,000
Total Fixed Cost (₹)	27,000	39,000	54,000	62,800
Break- even students [Fixed cost / Contribution per participant]	77	111	154	180

Conclusion: Break-even level of 180 participants is within the relevant capacity of 200 participants. Break-even level of 77, 111, 154 participants is outside the relevant capacity, hence ignored for decision-making.

Note: Semi-variable costs are taken as fixed cost specifically for the purpose of calculating break even participants.

11. (B) ₹ 8,75,000

$$\begin{aligned}\text{Cash Break-even Sales Quantity} &= \frac{\text{Fixed Costs (excluding dep.)}}{\text{Contribution per unit}} \\ 20,000 \text{ units} &= \frac{(\text{₹ } 7,50,000 - \text{₹ } 2,50,000)}{\text{Contribution per unit}} \\ \text{Contribution per unit} &= \text{₹ } 5,00,000 / 20,000 = \text{₹ } 25 \\ \text{Variable Cost per unit} &= \text{Selling Price per unit} - \text{Contribution per unit} \\ &= \text{₹ } 50 - \text{₹ } 25 = \text{₹ } 25 \\ \text{Total Variable cost} &= 25 \times 35,000 = \text{₹ } 8,75,000\end{aligned}$$

12. (A) ₹4,40,040

$$\begin{aligned}\text{Labour Rate Variance} &= \text{₹ } 15,960 \text{ (Favourable)} \\ \text{Labour Rate Variance} &= \text{Actual Hours Paid} \times (\text{Standard Rate} - \text{Actual Rate}) \\ \text{₹ } 15,960 &= 22,800 \text{ hrs} \times (\text{₹ } 20 - \text{Actual Rate}) \\ (15,960/22,800) &= 20 - \text{Actual Rate} \\ 0.70 &= 20 - \text{Actual Rate} \\ \text{Actual Rate} &= \text{₹ } 19.30 \text{ per hour} \\ \text{Actual Wages Paid} &= \text{Actual Hours Paid} \times \text{Actual Rate} \\ &= 22,800 \text{ hrs.} \times \text{₹ } 19.30 \\ &= \text{₹ } 4,40,040\end{aligned}$$

13. (B) ₹ 1,49,000

$$\text{Total Cost} = \text{Sales Revenue} - \text{Profit}$$

For A:

$$\text{Total Cost of A} = 80,000 - 20,000 = 60,000$$

For B:

$$\text{Total Cost of B} = 50,000 - 15,000 = 35,000$$

For A:

$$\begin{aligned}\text{Joint Cost Allocated to A} &= 60,000 - (\text{Manufacturing Expenses} + \text{Selling Expenses}) \\ &= 60,000 - (10,000 + 16,000) = 34,000\end{aligned}$$

For B:

Joint Cost Allocated to B = 35,000 – (Manufacturing Expenses + Selling Expenses)
= 35,000 – (8,000 + 10,000) = 17,000

Cost of Product Y = Total Joint Cost – Joint Cost Allocated to A and B
= 2,00,000 – 51,000 = 1,49,000

14. (A) 2,376 units

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

Where, D = Annual demand for the product = 2,000 × 12 = 24,000 units

S = Setting up cost per batch = ₹ 3,000

C = Carrying cost per unit of production = ₹ 24 (storage) + ₹ 1.50 (interest) = ₹ 25.50

Storage cost per year = ₹ 2 × 12 = ₹ 24 per unit per year

Opportunity cost = 18% of ₹ 50 = ₹ 9 per unit per year

Since the average inventory is held for 2 months, the effective interest cost is:

= 9 × (2/12) = ₹ 1.5 per unit per year

$$EBQ = \sqrt{\frac{2 \times 24,000 \times 3,000}{25.50}} = 2,376 \text{ units}$$

15. (A) ₹ 70,000

Amount of under – absorption of production overheads during the year:

Particulars	Amount (in ₹)
Total production overheads actually incurred during the year	12,00,000
Less: Written off obsolete stores	1,30,000
Less: Wages being paid for the strike period	75,000
Net production overheads actually incurred (A)	9,95,000
Production overhead absorbed by 18,500 machine hours @ ₹ 50 per hour:(B)	9,25,000
Amount of under absorption of production overheads (A-B)	70,000

Part II – Descriptive Question

1. (a) Budgeted Cost Sheet for the Year 2025 – Alpha Tech Industries Pvt. Ltd.

