



SCM & DM
BULLET MCQs WITH SOLUTIONS FOR
DEC25



PREFACE

Dear Students,

Welcome to the BCCA - SCM & DM Bullet MCQs with Solutions. This material has been carefully prepared to help you practice and revise the key concepts of Strategic Cost Management and Decision Making, with a special focus on ICAI examination standards.

The questions in this booklet have been selected from:

- ICAI MCQ Booklet Questions:
- J23, D23, J24, D24, J25 (with Suggested Answers)
- MQP Questions: J23, D23, J24, D24, J25

Each question is accompanied by a detailed solution and explanation (IF POSSIBLE), making it easier for you to understand not just the answer but also the reasoning behind it. The aim of this material is to:

1. Strengthen your conceptual understanding.
2. Improve accuracy and speed in attempting MCQs.
3. Prepare you effectively for ICAI examinations.

I hope this booklet becomes a useful companion in your preparation and helps you achieve success in your exams.

All the best!

— Your STRATEGIC MASTER

CH - 1

1. Which of the following important pillars of Strategic Cost Management determines the company's comparative position in the industry in terms of performance? DEC23
DEC24

- A. Cost Driver Analysis
- B. Value Chain Analysis
- C. Strategic Positioning Analysis
- D. Competitive Value Analysis

2. ___ is defined as the real and permanent reduction in the unit costs of goods manufactured or services rendered without impairing their suitability for the use intended.

- A. Cost control
- B. Cost reduction
- C. Cost measurement
- D. Cost strategy

3. Which of the following is not a primary activity of Value Chain? MQP D24

- A. Inbound Logistics
- B. Operations
- C. Service
- D. Infrastructure

4. Which of the following is not a secondary activity of Value Chain? J23 MQP J24

- A. Procurement
- B. Human Resource Development
- C. Service
- D. Technology Development

5. Question:1 Dec 2021 MQP DEC24

Activities required to design, develop, produce, market, distribute, and service a product are known as

- a) target activities.
- b) value-chain activities.
- c) whole life activities.
- d) overhead.

6. Which of the following is not a term normally used in value analysis? MQP DEC24
MQPJ23

- A. Resale value

- B. Use value
- C. Esteem value
- D. Cost value

7. A company has forecast sales and cost of goods sold for the coming year as Rs. 25 lakhs and Rs. 18 lakhs respectively. The inventory turnover has been taken as 9 times per year. In case the inventory turnover increases to 12 times and the short-term interest rate on working capital is taken as 10%, what will be the saving in cost?

- A. Rs. 10,000
- B. Rs. 20,000
- C. Rs. 15,000
- D. Rs. 5,000

8. There are three core areas to consider when developing the supply chain strategy and business case. These are:

- A. People, Process & Systems
- B. Control, Process & Systems
- C. People, Planning & Systems
- D. Control, Money & Systems

9. Which one of the following is not true for a Red ocean strategy and why? JUNE23

- (A) Beat the competition
- (B) Exploit existing demand
- (C) Make the value cost trade-off
- (D) Break the value cost trade-off

10. Which one of the following is true for Blue Ocean Strategy?

- a) Beat the competition
- b) Exploit existing demand
- c) Make the competition irrelevant
- d) Make the value-cost trade off

Question 1 JUNE25

Which of the following primary activities of Porter's Value Chain deliver the product or

service to the customer?

- (A) Operations
- (B) Outbound Logistics
- (C) Infrastructure
- (D) Services

Correct Answer: (B) Outbound Logistics

Explanation:

In Porter's Value Chain, *Outbound Logistics* refers to activities related to the distribution of the finished product to the customer, including warehousing, order fulfillment, and transportation.

CH - 2

11. TQM stands for:

- A. Technical Quantitative Management
- B. Total Quality Management
- C. Theory of Queuing Management
- D. None of the Above

12. Four Ps of Total Quality Management

- A. Principles, Project, Problem, & Process
- B. People, Process, Problem & Preparation
- C. Product identification, Product quality, Product utility & Product expectation
- D. None of the Above

13. PRAISE stands for:

- A. Appreciating someone
- B. Product, Recognition, Adoption, Invention, Solution & Evaporation
- C. Problem Identification, Ranking, Analysis, Innovation, Solution & Evaluation
- D. None of the Above.

14. Question 4 : -

Six Sigma is about

- A. Quality systems
- B. Quality control process
- C. Statistical technique
- D. None of the above

15. DMIADV is a methodology associated with: MQPJ23

- A. Pareto Analysis
- B. PRAISE
- C. Six Sigma
- D. None of the Above

16. Pareto analysis recognizes:

MQP D24

- A. 80:20 Rule
- B. 50:50 Rule
- C. 20:80 Rule
- D. None of the Above

17. Question 9 : -

Which of the following is not the quality parameter for service organizations?

- A. Consistency
- B. Friendliness
- C. Durability
- D. Promptness

18. Warranty period return of finished goods sold falls under the following quality cost: JUNE23

- (A) Prevention
- (B) Appraisal
- (C) Internal failure
- (D) External failure

19. Cost of Rework is a cost related to:

MQP D24

- A. Internal failure
- B. Appraisal
- C. Prevention
- D. None of the Above

20. The cost incurred to ensure that failures do not happen:

- A. External failure cost
- B. Internal failure cost
- C. Prevention cost
- D. None of the Above

21. Down time due to defect in quality is an example of DEC23

- (A) Internal failure cost
- (B) Prevention cost
- (C) Appraisal cost
- (D) External failure cost

22. Which of the following Quality Cost is incurred in the process of uncovering defects?

- (A) Appraisal Costs
- (B) Prevention Costs

- (C) Internal Failure Costs
(D) External Failure Costs

21. Which of the following quality costs is incurred when inferior products are delivered to customers? JUNE24

- (A) Prevention Costs
(B) Appraisal Costs
(C) External Failure Costs
(D) Internal Failure Costs

20. Question:2 DEC 21

Liability claims is an example of

1. prevention costs.
2. appraisal costs.
3. external failure costs.
4. internal failure costs

23. Question:3 DEC 22

Depreciation of product testing equipment is

- a) Internal Failure Cost
- b) Appraisal Cost
- c) Not a Quality Cost
- d) Irrelevant, but Quality Cost

24. Question:1 DEC 21

A factory is setting up a special inspection at the supply point of raw materials at Rs. 80,000. Consequent to this, there is lesser number of returns from customers. These goods used to be sold for Rs. 1,00,000 and variable costs are Rs. 80,000. The change in quality costs are

1. Decrease by Rs. 80,000
2. Decrease by Rs. 60,000
3. Decrease by Rs. 20,000
4. No change

Question 2 JUNE25

Which of the following is/are NOT the quality parameters for manufacturing organisations?

- (A) Reliability
(B) Durability
(C) Serviceability
(D) Courtesy/Friendliness

Correct Answer: (D) Courtesy/Friendliness

Explanation:

Quality parameters in manufacturing focus on the product's performance and longevity, such as Reliability, Durability, and Serviceability.

CH - 3 .1 MARGINAL COSTING

25. Question 1 : - MQPJ24 MQP D24, MQP J25 JUNE25

The break-even point of a manufacturing company is ₹1,60,000. Fixed cost is ₹48,000. Variable cost is ₹12 per unit. The PV ratio will be:

- A. 20%
- B. 40%
- C. 30%
- D. 25%

Workings:

$$PV \text{ Ratio} = FC \div BEP = 48000 \div 160000 = 30\%$$

Explanatory Comment

Please remember that PV Ratio can be worked by dividing the contribution with sales or by dividing the fixed cost with BEP sales.

26. SINT Ltd. determine its selling price by marking up the variable cost 50%.

In addition, the company uses frequent selling price mark down to stimulate sales. If the mark down average is 20%, what is the company's contribution margin Ratio? JUNE23

- (A) 16.67%
(B) 18.50%
(C) 20.30%
(D) None of the above

27. Which of the following is TRUE about the theory of constraints? MQP DEC24

- a) TOC recognizes that lower inventories means slower response to customers.
- b) TOC recognizes that lowering inventory decreases carrying costs and thus decreases operating expenses and improves net income.
- c) TOC recognizes that lower inventories means more defects.
- d) TOC recognizes that EOQ is important.

28. Question 2 : - MQPD24, MQPJ24

The higher the actual hours worked,

- A. The lower the capacity usage ratio.

- B. The higher the capacity usage ratio.
- C. The lower the capacity utilization ratio.
- D. The higher the capacity utilization ratio.

Explanatory Comment

Capacity utilization ratio is worked out by dividing the actual hours with the budgeted hours. Therefore, higher the actual hours, higher would be the utilization ratio.

29. Excel Products Ltd. manufactures four products e.g. Product E, Product F, Product G and Product H using same raw materials. The input requirements for Products E, F, G and H are 1kg, 2kgs, 5kgs and 7kgs, respectively. Product-wise Selling Price and Variable Cost data are given hereunder: Selling Price of Products E, F, G & H are Rs.100, Rs.150, Rs.200 & Rs.300 respectively and variable costs are Rs.50, Rs.70, Rs.100 & Rs.125 respectively. Assuming raw material availability is a limiting factor, the correct ranking of the products would be:

- A. E, F, G & H
- B. E, F, H & G
- C. F, E, G & H
- D. F, E, H & G

30. The Tech Company has fixed costs of Rs.400,000 and variable costs are 75% of the selling price. To realize profits of Rs.100,000 from Sales of 5,00,000 units, the selling price per unit: **MQP JUNE25 MQPJ24**

- A. must be Rs.1.00
- B. must be Rs.4.80
- C. must be Rs.4.00
- D. cannot be determined

SALES	2000000 (B/F)	
- VC	1500000	75%
CN	500000	25% (BF)
- FC	400000	
P	100000	
SP = 2000000/500000 = 4		

Question 15 JUNE25

SONT Ltd., has fixed costs of ₹5,00,000 and variable costs are 70% of the selling price. To realize profits of ₹1,00,000 from sales of 4,00,000 units, the selling price per unit must be –

- (A) ₹5
- (B) ₹6
- (C) ₹7
- (D) ₹4

31. ROBINSON Ltd., a manufacturing company has a break-even point, when sales are 10 lakh and fixed costs of 4 lakh. To realize profits of 2 lakh from sales of 300000 units, the selling price per unit will be: **DEC23**

- (A) ₹6
- (B) ₹5
- (C) ₹4
- (D) ₹2

32. TM Company can make 100 units of a necessary component part with the following costs: Direct Materials - Rs.60,000 Direct Labour - Rs.10,000 Variable Overhead - Rs.30,000 fixed Overhead - Rs.20,000. TM Company can purchase the component externally for Rs.1,10,000 and only Rs.5,000 of the fixed costs can be avoided, what is the correct make-or buy decision?

- A. Make and Save Rs.5000
- B. Buy and save Rs.5,000
- C. Make and Save Rs.15,000
- D. Buy and save Rs.15,000

33. AP Products sells product A at a selling price of Rs.40 per unit. AP's cost per unit based on the full capacity of 5,00,000 units is as follows: Direct Materials - Rs.6 Direct Labour - Rs.3 Indirect Manufacturing Expense 60% of which is fixed - Rs.10. A one-time only special order offering to buy 50,000 units was received from an overseas distributor. The only other costs that would be incurred on this order would be Rs. 4 per unit for shipping. AP has sufficient existing capacity to manufacture the additional units. In negotiating a price for the special order, AP should consider that the minimum selling price per unit should be:

- A. Rs. 17
- B. Rs. 19
- C. Rs. 21
- D. Rs. 23

34. The Break Even Sales of GXT Ltd., a manufacturing company, is ₹ 3,75,000, while its fixed cost is ₹ 1,12,500. If the Margin of Safety is 40%, what will be its Profit?

- 80,000
- 75,000
- 64,000
- Insufficient information

35. Question: 4 DEC 2017 MQP DEC24

A company produces a product which is sold at a price of ₹ 80. Its Variable cost is ₹ 32. The company's Fixed cost is ₹ 11,52,000 p.a. The company operates at a margin of safety of 40%. The total sales of the company is:

- 4,000 units
- 40,000 units
- 30,000 units
- 20,000 units

Solution:

$$(b) \quad SP 80 - VC 32 = \text{Contribution } 48 \text{ F.C. } 11,52,000$$

$$\text{B.E.P.} = 11,52,000 / 48 = 24,000 \text{ units } \text{MOS} = 40\%; \text{ B.E.P.} = 60\%$$

$$\therefore \text{Total sales} = \frac{24,000 \times 100}{60} = 40,000 \text{ units.}$$

36. Question: 16 JUNE 2019 MQP J23 MQPJ25

XYZ Ltd. has the following alternative planned activity levels.

Level	E	F	G Total cost
	₹ 1,00,000	₹ 1,50,000	₹ 2,00,000
No. of units produced	5000	10000	15000

If fixed overhead remains constant, then fixed overhead cost per unit at Level E is

- ₹ 20
- ₹ 15
- ₹ 13-33
- ₹ 10

Solution

(D)

$$\text{Change in Costs (B - A)} = ₹ 50,000$$

$$\text{Change in Units (B - A)} = ₹ 5,000$$

$$\text{VC per unit} = ₹ 50,000 \div 5,000 = ₹ 10$$

$$\text{Total Cost at A} = ₹ 1,00,000$$

$$\text{VC} : 5,000 \times ₹ 10 = ₹ 50,000$$

$$\text{Total FC} = ₹ 50,000 \div 5,000 \text{ units} = ₹ 10 \text{ per unit}$$

37. Question: 11 DEC 2018 MAPJ23

A company has a break even point when sales are ₹ 3,20,000 and variable cost at that level of sales are ₹ 2,00,000. How much would contribution margin increase or decrease if variable expenses are dropped by ₹ 30,000?

- Increase by 27.5%
- Increase by 9.375%
- Decrease by 9.375%
- Increase by 37.5%

Solution:

$$(b) \quad S - V = C = ₹ 3,20,000 - 2,00,000 = ₹ 1,20,000$$

$$c/s \text{ ratio} = \frac{1,20,000}{3,20,000} \times 100 = 37.5\%$$

$$\text{New VC} = ₹ 1,70,000,$$

$$C = ₹ 1,50,000$$

$$c/s \text{ ratio} = \frac{1,50,000}{3,20,000} \times 100 = 46.875\%$$

$$\therefore \% \text{ increase in } c = 46.875 - 37.5\% = 9.375\%$$

38. Question: 14 DEC 2018 MQPJ23

A company has the capacity of producing 80,000 units and presently sells 20,000 units at ₹ 100 each. The demand is sensitive to selling price and it has been observed that with every reduction of ₹ 10 in selling price the demand is doubled. What should be the target cost in selling price if the demand is doubled at full capacity and profit margin on sale is taken at 25%?