Particulars	Amount (₹)	Amount (₹)
Direct material consumed	15,00,000	
Add: 27.5% due to increased output	<u>4,12,500</u>	
	19,12,500	
Less: 8% for decline in material price	1,53,000	
Total Material Cost		<u>17,59,500</u>
Direct wages (manufacturing)	9,00,000	
Add: 50% increase	<u>4,50,000</u>	
Total Wages		<u>13,50,000</u>
Prime cost		<u>31,09,500</u>
Manufacturing Overhead:		
Fixed Overhead	4,50,000	
Add: 10% increase	<u>45,000</u>	
Total Fixed Overhead		<u>4,95,000</u>
Variable Overhead	3,00,000	
Add: 27.5% due to increased output	<u>82,500</u>	
	<u>3,82,500</u>	
Add: 70% increase as per inflation & scale	2,67,750	
Total Variable Overhead		<u>6,50,250</u>
Total Overhead		<u>11,45,250</u>
Cost of Production		<u>42,54,750</u>
Add: 1/7 of Cost or 12.5% on selling price		<u>6,07,821</u>
Selling Price		48,62,571

Working Note:

- Production will increase by 50%, but efficiency will decline by 15%.
So, $150 - 15\% \text{ of } 150 = 127.5\% \text{ of previous output}$
Increase = 27.5%
- Material cost is increased by 27.5% for volume, then reduced by 8% for lower prices.

3. Labour cost increases by 50% directly due to hiring.
4. Variable overhead first increases by 27.5% due to higher production, then further
5. increases by 70% due to inflation and scale, so:
6. ₹ 3,00,000 x 127.5% = ₹ 3,82,500, then ₹ 3,82,500 x 170% = ₹ 6,50,250
7. Profit is 12.5% of selling price → i.e. 1/7 of cost

(b) (i) **Statement of Equivalent Production**

Particulars	Units	Material		Labour and Overhead	
		(%)	Units	(%)	Units
Production units completed	1,58,000	100	1,58,000	100	1,58,000
Normal Loss: 8% of Input (1,82,000 + 8,000)	15,200	--	--	--	--
Closing WIP	18,000	100	18,000	70	12,600
	1,91,200	--	1,76,000	--	1,70,600
Less: Abnormal Gain	1,200	100	1,200	100	1,200
Total	1,90,000		1,74,800		1,69,400

(ii) **Statement of cost**

Particulars	Materials (₹)	Labour (₹)	Overhead (₹)
Opening WIP	63,900	10,800	5,400
Input of Materials	7,56,900	-	-
Expenses	-	3,28,000	1,64,000
Total	8,20,800	3,38,800	1,69,400
Less: Sale of Scrap (15,200 x ₹ 8)	1,21,600	-	-
Net cost	6,99,200	3,38,800	1,69,400
Equivalent Units	1,74,800	1,69,400	1,69,400
Cost Per Unit	₹ 4.00	₹ 2.00	₹ 1.00

Total cost per unit = ₹ (4+2+1) = ₹ 7.00

(c) (i) **Material Price Variance (MPV):**

MPV = (Std Price – Actual Price) x Actual Quantity

Actual Price per Kg = Actual Cost / Actual Qty

$$= 7,67,000 / 26,000 = ₹ 29.50$$

$$\text{MPV} = (30 - 29.50) \times 26,000 = ₹ 13,000 \text{ (Fav)}$$

(ii) Material Usage Variance (MUV):

Std qty of Mangoes for Actual Output : Actual output x Std Qty per Unit

Std Qty of Mangoes for Actual Output: 50,000 bottles x 0.5 kg/ bottle

= 25, 000 kg

$$\text{MUV} = (\text{Std Qty} - \text{Actual Qty}) \times \text{Std Price}$$

$$\text{MUV} = (25,000 - 26,000) \times 30 = ₹ 30,000 \text{ (Adv)}$$

(iii) Material Cost Variance (MCV):

$$\text{MCV} = \text{MPV} + \text{MUV}$$

$$\text{MCV} = 13,000 + (-30,000) = ₹ 17,000 \text{ (Adv)}$$

2. (a) Analysis of Cost and Profit:

Budgeted Cost Sheet

Particulars	Amount (₹ 000)
Prime Cost	
Direct Material	360
Direct Labour	<u>640</u>
Total Prime Cost	1,000
Overheads	
Variable Factory Overhead	220
Fixed Factory Overhead	260
Administration Overheads	180
Selling Commission	100
Fixed Selling Overheads	<u>40</u>
Total Overheads	800
Total Cost	<u>1,800</u>
Profit	200

$$\text{Rate of Profit on Cost} = 2 / 18 = 1/9$$

$$\text{Overhead Absorption Rate} = 125\% \text{ of Direct Wages } (800 / 640 \times 100)$$

Break up of New Order:

Particulars	Amount (₹)
Direct Materials	45,000
Direct Labour	75,000
Overheads @ 125% of Direct Wages	<u>93,750</u>
Total Cost (as per company policy)	2,13,750
Profit @ 1/9	<u>23,750</u>
Quoted Price	2,37,500

The following points emerge:

- (i) Factory overheads only are to be recovered on the basis of direct wages.
- (ii) The special order is a direct order. Hence commission is not payable.
- (iii) The budgeted sales are achieved. Hence all fixed overheads are recovered. Hence, no fixed overheads will be chargeable to the special order.

Calculation of Factory Variable Overhead Rate

Particulars	Amount (₹ 000)
Total Variable Factory Overheads	220
Direct Wages	640
Variable Factory OH Rate (220 / 640 × 100)	34.375%

Applying this rate the Cost of the Special Order will be as under:

Particulars	Amount (₹)
Direct Materials	45,000
Direct Labour	75,000
Overheads @ 34.375% of Direct Wages	<u>25,781</u>
Total Relevant Cost	1,45,781
Price Offered	<u>1,80,000</u>
Margin	34,219

Since the offer price of 1,80,000 provides a positive contribution of 34,219, which is higher than the budgeted profit margin (1/9), the special order should be accepted.

(b) Calculation of Price of Delhi-Lucknow-Ayodhya-Delhi tour package

Particulars	Amount (₹)	Amount (₹)
Diesel Cost (Working Note-2)		6,999.00
Servicing Cost $\left(\frac{₹ 45,000}{40,000 \text{ kms}} \times 1380 \text{ kms.} \right)$		1,553.00
Chauffeur's meal cost (six 200 km. completed journey × ₹ 120)		720.00
<u>Other Allocable costs:</u>		
Depreciation $\left(\frac{₹ 14,50,000}{3,00,000 \text{ kms}} \times 1380 \text{ kms.} \right)$	6,670.00	
Other set-up and office cost $\left(\frac{₹ 6,000}{30 \text{ days}} \times 4 \text{ days} \right)$	800.00	
Chauffeur's salary $\left(\frac{₹ 18,000}{30 \text{ days}} \times 4 \text{ days} \right)$	<u>2,400.00</u>	<u>9,870.00</u>
Total Cost		19,142.00
Add: Profit (25% of net takings or 1/3 rd of total cost)		<u>6,381.00</u>
Net Takings		25,223.00
Add: GST @5%		<u>1,276.15</u>
Price of the package (inclusive of GST)		<u>26,799.15</u>