- ₹ 75
- ₹ 90
- ₹ 25
- ₹ 60

Solution:

(d) as per following:

Demand	price (Rs.)
20,000	100
40,000	90
80,000	80

$$\therefore \text{Target cost} = ₹ 80 - (25\% \text{ of } 80) = ₹ 60/-$$

39. Question: 15 DEC 2018 MQP J23

A factory can make only one of the three products X, Y or Z in a given production period. The following information are given:

Per unit Rs.	X	Y	Z
Selling Price	1500	1800	2000
Variable Cost	700	950	1000

Assume that there is no constraint on resource utilization or demand and similar resources are consumed by X, Y and Z. The opportunity cost of making one unit of Z is

- (A) Rs. 850
(B) Rs. 800
(C) Rs. 1800
(D) Rs. 1500

Solution:

(a)

Opportunity cost is the cost of next best alternative foregone. Between X and Y, Y has a better contribution i.e. Rs. 850 as against X (Rs. 1500 - 700) = Rs. 800

40. QUESTION - 12 JUNE25

A factory can make only one of the three products A, B or C in a given production period. The following information are given :

Per unit Rs.	A	B	C
Selling Price	1500	2000	2500
Variable Cost	700	1100	1500

Assume that there is no constraint on resource utilization or demand and similar resources are consumed by A, B and C. The opportunity cost of making one unit of Z is

- (A) Rs. 900
(B) Rs. 800
(C) Rs. 1800
(D) Rs. 1500

Solution:

(a)

Opportunity cost is the cost of next best alternative foregone. Between A and B, B has a better contribution i.e. Rs. 900 as against A (Rs. 1500 - 700) = Rs. 800

41. ROTIZ Ltd., a manufacturing company has a break-even point when sales are RS 12,00,000 and fixed costs at that level of sales are RS 4,80,000.

If the margin of safety (MOS) and sales of the company are 40% and 5,00,000 units respectively, what will be the sale price per unit ?

- (A) 6
(B) 5
(C) 4
(D) None of the above

42. DASN Ltd., operates a throughput accounting system. The details of product MB per unit are as under :

Selling price	50
Material cost	20
Conversion cost	15

If time on bottleneck resource is 10 minutes, what will be the return per hour for product MB ?

- (A) 300
(B) 270
(C) 180
(D) 150

TRANSFER PRICING

Question:3 DEC 2019

Max Ltd. fixes the inter divisional transfer prices for its products on the basis of cost plus a return on investment in the division. The budget for division X for 2019 - 20 appears as under -

	₹
Fixed assets	5,00,000
Current assets	3,00,000
Debtors	2,00,000
Annual fixed cost of the division	8,00,000
Variable cost per unit of the product	10
Budgeted volume	4,00,000 units per year
Desired ROI	28%

Transfer price for division X is

- (A) ₹ 12.70
(B) ₹ 10.70
(C) ₹ 8.70
(D) ₹ 14.70

Solution:

(A)

Explanation:

	Per unit (₹)
VC	10
FC (₹ 8,00,000 ÷ 4,00,000)	2
Investment: (FA + CA + Debtors) = ₹ 10,00,000	
$Return = \frac{Rs. 10,00,000 \times 0.28}{4,00,000}$	0.70
TP for Div. X	12.70

42. A company makes components and sells internally to its subsidiary and also to external market. The external market price is Rs.24 per component, which gives a contribution of 40% of sales. For external sales, variable costs include Rs.1.50 per unit for distribution costs. This is, however not incurred in internal sales. There are no capacity constraints. To maximize company profit, the transfer price to subsidiary should be:

- A. Rs. 9.60
- B. Rs. 12.90
- C. Rs. 12.90
- D. None of these

43. Question:3 DEC 2018 MQP J23

H Group has two divisions, Division P and Division Q. Division P manufactures an item that is transferred to Division Q. The item has no external market and 6000 units produced are transferred internally each year. The costs of each division are as follows ?

	Division P	Division Q
Variable Cost	Rs. 100 per unit	Rs. 120 per unit
Fixed cost each year	Rs. 1,20,000	Rs. 90,000

Head Office management decided that a transfer price should be set that provides a profit of Rs. 30,000 to Division P. What should be the transfer price per unit ?

- (A) Rs.145
- (B) Rs. 125
- (C) Rs. 120
- (D) Rs. 135

Solution:

(b) variable cost + (Fixed cost + Profit Desired) ÷ Volume = Rs. 100 + (1,20,000 + 30,000) ÷ 6000 = Rs. 125/-

RELEVANT COST

44. A particular job required 800 kgs of material - P. 500 kgs. of the particular material is currently in stock. The original price of the material - P was Rs.300 but current resale value of the same has been determined as Rs.200. If the current replacement price of the material - P is Rs.0.80 per kg., the relevant cost of the material - P required for the job would be:

- A. Rs. 640
- B. Rs. 440

- C. Rs. 300
- D. None of these

45. What is the opportunity cost of making a component part in a factory given no alternative use of the capacity? MQP JUNE25

- A. The variable manufacturing cost of the component
- B. The total manufacturing cost of the component
- C. The total variable cost of the component
- D. Zero

46. If project A has a net present value (NPV) of Rs.30,00,000 and project B has an NPV of Rs.50,00,000, what is the opportunity cost if project B is selected MQP DEC24

- A. Rs. 30,00,000
- B. Rs. 23,00,000
- C. Rs. 20,00,000
- D. Rs. 50,00,000

47. X Ltd. has 1000 units of an obsolete item which are carried in inventory at the original price of Rs.50,000. If these items are reworked for Rs. 20,000, they can be sold for Rs. 36,000. Alternatively, they can be sold as a scrap for Rs. 6,000 in the market. In a decision model used to analyse the reworking proposal, the opportunity cost should be taken as: MQP JUNE25 MQP J24

- A. Rs. 16,000
- B. Rs. 6,000
- C. Rs. 30,000
- D. Rs. 20,000

48. A production of ZON Ltd. has the capacity to produce either 4000 units of A, or 3500 units of B or 5000 units of C. Only one product can be made in a production period. The contributions per unit of A, B and C are 10, 11 and 8 respectively. The opportunity cost of A would be: DEC23

- (A) 44,000
- (B) 38,500
- (C) ₹50,000
- (D) 40,000

49. The shadow price of skilled labour for SD Ltd. is currently Rs. 10 per hour. What does this mean? **JUNE25 MQP - 2**
- The cost of obtaining additional skilled labour is Rs. 10 per hour.
 - There is a hidden cost of Rs. 10 for each hour of skilled labour actively worked
 - Contribution will be increased by Rs. 10 per hour for each extra hour of skilled labour that can be obtained.
 - The total costs will be reduced by Rs. 10 for each additional hour of skilled labour that can be obtained.
50. A factory can make only one of the three products X, Y or Z in a given production period. The selling price per unit of Product X, Y & Z is Rs.1,500, Rs.1,800 & Rs.2,000 respectively and variable cost per unit is Rs.700, Rs.950 & Rs.1,000 respectively. Assume that there is no constraint on resource utilization or demand and similar resources are consumed by X,Y and Z. The opportunity cost of making one unit of Z is:
- Rs. 850
 - Rs. 800
 - Rs. 1,800
 - Rs. 1,500
51. A company has 2000 units of an obsolete item which are carried in inventory at the original purchase price of Rs. 30,000. If these items are reworked for Rs.10,000, they can be sold for Rs. 18,000. Alternatively, they can be sold as scrap for Rs.3,000 in the market. In a decision model used to analyse the reworking proposal, the opportunity cost should be taken as:
- Rs. 8,000
 - Rs. 12,000
 - Rs. 3,000
 - Rs. 10,000
52. MN paid Rs. 5,30,000 for a machine used to powder wheat. The machine can be sold for Rs. 1,30,000. The sale value of wheat is Rs. 8,00,000 and its variable cost is Rs. 4,00,000. The opportunity cost of producing wheat flour is:
- Rs.5,30,000
 - Rs.1,30,000
 - Rs.3,50,000
 - Rs. 8,00,000

53. A company has forecast sales and cost of goods sold for the coming year as ₹25 lakhs and ₹18 lakhs respectively. The inventory turnover has been taken as 9 times per year. In case the inventory turnover increases to 12 times and the short-term interest rate on working capital is taken as 10%, what will be the saving in cost? **MQP DEC24**
- ₹10,000
 - ₹20,000
 - ₹15,000
 - ₹5,000

Question 18 : - MQP J24

AP Products sells product A at a selling price of ₹40 per unit. Ap's cost per unit based on the full capacity of 5,00,000 units is as follows:

Direct Materials	6
Direct Labour	3
Indirect Manufacturing Expense 60% of which is fixed	10
Total	19

A one-time only special order offering to buy 50,000 units was received from an overseas distributor. The only other costs that would be incurred on this order would be ₹ 4 per unit for shipping. AP has sufficient existing capacity to manufacture the additional units. In negotiating a price for the special order, AP should consider that the minimum selling price per unit should be

- ₹ 17
- ₹ 19
- ₹ 21
- ₹ 23

Workings:

Relevant Costs for the Special

Order Direct Materials = ₹6

Direct Labour = ₹3

40% of Indirect Manufacturing Expense = 4

Shipping Costs = ₹4

Total = (6 + 3 + 4 + 4) = ₹17

54. A particular job MB requires 800 kgs. of a material. 500 kgs. of the particular material is currently in stock. The original price of the material was ₹ 300 but current resale value of the same has been determined as ₹ 200. The current replacement price of the material is Re. 0-80 per Kg., what will be the relevant cost of material for job MB? JUNE 24

- (A) 640
- (B) 440
- (C) 300
- (D) None of the above

3.2 PRICING DECISIONS

55. In cost plus pricing, the markup consist of: MQP JUNE25

- A. Manufacturing cost
- B. Desired ROI
- C. Selling and administrative cost
- D. Total cost and desired ROI

TARGET COSTING

56. Target costing is the answer to: JUNE23

- A. Market driven prices
- B. Sellers' market
- C. No Profit situation
- D. None of the above

57. T Ltd. produces and sells a product. The company expects the following revenues and costs in 2024: Revenues (400 sets sold @ Rs.600 per product) = Rs. 2,40,000 Variable costs = Rs. 1,60,000 Fixed costs = Rs. 50,000 What amount of sales must T Ltd. have to earn a target net income of Rs.63,000 if they have a tax rate of 30%?

- A. Rs. 4,20,000
- B. Rs. 4,29,000
- C. Rs. 3,00,000
- D. Rs. 4,89,000

58. AMON Ltd., plans to introduce a new product ZOS and is using Target cost approach. The selling price of product ZOS is set at 120 for each unit and sales revenue for the coming year is expected to be 9,60,000. The Cu, requires a return of 15% on the coming year on its investment of 20 lakh. What is the Targes Cost per unit for the coming year? DEC23

- (A) 90.00
- (B) 85.00
- (C) 82.50
- (D) 80.50

59. A Ltd. Plans to introduce a new product and issuing the target cost approach. Projected sales revenue is Rs. 90,00,000 (Rs. 45 per unit) and target costs are Rs. 64,00,000. What is the desired profit per unit? MQP J24

- A. Rs. 13
- B. Rs. 17
- C. Rs. 32
- D. Rs. 10

60. The product of XYZ company is sold at a fixed price of Rs. 1,500 per unit. As per company's estimate, 500 units of the product are expected to be sold in the coming year. If the value of investments of the company is Rs. 15 lakhs and it has a target ROI of 15%, the target cost would be: MQP JUNE25

- A. Rs. 930
- B. Rs. 950
- C. Rs. 1050
- D. Rs. 1130

61. BENT Ltd., a manufacturer of components for VCD, has a capacity to produce 4 Lakh units. The market demand is sensitive to the sale price and the company could sell 1 Lakh units at a price of ₹ 75,000 each. The demand thereafter would double for each ₹ 500 per unit fall in the selling price. If the company expects a minimum margin of 25%, what would be the Target Cost per unit for the company to sell at full capacity utilization?

- 4,000
- 3,200
- 3,000
- 2,900

62. Question:1 JUNE 2017

A company has the capacity of production of 80000 units and presently it sells 20000 units at ₹ 100 each. The demand is sensitive to selling price and it has been observed that every reduction of ₹ 10 in selling price the demand is doubled. What should be the target cost at full capacity if profit margin on sales is taken at 25%?

- ₹ 58 lakhs
- ₹ 52 lakhs
- ₹ 48 lakhs
- ₹ 50 lakhs

Solution:

(c)

Explanation:

Maximum Capacity	80,000 Units
Present Sale	20,000 Units @ ₹ 100/-per Unit
Selling Price/Unit	Demand
100	20,000
90	40,000
80	80,000
Target Price	₹ 80
Target Cost/Unit	$80 - 25\% \text{ of Sales} = 80 - 20 = ₹ 60/- \text{ per unit}$ Total Target
Cost	$80,000 \text{ Units} \times ₹ 60/- \text{ per unit} = ₹ 48 \text{ lakhs.}$

63. 120 units of semi-conductors are required to be sold to earn a profit of Rs.1,00,000 in a monopoly market. The fixed cost for the period is Rs.80,000. The contribution in

the monopoly market is as high as 3/4th of its variable cost. Determine the target selling price per unit. **DEC24**

- Rs. 4500
- Rs.3250
- Rs.4000
- Rs.3500

64. Marketing department of an organisation estimates that 40,000 of new mixers could be sold annually at a price of ₹60 each. To design, develop and produce these new mixers an investment of ₹40,00,000 would be required. The company desires a 15% return on investment (ROI). Given these data, the target cost to manufacture, sell, distribute and service one mixer will be **MQP DEC24**

- ₹37.50
- ₹40.00
- ₹45.00
- ₹48.60

CH - 4 ABC

65. Cost Driver is:

- Grouping of costs on a particular activity which drives them
- Item for which cost measurement is required.
- Elements that would cause a change in the cost activity.
- All of the above

66. ABC Management:

- Accurately identifies sources of profit and loss
- Assigns costs using measure of service consumed
- Recognizes the casual relationship of cost drivers to activities
- All of the above

67. Process of Cost allocation under Activity Based Costing is:

- Cost of Activities → Activities → Cost Driver → Cost allocated to cost objects
- Cost Driver → Cost of Activities → Cost allocated to cost objects → Activities
- Activities → Cost of Activities → Cost Driver → Cost allocated to cost objects
- Activities → Cost Driver → Cost allocated to cost objects → Cost of Activities

68. P operates an activity-based costing (ABC) system to attribute its overhead costs to cost objects. In its budget for the year ending 31st March 2022, the company

expected to place a total of 2,895 purchase orders at a total cost of Rs. 1,10,010. This activity and its related costs were budgeted to occur at a constant rate throughout the budget year, which is divided into 13 four-week periods. During the four-week period ended 30 June 2021, a total of 210 purchase orders were placed at a cost of Rs. 7,650. The over-recovery of these costs for the four-week period was:

- A. Rs. 330
- B. Rs. 350
- C. Rs. 370
- D. Rs. 390

69. At KL Company, cost of personnel department has always been charged to production department based upon number of employees. Recently, opinion gathered from the department managers indicate that number of new hires might be better predictor of personnel cost,

Total personnel department cost are Rs. 2,00,000.