Working Notes

(1) Total distance of journey

From	To	Distance (in Km.)
Delhi	Lucknow	555
Lucknow	Ayodhya	135
Ayodhya	Delhi	<u>690</u>
Total Distance		1,380

(2) Cost of Diesel

From	To	Distance (in Km.)	Price of diesel per litre (₹)	Total diesel Cost (₹)
I	II	III	IV	V = (III ÷ 18 km) × IV
Delhi	Lucknow	555	89	2,744
Lucknow	Ayodhya	135	92	690

Ayodhya	Delhi	690	93	<u>3,565</u>
Total cost				6,999

3. (a) **Working notes:**

1. **Computation of time saved (in hours) per month:**

(Standard production time for 6,120 units) – (Actual time taken by the workers)

= (6,120 units × 1.975 hours) – (24 days × 8 hours per day × 50 skilled workers)

= (12,087 hours – 9,600 hours)

= 2,487 hours

2. **Computation of bonus for time saved under Halsey and Rowan schemes:**

Time saved = 2,487 hours

(Refer to working note 1)

Wage rate per hour = ₹ 30

Bonus under Halsey Scheme = $\frac{1}{2} \times 2,487 \text{ hours} \times ₹ 30$

(With 50% bonus) = ₹ 37,305

Bonus under Rowan Scheme = $\frac{\text{Time saved}}{\text{Time allowed}} \times \text{Time taken} \times \text{Rate per hour}$

= $\frac{2,487 \text{ hours}}{12,087 \text{ hours}} \times 9,600 \text{ hours} \times ₹ 30$

= ₹ 59,258.38

(i) **Computation of effective rate of earnings under the Halsey and Rowan scheme:**

Total earnings (under Halsey scheme) (Refer to working note 2)

= Time wages + Bonus

= (24 days × 8 hours + 50 skilled workers × ₹ 30) + ₹ 37,305

= ₹ 2,88,000 + ₹ 37,305 = ₹ 3,25,305

Total earnings (under Rowan scheme) (Refer to working note 2)

$$\begin{aligned} &= \text{Time wages} + \text{Bonus} \\ &= ₹ 2,88,000 + ₹ 59,258.38 \\ &= ₹ 3,47,258.38 \end{aligned}$$

Effective rate of earnings per hour (under Halsey Plan)

$$= \frac{₹ 3,25,305}{9,600 \text{ hours}} = ₹ 33.89$$

Effective rate of earnings per hour (under Rowan Plan)

$$= \frac{₹ 3,47,258.38}{9,600 \text{ hours}} = ₹ 36.17$$

(ii) Savings to the ZED Ltd., in terms of direct labour cost per piece: (₹)

Direct labour cost (per unit) under time wages system 59.25
(1.975 hours per unit × ₹ 30)

Direct labour cost (per unit) under Halsey Plan $\left(\frac{₹ 3,25,305}{6,120 \text{ units}} \right)$ 53.15

Direct labour cost (per unit) under Rowan Plan $\left(\frac{₹ 3,47,258.38}{6,120 \text{ units}} \right)$
56.74

Saving of direct labour cost under:

Halsey Plan (₹ 59.25 – ₹ 53.15) ₹ 6.10

Rowan Plan (₹ 59.25 – ₹ 56.74) ₹ 2.51

(iii) Advise to ZED Ltd.: (about the selection of the scheme to fulfill assurance)

Halsey scheme brings more savings to the management of ZED Ltd., over the present earnings of ₹ 2,88,000 but the other scheme i.e. Rowan scheme fulfils the promise of 20% increase over the present earnings of ₹ 2,88,000 by paying 20.58% in the form of bonus. Hence Rowan Plan may be adopted.