Department	A	B	C
Number of employees	30	270	100
The number of new hires	8	12	5

If number of new hires is considered the cost driver, what amount of cost will be allocated to Department A? JUNE23 DEC24

- A. Rs. 15,000
- B. Rs. 64,000
- C. Rs. 72,000
- D. Rs. 40,000

70. Production overheads of XYZ Ltd. for 50 units of product X are:
Machine oriented activity cost: ₹ 1,35,400

Material ordering overheads: ₹ 69,570

Machine hours are 1-50 hours per unit and No. of material orders are 6 per unit. What is the Machine Oriented Cost per unit and Material Ordering Cost per unit respectively? JUNE24

- (A) ₹270.80 & ₹ 139.14
- (B) ₹ 180.53 & ₹ 23.19
- (C) ₹ 23.19 & ₹ 180.53
- (D) ₹ 139.14 & ₹ 270.80

JIT

71. Which of the following is not suitable for a JIT production system?

- A. Batch production
- B. Jobbing production
- C. Process production
- D. Service production

72. JIT relates to: MQPJUNE25

- A. Time Management
- B. Inventory and product handling Delivery systems
- C. Delivery systems
- D. None of the above

73. Question 8 : - MQPJ24

Kanban Japanese System under JIT approach ensures that

- A. Continuous supply of inventory or product
- B. Minimum & maximum level of stock to be maintained
- C. Inventory valuation
- D. All of the above

74. Question:1 DEC 2018

Twin Ltd. uses JIT and back flush accounting. It does not use a raw material stock control account. During September 2018, 10000 units were produced and sold. The standard cost per unit is Rs. 150 which includes materials of Rs. 60. During September 2018, Rs. 9,90,000 of conversion costs were incurred. The debit balance in cost of goods sold account for September 2018 was

- a) Rs.14,00,000

- b) Rs.14,80,000
 c) Rs.15,90,000
 d) Rs.16,20,000

Solution:

	Rs.
(c) Standard cost of goods sold (10,000 units @ Rs.150)	15,00,000
Less : Std. material cost (10,000 @ Rs. 60)	<u>6,00,000</u> 9,00,000
Standard conversion cost	
Conversion cost incurred	9,90,000
Excess charged to cost of goods sold a/c. (debit)	----- <u>90,000</u>
∴ Total debit balance of cost of goods sold Account = Rs. 15,00,000 + 90,000 = Rs. 15,90,000	

THROUGHPUT

75. Glasso, a manufacturer of large windows, is experiencing a bottleneck in its plant. Setup time at one of its workstations has been identified as the culprit. A manager has proposed a plan to reduce setup time at a cost of Rs. 7,20,000. The change will result in 800 additional windows. The selling price per window is Rs. 18,000, direct labour costs are Rs. 3000 per window, and the cost of direct materials is Rs. 7,000 per window. Assume all units produced can be sold. The change will result in an increase in the throughput contribution of **DEC23**

- A. Rs. 64,00,000
 B. Rs. 88,00,000
 C. Rs. 56,80,000
 D. Rs. 1,44,00,000

76. Cost per unit under throughput accounting and marginal costing are mainly different because:

- A. Labour is not considered in throughput accounting
 B. Direct labour is considered fixed in throughput accounting
 C. Total cost is considered in throughput accounting

D. Variable cost is considered in marginal costing

Question MQP J25 MQP D24

Ankit Ltd., operates throughput accounting system. The details of product A per unit are as under: Selling Price: ₹ 75

Material Cost: ₹ 30

Conversion Cost: ₹ 20

Time to bottleneck resources: 10 minutes

What is the throughput contribution per bottleneck resource per hour?

- A. ₹ 270
 B. ₹ 150
 C. ₹ 120
 D. ₹ 90

Workings

Throughput Contribution

= (Selling Price - Material Cost) ÷ Time on bottleneck resources.

= [(₹ 75 - ₹ 30) ÷ 10 minutes] × 60 = ₹ 270.

77. Producing more non-bottleneck output: **JUNE23**

- A. Creates more inventory, but does not increase throughput contribution
 B. Creates more inventory and increases throughput contribution
 C. Creates less pressure for the bottleneck workstations
 D. Allows for the maximization of overall contribution

Question 6 JUNE25

AON Ltd., a manufacturer of doors using a Throughput Costing System, is experiencing a bottleneck. Set up time at one Work Station has been identified as the offender. The Manager (Finance) proposes a plan to reduce the set up time at a cost of ₹5,24,000. The change will result in 500 additional doors. Direct labour costs are ₹2,400 per door and direct materials cost is ₹8,000 per door. All units produced can be sold. If the change will result in an increase in the Throughput Contribution of ₹56,50,000, what will be the selling price per door?

- (A) ₹19,300
 (B) ₹18,500
 (C) ₹13,700
 (D) ₹21,700

Correct Answer:

- (A) ₹19,300

Working & Explanation:

In throughput costing,

Throughput contribution per unit = Selling price - Direct material cost (direct labour treated as operating expense).

Increase in total throughput contribution = (SP - Direct materials) × number of additional units.

So: $(SP - 8,000) \times 500 = 56,50,000$

$\Rightarrow SP - 8,000 = 56,50,000 / 500 = 11,300$

$\Rightarrow SP = 11,300 + 8,000 = ₹19,300$

(Setup expense ₹5,24,000 is a one-time cost — not included in throughput contribution per se — the question gives the resulting increase in throughput contribution directly.)

JIT & 4.4 BACK FLUSH

78. Twin Ltd. uses JIT and back flush accounting. It does not use a raw material stock control account. During September 2023, 10000 units were produced and sold. The standard cost per unit is Rs. 150 which includes materials of Rs. 60. During September 2023, Rs. 9,90,000 of conversion costs were incurred. The debit balance in cost of goods sold account for September 2023 is:

- A. Rs. 14,00,000
- B. Rs. 14,80,000
- C. Rs. 15,90,000
- D. Rs. 16,20,000

79. Kanban Japanese System under JIT approach ensures that:

- A. Continuous supply of inventory or product
- B. Minimum & maximum level of stock to be maintained
- C. Inventory valuation
- D. All of the above

80. The companies that would benefit from back-flush costing include companies:

- A. Which have fast manufacturing lead time
- B. Whose inventory vary from period to period
- C. Companies that require audit trails
- D. None of these

81. Backflush costing is most likely to be used when: **MQP DEC24**

- a) Management desires sequential tracking of costs
- b) A Just-in-Time inventory philosophy has been adopted
- c) The company carries significant amount of inventory
- d) Actual production costs are debited to work-in-progress

82. Bench marking is: **MQP JUNE25**

- A. A continuous process
- B. The practice of setting targets using external information
- C. Method to provide performance assessment
- D. All of the above

Question 3 JUNE25

The companies that would benefit from backflush costing include companies

- (A) which have fast manufacturing lead time.
- (B) whose inventory vary from period to period
- (C) Company requires audit trails.
- (D) None of the above

Correct Answer: (A) which have fast manufacturing lead time.

Explanation:

Backflush costing reduces or removes traditional WIP recording and posts costs at the end (or "flushes" them) when goods are completed. It works best where production is simple, flow is stable and lead times are short (so WIP is minimal). If inventories vary a lot or the firm requires detailed audit trails, backflush is not appropriate because it reduces transaction-level records.

CH - 5 STANDARD COSTING

68. Question:1 JUNE 2017 MQP JUNE24 JUNE24

The information relating to the direct material cost of a company is as follows:

Standard price per unit ₹ 7.20

Actual quantity purchased in units 1600

Standard quantity allowed for actual production in units 1450

Material price variance on purchase (Favourable) ₹ 480

What is the actual purchase price per unit?

- (a) ₹7.50
- (b) ₹6.40
- (c) ₹6.50
- (d) ₹6.90

SOLUTION:

(d)

Explanation:

Material Price Variance (MPV) = Standard cost of Actual Quantity - Actual Cost 480
 $= 7.20 \times 1,600 - \text{Actual Cost}$

or, Actual Cost = $11,520 - 480 = 11,040$

Actual Price / Unit = $11,040 \div 1,600 = ₹ 6.90$.

83. Question 5 :- MQP J24

Aderholt uses activity-based costing to allocate its overheads. The budgeted cost/expected for the Supervisor cost pool was:

Budgeted units	5,000
Number of employees	75
Budgeted Cost	₹ 7,500
The actual costs incurred were:	
Actual Units	5,500
Actual Employees	77
Actual cost	₹ 8,085

What was the total variance for the pool?