(b) (i) **Statement of Profit as per Financial Records**
(for the year ended March 31, 2025)

Particulars	₹	Particulars	₹
To Opening Stock:		By Sales (18,700 units)	26,18,000
Finished Goods	1,31,250	By Closing Stock:	
Work-in-Process	46,500	Finished Goods	82,160
To Raw Materials Consumed	9,60,000	Work-in-Process	59,400
To Direct Labour	6,10,000	By Rent Received	96,000
To Factory Overheads	3,45,000	By Interest Received	27,000
To Goodwill Written Off	1,20,000		
To Administration Overheads	4,10,000		
To Selling & Distribution OH	88,000		
To Interest Paid	96,000		
To Bad Debts	35,000		
To Loss on Obsolete Inventory	42,000		
To Profit / (Loss)	1,190 (Loss)		
Total	28,82,560	Total	28,82,560

Statement of Profit as per Costing Records
(for the year ended March 31, 2025)

Particulars	₹	₹
Sales Revenue (18,700 units) (A)		26,18,000
Cost of Sales:		
Opening stock: Finished Goods (1,050 × 125)	1,31,250	
Add: Cost of Production of 18,270 units (Working Note 1 & 2)	21,97,278	
Less: Closing Stock: 620 units × cost/unit	74,567	
Production Cost of Goods Sold	22,53,961	
Selling & Distribution Overheads (18,700 × 6)	1,12,200	
Cost of Sales (B)	23,66,161	23,66,161
Profit {(A) – (B)}	2,51,839	

(ii) **Reconciliation Statement**

(Reconciling Profit as per Cost Accounts with Profit as per Financial Accounts)

Particulars	₹	₹
Profit as per Cost Accounts		2,51,839
Add: Over absorption of selling and distribution overhead (1,12,200-88,000)	24,200	
Add: Under valuation of closing stock (82,160 – 74,567)	7,593	
Add: Rent Received	96,000	
Add: Interest Received	27,000	1,54,793
Less: Under absorption of administrative overhead (4,10,000 - 3,35,178)	74,822	
Less: Under absorption of factory overhead (3,45,000 – 3,05,000)	40,000	
Less: Goodwill Written Off	1,20,000	
Less: Interest Paid	96,000	
Less: Bad Debts	35,000	
Less: Loss on obsolete inventory	42,000	(4,07,822)
Profit/(Loss) as per Financial Accounts		(1,190)

Working Notes

1. Number of Units Produced

Particulars	Units
Sales	18,700
Add: Closing Stock	620
Total	19,320
Less: Opening Stock	1,050
Number of units produced	18,270

2. Cost Sheet

Particulars	₹
Raw Materials Consumed	9,60,000
Direct Labour	6,10,000

Prime Cost	15,70,000
Factory Overheads (50% of Direct Wages)	3,05,000
Factory Cost	18,75,000
Add: Opening Work-in-Process	46,500
Less: Closing Work-in-Process	(59,400)
Factory Cost of Goods Produced	18,62,100
Administration Overheads (18% of Factory Cost)	3,35,178
Cost of Production of 18,270 units	21,97,278
Cost per unit	21,97,278/18,270 = ₹ 120.27

4. (a) **Working Notes:**

- Fixed practical capacity cost per machine hour:*
Practical capacity (machine hours) 2,00,000
Practical capacity fixed costs ₹ 15,00,000
Fixed practical capacity cost per machine hour ₹ 7.50
₹ 15,00,000 ÷ 2,00,000 hours)
- Budgeted rate per machine hour (using practical capacity):
= Fixed practical capacity cost per machine hour + Budgeted variable cost per machine hour
= ₹ 7.50 + ₹ 5 = ₹ 12.50

(i) **Statement showing Power Plant's cost allocation to the Cutting & Welding departments by using single rate method on actual usage of machine hours.**