- (a) ₹ 585 Adverse
 (b) ₹ 165 Favourable
 (c) ₹ 5550 Favourable
 (d) ₹ 385 Adverse

WORKINGS:

Standard Quantity (SQ) = $75 \text{ employees} \div 5,000 \text{ units} \times 5,500 \text{ units} = 82.5 \text{ employees}$
 Standard Price (SP) = $7500 \div 75 \text{ employees} = 100$
 Standard Cost (SQ × SP) = $82.5 \times 100 = 8,250$
 Actual cost = 8,085
 Variance = $8250 - 8085 = 165 \text{ F}$

84. Question:3 DEC 2017 MQP J25 , MQP J23

The following figures are extracted from the books of a company: Budgeted O/H ₹ 10,000 (Fixed ₹ 6,000, Variable ₹ 4,000)

Budgeted Hours 2000

Actual O/H ₹ 10,400 (Fixed ₹ 6,100, Variable ₹ 4,300) Actual Hours 2100

Variable O/H cost variance and Fixed O/H cost variance will be:

- (a) 100 (A) and 200 (A)
 (b) 100 (F) and 200 (F)
 (c) 100 (A) and 200 (F)
 (d) 200 (A) and 100 (F)

Solution:

- (c) Variable O/H Cost variance = Recovered O/H - Actual O/H
 = $4200 - 4300 = 100(A)$
 Fixed O/H Cost variance = $6300 - 6100 = 200 (F)$.

Question:1 JUNE 2017

The information relating to the direct material cost of a company is as follows:

Standard price per unit ₹ 7.20

Actual quantity purchased in units 1600

Standard quantity allowed for actual production in units 1450

Material price variance on purchase (Favourable) ₹ 480

What is the actual purchase price per unit?

- (e) ₹7.50
 (f) ₹6.40
 (g) ₹6.50
 (h) ₹6.90

SOLUTION:

(d)

Explanation:

Material Price Variance (MPV) = Standard cost of Actual Quantity - Actual Cost 480
 = $7.20 \times 1,600 - \text{Actual Cost}$

or, Actual Cost = $11,520 - 480 = 11,040$

Actual Price / Unit = $11,040 \div 1,600 = 6.90$.

Question:2 JUNE 2017

The preparation and use of standard cost, their comparison with actual costs and the measurement and analysis of variances to originating causes is defined as:

- (a) Marginal Costing
 (b) Standard Costing
 (c) Throughput Costing
 (d) Kaizen Costing

Solution:

(b)

Explanation: Because standard costing only involves the process described.

Question: 4 JUNE 2018 DEC24 JUNE25

In a factory where standard costing system is followed, the production department consumed 1100 kgs of a material @ ₹ 8 per kg for product X resulting in material price variance of ₹ 2200 (Fav) and material usage variance of ₹ 1000 (Adv). What is the standard material cost of actual production of product X?

- (a) 11,000
 (b) 20,000
 (c) 14,000
 (d) 10,000

Solution :

(d)

Explanation: Actual Cost + Favourable Cost Variance = Standard Cost
 $100 \times 8 + 2200 - 1000 = 8800 + 1200 = 10,000$

Question: 5 JUNE 2019

AB Ltd. uses standard cost system. The following information pertains to direct labour for Product X for the month of March, 2019:

Standard rate per hour	₹ 8
Actual rate per hour	₹ 8.40
Standard hours allowed for actual production	2000 hours
Labour Efficiency variance	₹ 1,600 (Adverse)

What were the actual hours worked?

- (A) 1,800
 (B) 1,810
 (C) 2,200
 (D) 2,190

Solution

(C)

Labour Efficiency Variance = (ST - AT) × SR
 or, $(2,000 - AT) \times ₹ 8 = (-) ₹ 1,600$
 or, $AT = 7,600 \div 8 = \underline{2,200 \text{ hours}}$

Question: 6 JUNE 2019

Uniform Costing may not be successfully applied in the following case:

- (A) In a single enterprise having a number of branches, each of which manufactures the same set of products with the same facilities.
 (B) In a number of entities in the same industry bound by a trade association.
 (C) In a number of units across different geographical locations manufacturing one or more of a given set of products.
 (D) In different branches of the same company, each branch making a different product using a unique process.

Solution

(D)

Though the entity is the same, different products using different (unique) process cannot follow uniform costing.

Question: 8 DEC 2019

A manufacturing company uses two types of materials, X and Y, for manufacture of a standard product. The following information is given:

	Standard mix		Actual mix	
Materials X	120 Kg.	@ ₹ 5 = ₹ 600	112 Kg.	@ ₹ 5 = ₹ 560
Y	80 Kg.	@ ₹ 10 = ₹ 800	88 Kg.	@ ₹ 10 = ₹ 880

	200	₹ 1,400	20	₹ 1,440
			0	
30% loss	60		25% loss 50	
	140	₹ 1,400	150	₹ 1,440

Direct Materials Mix Variance is:

- (A) ₹ 40 (fav.)
 (B) ₹ 40 (unfav.)
 (C) ₹ 80 (fav.)
 (D) ₹ 80 (unfav.)

SOLUTION:

(B)

Explanation: A manufacturing company uses two type of Materials, X and Y, for manufacture of a standard product:

	Standard mix		Actual mix	
Materials X	120 Kg.	@ ₹ 5 = ₹ 600	112 Kg.	@ ₹ 5 = ₹ 560
Y	80 Kg.	@ ₹ 10 = ₹ 800	88 Kg.	@ ₹ 10 = ₹ 880
	200	₹ 1,400	20	₹ 1,440
			0	
30% loss	60		25% loss 50	
	140	₹ 1,400	150	₹ 1,440

Direct Materials Mix Variance is: ₹ 40 (unfav.)

SP (SQ - AQ)

X	₹ 5 (120 - 112) =	₹ 40 (fav.)
Y	₹ 10 (80 - 88) =	₹ 80 (unfav.)
		₹ 40 (unfav.)

Question: 9 DEC 22

RON Ltd., a manufacturing of product CEMO using a standard costing system provides the following information pertaining to the Direct Materials for the month of November, 2022:

I tonne of materials input yields standard output of (units)	1,00,000
Standard price of materials per KG (Rs)	20
The actual quality of materials used (Tones)	10
Actual price of materials per kg (Rs)	21
Actual output obtained for the month (Units)	9,00,000

Materials cost variance will be-

- a) Rs. 40,000 (Adv)
 b) Rs. 40,000 (Fav)
 c) Rs. 30,000 (Adv)
 d) Rs. 25,000 (Adv)

Solution:

C) Rs. 30,000 (Adv)

Question: 10 June 2023

BOSAN LTS. Using standard costing system provides the following information pertaining to Direct Labour for its product JUM for the month of May, 2023:

Standard Direct Labour Rate per hour: ₹ 16
 Actual Direct Labour Rate per hour: ₹14.50
 Labour Rate Variance: ₹ 15,000 (Fav)

Standard hours allowed from actual production 8000 hours

Actual output s 800 units,

How many Direct labour hours were worked during the month of May, 2023?

- a) 12,000 hours
- b) 11,000 hours
- c) 10,000 hours
- d) None of the above

Solution:

C) 10,000 hours

Question: 11 June 2023 DEC23

A Co. producing output X and Y uses standard costing. The standard overhead contents of each product is:

X: ₹ 3 per unit and Y: ₹ 2.25 per unit.

The budget overhead is ₹ 860 and budgeted time is 3440 hours.

Actual Output:

X 200 units and Y 100 units.

Actual time: 3200 hours

Actual overhead: ₹ 875. Compute overhead volume variance.