	Rolling Mill Department (₹)	Finishing Department (₹)	Total (₹)
Power plants cost allocation by using actual usage (machine hours) (Refer to Working Note 2)	8,12,500 (65,000 hours × ₹ 12.50)	5,62,500 (45,000 hours × ₹ 12.50)	13,75,000

- (ii) **Statement showing Power Plant's cost allocation to the Cutting & Welding departments by using dual rate method.**

	Rolling Mill Department (₹)	Finishing Department (₹)	Total (₹)
Fixed Cost (Allocated on practical capacity for each department i.e.): (1,10,000 hours : 90,000 hours)	8,25,000 $\left(\frac{₹ 15,00,000 \times 11}{20}\right)$	6,75,000 $\left(\frac{₹ 15,00,000 \times 9}{20}\right)$	15,00,000
Variable cost (Based on actual usage of machine hours)	3,25,000 (65,000 hours × ₹ 5)	2,25,000 (45,000 hours × ₹ 5)	5,50,000
Total cost	11,50,000	9,00,000	20,50,000

- (iii) **Statement showing Power Plant's cost allocation to the Cutting & Welding Departments using dual rate method**

	Rolling Mill Department (₹)	Finishing Department (₹)	Total (₹)
Fixed Cost Allocation of fixed cost on actual usage basis (Refer to Working Note 1)	4,87,500 (65,000 hours × ₹ 7.50)	3,37,500 (45,000 hours × ₹ 7.50)	8,25,000
Variable cost (Based on actual usage)	3,25,000 (65,000 hours × ₹ 5)	2,25,000 (45,000 hours × ₹ 5)	5,50,000
Total cost	8,12,500	5,62,500	13,75,000

- (iv) **Comments:** Under dual rate method, under (iii) and single rate method under (i), the allocation of fixed cost of practical capacity of plant over each department are based on single rate. The major advantage of this approach is that the user departments are allocated fixed capacity costs only for the capacity used. The unused capacity cost ₹ 6,75,000 ₹ 15,00,000 – ₹ 8,25,000) will not be allocated to the user departments. This highlights the cost of unused capacity.

Under (ii) fixed cost of capacity are allocated to operating departments on the basis of practical capacity, so all fixed costs are allocated and there is no unused capacity identified with the power plant.

- (b) The crux of standard costing lies in variance analysis. Standard costing is the technique whereby standard costs are predetermined and subsequently compared with the recorded actual costs. It is a technique of cost ascertainment and cost control. It establishes predetermined estimates of the cost of products and services based on management's standards of efficient operation. It thus lays emphasis on "what the cost should be". These should be costs are when compared with the actual costs. The difference between standard cost and actual cost of actual output is defined as the variance.

The variance in other words is the difference between the actual performance and the standard performance. The calculations of variances are simple. A variance may be favourable or unfavourable. If the actual cost is less than the standard cost, the variance is favourable but if the actual cost is more than the standard cost, the variance will be unfavourable. They are easily expressible and do not provide detailed analysis to enable management of exercise control over them. It is not enough to know the figures of these variances from month to month. We in fact are required to trace their origin and causes of occurrence for taking necessary remedial steps to reduce / eliminate them.

A detailed probe into the variance particularly the controllable variances helps the management to ascertain:

- (i) the amount of variance
- (ii) the factors or causes of their occurrence
- (iii) the responsibility to be laid on executives and departments and
- (iv) corrective actions which should be taken to obviate or reduce the variances.

Mere calculation and analysis of variances is of no use. The success of variance analysis depends upon how quickly and effectively the corrective actions can be taken on the analysed variances. In fact variance gives information. The manager needs to act on the information provided for taking corrective action. Information is the means and action taken on it is the end. In other words, the calculation of variances in standard costing is not an end in itself, but a means to an end.

5. (a) (i) Cost Sheet of M/s Nova Pvt. Ltd. for the year 2025.

Normal Capacity: 48,000 units p.a.