- a) ₹ 35 (A)
- b) ₹ 35 (F)
- c) ₹ 25 (F)

d) ₹ 15 (A)

Solution:

Question 8 : -

A company uses standard absorbing costing. The following information is recorded by the company for October:

Output and sales	8700	8200
Selling Price per unit	₹ 26	₹ 31
Variable Cost per unit	₹ 10	₹ 10
Total Fixed Overheads	₹ 34800	₹ 37000

The sales price variance for October was:

- (a) 38500 (A)
- (b) 38500 (F)
- (c) 41000 (A)
- (d) 41000 (F)

WORKINGS:

$$\begin{aligned} \text{Sales Price Variance} &= \text{Actual Quantity} \times (\text{Actual Price} - \text{Standard Price}) \\ &= 8200 (31-26) \\ &= ₹ 41000 (F) \end{aligned}$$

85. Which of the following may be the cause of Material Price Variance?

- A. Change in quantity of purchase or uneconomical size of purchase order
- B. Failure to take advantage of off- season price or failure to purchase when price is cheaper
- C. Change in basic purchase price of material
- D. All of the above

86. Variance analysis involves breaking down and analysing the total variance to explain: How much of the variance is caused by using the resources that are different from the standards, i.e., the quantity variance

- A. How much of the variance is caused by using the resources that are different from the standards, i.e., the quantity variance

- B. How much of the variance is caused by using the cost of the resources being different from the standards, i.e., the rate variance
 C. All of the Above
 D. None of the above
87. standard costing system consists of the following key elements: MQPJUNE25
 A. Setting standards for each of the operations
 B. Comparing the actual performance with the standard performance
 C. Analyzing and reporting variances arising from the difference between actual and standard performance
 D. All of the Above
88. Which of the following statements is correct?
 A. Standard costing facilitates the integration of accounts so that reconciliation between cost accounts and financial accounts may be eliminated
 B. Standard costs are planned costs determined on a scientific basis and they are based upon certain assumed conditions of efficiency and other factors
 C. Standard costing is defined as the preparation and use of standard cost, their comparison with actual cost and the measurement and analysis of variances to their cause and points of incidence
 D. All of the Above
89. Which of the following statements is true?
 A. If the actual cost is more than the standard, we call it adverse variance and if the difference is less than the standard, we call it favourable variance.
 B. In case of sales and profit, if the standard is more than actual, it is adverse variance and if the standard is less than the actual, it is favourable variance
 C. Both (1) and (2)
 D. None of the above
90. Standard cost and budgeted cost are: MQP DEC24
 A. Interrelated but not interdependent
 B. Interdependent but not interrelated
 C. Interrelated and interdependent
 D. None of the above
91. Efficiency Ratio is: MQPJUNE25 MQPJ24
 A. Available working days ÷ Budgeted working days × 100
 B. Budgeted hours ÷ Maximum hours in budgeted period × 100
 C. Standard hours ÷ Actual hours × 100
 D. None of the above

Question:7 DEC 2019

The higher the actual hours worked,

- (A) The lower the capacity usage ratio.
 (B) The higher the capacity usage ratio.
 (C) The lower the capacity utilization ratio.
 (D) The higher the capacity utilization ratio.

Solution:

(D) Explanation: Capacity utilization ratio = $\frac{\text{Actual Hours}}{\text{Budgeted Hours}}$

So, the capacity utilization ratio would be higher.

92. Uniform Costing may not be successfully applied in the following case: JUNE2019
 A. In a single enterprise having a number of branches, each of which manufactures the same set of products with the same facilities
 B. In a number of entities in the same industry bound by a trade association
 C. In a number of units across different geographical locations manufacturing one or more of a given set of products
 D. In different branches of the same company, each branch making a different product using a unique process
93. Uniform costing is ____.
 a) a separate method of costing
 b) a type of costing
 c) a technique of costing
 d) None of the above

LPP

94. A constraint in an L.P. Model restricts:
 A. Value of the Objective Function
 B. Values of the Decision Variables
 C. Use of the available resources
 D. All the above
95. A feasible solution of LPP - MQPJ23
 A. Must satisfy all the constraints simultaneously.
 B. Need not satisfy all the constraints, only some of them.
 C. Must be a corner point of the feasible region
 D. All the above.
96. The Objective Function of a LPP is $Z = 3x_1 + 2x_2$. If $x_1 = 10$ and $x_2 = 5$ then the value of Z is - MQP JUNE25 MQP DEC24
 A. 35

- B. 40
C. 45
D. 50
97. Multiple solution exist in a Linear Programming problem when - **MQPJUNE25**
A. One of the constraints is redundant
B. Objective Function is parallel to one of the constraints
C. Two constraints are parallel
D. All of the above
98. The linear function of the variables which is to be optimized is called -
A. Constraints
B. Objective Function
C. Decision variables
D. None of the above
99. If the value of the Objective Function can be increased or decreased indefinitely then the solution is called -
A. Unbounded
B. Bounded
C. Infeasible
D. None of the above
100. The best use of Linear Programming is to find the optimal use of -
A. Manpower
B. Material
C. Money
D. All of the above
101. Which of the following is assumption of Linear Programming Model?
A. Divisibility
B. Proportionality
C. Additivity
D. All of the above

TRANSPORTATION

102. Which of the following considers difference between least cost and the cost just before least for each row and column while finding Basic Feasible Solution in Transportation? **MQP DEC24**
A. North West Corner Method
B. Least Cost Method

- C. Vogel's Approximation Method
D. Both (b) and (c) above
103. When the total allocation of a Transportation Problem match with supply and demand values, the solution is - **MQP DEC24**
A. Non-degenerate
B. Feasible
C. Degenerate
D. None of the above
104. The solution to a Transportation Problem with 'm' sources and 'n' destinations is feasible if the number of cell allocations are -
A. $m + n$
B. $m n$
C. $m - n - 1$
D. $m + n - 1$
105. To resolve Degeneracy in the solution of a Transportation Problem an infinitely small allocation is made to the solution already obtained. This allocation is known as -
A. Dummy
B. Epsilon
C. ϵ - the Greek letter
D. All of the above except (a)
106. Which of the following is not correct with respect to Transportation as a tool of Quantitative Technique?
A. Transportation technique is a special case of LP.
B. Transportation technique might give rise to solutions which are degenerate.
C. No Transportation problem can be given with supply \neq demand.
D. Using Transportation technique one can maximize an Objective Function.
107. Which of the following method is used to test optimality of a solution in Transportation? **MQP JUNE25**
A. Modified Distribution
B. Simplex
C. VAM
D. LCM
108. In a solution of Transportation problem, empty cells are called -
A. Unoccupied cells
B. Unallocated cells
C. Empty cells
D. All of the above
109. The Transportation Problem deals with the transportation of -
A. Single product from a source to several destinations

- B. Several products from a source to a destination.
 - C. Single product from several sources to a destination.
 - D. Single product from several sources to several destinations.
110. The highest negative opportunity cost value in an unused cell of a Transportation Matrix is chosen to improve the current solution because
- (A) It represents maximum possible cost reduction per unit.
 - (B) It ensures no violation of Rim Condition.
 - (C) It represents per unit cost improvement.
 - (D) Either one of the above

Question:1 DEC 21 MQP DEC24

In a transportation matrix (where R_i are rows and C_j are columns), the second allocation under the North West Corner Rule can be

- a. R_1C_2
- b. None of these
- c. R_2C_3
- d. R_1C_3

Solution

- a. R_1C_2

ASSIGNMENT

111. Which of the following methods is used to solve the Assignment problems?
- A. Stepping Stone Method
 - B. Hungarian Method
 - C. North West Corner Method
 - D. Vogel's Approximation Method
112. Assignment of work to men and machines is known as:
- A. Scheduling
 - B. Loading
 - C. Balancing of Line
 - D. None of these
113. In an Assignment matrix of size (5×5) , the total number of decision variables in the objective function is -
- A. 10