Particulars	4 Months 9,600 Units		8 Months 28,800 units	
	Amount (₹)	Cost per unit (₹)	Amount (₹)	Cost per unit (₹)
Direct material	5,28,000		15,84,000	
Less: Scrap	(67,200)		(2,01,600)	
Materials consumed	4,60,800	48	13,82,400	48
Direct Wages	3,36,000	35	9,21,600	32
Prime Cost	7,96,800	83	23,04,000	80
Factory overheads:				
- Fixed	1,60,000	16.67	3,20,000	11.11
- Variable	1,34,400	14.00	4,03,200	14.00
- Semi variable	50,000	5.21	1,90,000	6.60
Works Cost	11,41,200	118.875	32,17,200	111.71
Add: Administrative overheads	2,24,000	23.33	4,48,000	15.56
Cost of Production	13,65,200	142.21	36,65,200	127.26
Selling Overheads	96,000	10.00	2,88,000	10.00
Cost of Sales	14,61,200	152.21	39,53,200	137.26

Working Notes:

1. Calculation of Costs

Particulars	9,600 units	28,800 units
	Amount (₹)	Amount (₹)
Material	5,28,000 (₹ 55 × 9,600 units)	15,84,000 (₹ 55 × 28,800 units)
Wages	3,36,000 (Max. of ₹ 32 × 9,600 units = ₹ 3,07,200 and ₹ 84,000 × 4 months = ₹ 3,36,000)	9,21,600 (28,800 Units × 32)
Variable Cost	1,34,400 (₹ 14 × 9,600 units)	4,03,200 (₹ 14 × 28,800 units)

Semi-variable Cost	50,000 $\left(\frac{₹ 1,50,000}{12 \text{ Months}} \times 4 \text{ Months}\right)$	$1,00,000 \left(\frac{₹ 1,50,000}{12 \text{ Months}} \times 8 \text{ Months}\right)$ + 60,000 (for 20 % increase) + 30,000 (for 10% increase)
Selling Overhead	96,000 (₹ 10 × 9,600 units)	2,88,000 (₹ 10 × 28,800 units)

Notes: Alternatively scrap of raw material can also be reduced from Work cost.

(ii) **Calculation of Selling price for eight months period**

Particulars	Amount (₹)
Total Cost of sales ₹ (14,61,200+39,53,200)	54,14,400
Add: Desired profit	15,60,000
Total sales value	69,74,400
Less: Sales value realised in first four months ₹ 180 × 9,600 units)	(17,28,000)
Sales Value to be realised in next eight months	52,46,400
No. of units to be sold in next eight months	28,800
Selling price per unit (₹ 52,46,400 ÷ 28,800 units)	182.17

(b) (i) **Cost Driver Rates for Each Overhead Activity:**

Activity	Overhead Cost (A)	Cost Driver Level (B)	Cost Driver Rate (in ₹) (A)/(B)
Material Handling	60,000	30 + 20 = 50	1,200 per purchase order
Production Setup	1,44,000	80 + 100 = 180	800 per machine setup

(ii) **Allocation of Overheads Using ABC:**

Component	Material Handling (in ₹) (A)	Production Setup (in ₹) (B)	Total overhead Cost (in ₹) (A) + (B)
Alpha	30 x 1,200 = 36,000	80 x 800 = 64,000	1,00,000
Beta	20 x 1,200 = 24,000	100 x 800 = 80,000	1,04,000

Computation of Total Cost and Cost per Unit using ABC:

Component	Direct Material Cost (₹)	Direct Labour Cost (₹)	Total Overhead Cost (₹)	Total Cost (₹)	Cost per Unit (₹)
Alpha	8,000 × 25 = 2,00,000	8,000 × 18 = 1,44,000	1,00,000	4,44,000	4,44,000 / 8,000 = 55.50
Beta	12,000 × 15 = 1,80,000	12,000 × 12 = 1,44,000	1,04,000	4,28,000	4,28,000 / 12,000 = 35.67

(iii) Outsourcing Analysis for Production Setup (Alpha):

Current production setup cost for Alpha = ₹ 64,000

New Outsourcing Cost = ₹ 600 × 80 setups = ₹ 48,000

Cost Savings = ₹ 64,000 - ₹ 48,000 = ₹ 16,000 or (₹ 800 – ₹ 600) × 80 setups

Outsourcing the Production Setup for Alpha would be financially advantageous for the company as it reduces costs by ₹ 16,000.

6. (a)

Service industry	Cost Unit
Oil	Cost per barrel, Cost per gallon/litre
Professional Services	Per service/project, per hour
Education	Per course, per student, per batch, per lecture etc.
Brick-making	Per brick, per thousand bricks
Engineering	Per project, per hour, per job, per contract
Electricity	per kilowatt-hour (kWh)
Hotel/Catering	Guest Days or Room Days, Per item, per meal etc.
Coal Mining	Per ton, per quintal
Brewing	per gallon/litre, per barrel
Hospital	Patient per day, room per day or per bed, per operation etc.

- (b) Unit costing is that method of costing where the output produced is identical and each unit of output requires identical cost. Under this method costs, are collected and analysed element wise and then total cost per unit is ascertained by dividing the total cost with the number of units produced.

Such a method of costing is used in the industries like paper, cement, steel works, mining, breweries etc.

Batch Costing: Batch Costing is a type of specific order costing where articles are manufactured in predetermined lots, known as batch. Cost per unit in a batch is ascertained by dividing the total cost of a batch by the number of units produced in that batch.

Such a method of costing is used in the case of pharmaceutical or drug industries, readymade garment industries, industries, manufacturing electronic parts of T.V. radio sets etc.

Costing Procedure in Batch Costing: To facilitate convenient cost determination, one number is allotted for each batch. Material cost for the batch is arrived at on the basis of material requisitions for the batch and labour cost is arrived at by multiplying the time spent on the batch by direct workers as ascertained from time cards or job tickets. Overheads are absorbed on some suitable basis like machine hours, direct labour hours etc.

- (c) The time during which no production is carried-out because the worker remains idle but are paid. In other words, it is the difference between the time paid and the time booked. Idle time can be normal or abnormal.

Situation	Idle Time	Treatment
The setting up time for the machine in case of Direct Worker Mr. A	Normal idle time	It is treated as a part of cost of production. It is to be considered while setting of standard hours or standard rate.
Normal rest time, break time for lunch in case of Indirect Worker Mr. B	Normal idle time	It is to be considered for the computation of overhead rate.
Time lost due to break-down of machines in case of Worker Mr. C	Abnormal idle time	It is to be shown as a separate item in the Costing Profit and Loss Account.

OR

- (c) There are two types of budgetary control system based on timing of action:

Feedback Control: The feedback system of budgetary control, the actual results for the budgeted period are collected and compared with the budgeted figures. The exercise of variance identification is done after the completion of the budget

period. The variances are reported and based on the report corrective actions are taken, responsibility is fixed and based on experience, modification in future targets is implemented. As the name suggests, it is an Ex-post Corrective control system of budget.

This system of budgetary control is common in organisations where Management Information System (MIS) is not so robust and where data is obtained only after the finalisation of books of account. Though this type of control system is less expensive to maintain but has limitations.

Feedforward Control: This is the opposite of feedback control system of budgetary control. It is Ex-Ante Preventive control mechanism of budgetary control. The budgets are set at the inception of the budgeted period and the actual results are continuously monitored and compared. The targets are kept realistic as far as possible and the targets are reviewed and reset if necessary.

This budgetary control system requires a robust MIS supported by integrated ERP system enabling an entity to get data as and when desired basis. This system is very expensive and beneficial for the organisations where the business environment is dynamic and information has important role in getting edge in competition and today's data warfare.