- B. 5
 - C. 25
 - D. 15
114. An Assignment problem is solved to minimise the total time required to complete three jobs on three different machines such that each job is processed by exactly one machine and each machine processes exactly one job. The minimum total processing time is found to be 480 minutes. After a few days of operation, there has been a change in the design of the second job. Due to this, the processing time of the second job is increased by 15 minutes in either of the machines. The revised minimum total processing time will be -
- A. 495 minutes
 - B. 465 minutes
 - C. 480 minutes
 - D. None of these
115. Assignment problem can be considered as a particular case of - JUNE23 MQPJ25
- A. Transportation problem
 - B. Sequencing problem
 - C. Queuing problem
 - D. All of these
116. Dummy row or column is added in an assignment problem -
- A. To prevent a solution to become degenerate
 - B. To reduce the total cost of assignment
 - C. To increase the profit function
 - D. To balance total activities and total resources
117. While solving an assignment problem, an activity is assigned to a resource
- A. with zero opportunity cost because objective is to -
 - B. Reduce total cost of assignment to zero
 - C. Minimise total cost of assignment
 - D. Maximise total cost of assignment
118. In an assignment problem -
- A. First activity is assigned to first resource
 - B. Any number of activities can be assigned to each resource
 - C. It depends on how many resources are available
 - D. Only one activity be assigned to each resource
119. An assignment problem can be viewed as a special case of transportation problem in which the capacity from each source is ____ and the demand at each destination is ____.
- A. Unlimited, unlimited
 - B. One, unlimited

- C. One, one
D. Unlimited, one
120. In marking assignments which of the following should be preferred?
A. Only row having single zero
B. Only column having single zero
C. Column having more than one zero
D. Only row / column having single zero
121. The assignment matrix is always a _
A. Rectangular matrix
B. Identity matrix
C. Square matrix
D. None of these
122. In the Hungarian Method of solving Assignment problem, the row reduction is obtained by
A. Adding each entry of a column to the maximum value of that column
B. Subtracting each entry in a column from maximum value in that column
C. Subtracting each entry of the table from the maximum value of the table
D. Adding each entry of the table to the maximum value in the table
123. In the Hungarian Method of solving Assignment problem, the row reduction is obtained by
A. Dividing each row by the elements of the row above it
B. Subtracting the elements of the row from the elements of the row above it
C. Subtracting the smallest element from all other elements of the row
D. Subtracting all the elements of the row from the highest element in the matrix
124. The horizontal and vertical lines drawn to cover all zeros of the total opportunity matrix for an optimal solution must be -
A. Equal to $m \times n$, where m = No. of rows & n = No. of columns
B. Equal to each other
C. Equal to $m + n$, where m = No. of rows & n = No. of columns
D. Equal to the Order of the matrix
125. The similarity between Assignment Problem and Transportation Problem is
A. Both are rectangular matrices
B. Both are square matrices
C. Both can be solved by graphical method
D. Both have objective function and non- negativity constraints
126. When we try to solve the Assignment problem by Transportation algorithm the following difficulty arises.
A. The problem will get alternate solution
B. The problem will get alternate solution

- C. The problem degenerates and we have to use epsilon to solve degeneracy
D. The Assignment problem cannot be solved by Transportation algorithm
127. The following character dictates that the Assignment matrix is a square one:
A. Because we find row opportunity cost matrix
B. The allocations in Assignment problem are one to one
C. Because we find column opportunity cost matrix
D. Because after making allocations, horizontal and vertical lines are to be drawn
128. An Assignment problem can be solved by -
A. Simplex method
B. Transportation method
C. Both (1) and (2)
D. None of the above
129. If there are n jobs and n workers, there would be -
A. $n!$ solutions
B. $(n - 1)!$ Solutions
C. $(n!), n$ solutions
D. n solutions
130. The Assignment problem:
A. Requires that only one activity be assigned to each resource
B. Is a special case of Transportation problem
C. Can be used to maximise the resources
D. All of the above
131. To proceed with the MODI algorithm for solving an assignment problem, the number of dummy allocations need to be added are -
A. n
B. $n-1$
C. $2n$
D. $2n-1$
132. The procedure used to solve Assignment problems wherein one reduces the original assignment costs to a table of opportunity costs is called ____
A. Stepping Stone Method
B. Matrix Reduction
C. MODI Method
D. Northwest Reduction
133. When a maximisation assignment problem is converted to minimisation problem, the resultant matrix is called: JUNE24
A. Cost matrix
B. Profit matrix

- C. Regret matrix
- D. Dummy matrix

Question 7 JUNE25

In marking assignments which of the following should be preferred?

- (A) Only row having single zero
- (B) Only column having single zero
- (C) Column having more than one zero
- (D) Only row/column having single zero

Correct Answer:

- (D) Only row/column having single zero

Explanation:

When choosing assignments (e.g., while applying the Hungarian method), it is best to assign first to rows or columns that have a single zero — this eliminates ambiguity and preserves feasibility for remaining assignments. Prefer rows/columns with a single zero over rows/columns with multiple zeros.

GAME THEORY

121. Game theory models are classified by the MQP JUNE25

- a) Number of players
- b) Sum of all payoffs
- c) Number of strategies
- d) All of these?

134. Two person zero sum game means that:

- A. The sum of losses of one player is equal to the sum of the gains of the other
- B. The sum of losses of one player may not be equal to the sum of the gains of the other
- C. No player gains or loses
- D. None of the above

135. Game theory models are classified by the:

- A. Number of players
- B. Sum of all payoffs
- C. Number of strategies
- D. All of these

136. A game is said to be unfair if:

- A. Upper and lower values of the game are not equal
- B. Upper and lower values of the game are equal and the sum is zero
- C. Both option (a) and option(b)
- D. None of the above

137. What happens when the maximin and minimax values of the game are equal?

- A. No solution exists
- B. Sum of all payoffs
- C. Saddle point exists
- D. None of these

138. A mixed strategy game can be solved by:

- A. Arithmetic method
- B. Graphical method
- C. Dominance method
- D. All of these

139. The size of the payoff matrix of a game can be reduced by using the principle of:

- A. Game inversion
- B. Rotation reduction
- C. Dominance
- D. Game transpose

140. The payoff value for which each player in a game always selects the same strategy is called the:

- A. Saddle point
- B. Equilibrium point
- C. Both option (a) and option (b)
- D. None of the above

141. Games which involve more than two players are called:

- A. Conflicting games
- B. Negotiable games
- C. N person game
- D. All of these

142. The value of the game of

		Player B	
		B1	B2
Player A	A1	4	6
		-10	10

Is _____ Fill in the above.

DEC23

- (A) 4
- (B) 6
- (C) 8
- (D) None of the above

143. The Pay-off Matrix of a game is given below:

3	-1	4
-1	8	2
16	8	6

What is the value of Game to Player A (using Maximin-Minimax Principle)?

- (A) 6
- (B) 8
- (C) 16
- (D) None of the above

QUESTION - 10 JUNE 25

The pay-off matrix of game for Firm A and Firm B is given below. What is the value of the game (using Maximin - Minimax Principle)?

30	15	12	35
20	13	8	10
40	4	11	6

ANSWER

- (A) 6
- (B) 10
- (C) 12
- (D) None of the above

SIMULATION

144. Which of the following is first step for performing Simulation analysis?

- A. Choose input variables.
- B. Create entities for the simulation process.
- C. Prepare a problem statement.
- D. Determine the output variables.

145. Which of the following are the advantages of using Modelling and Simulation?

- A. Easy to understand.

- B. Easy to test.
- C. Easy to upgrade.
- D. All of the above

146. Which of the following are the advantages of using Modelling and Simulation?

- A. Military applications
- B. Designing semiconductors
- C. Telecommunications
- D. Food industry

147. Which of the following is the first step for developing the Simulation Model?

- A. Design the problem
- B. Identify the problem
- C. Collect and start processing the system data
- D. Develop the model using Network diagram.

148. Simulation is the process of using a model to study the performance of a system.

- A. Agreeable
- B. Not agreeable
- C. Partly agreeable
- D. Cannot comment

149. Disadvantage of using Modelling and Simulation lies in the statement -

- A. Simulation requires manpower and it is a time consuming process
- B. Simulation results are difficult to translate and only experts can understand it.
- C. Simulation is an expensive process.
- D. All of the above.

150. Monte Carlo Simulation gets its name from which of the following? MQPJUNE25

- A. Data collection.
- B. Model formulation
- C. Random number assignment
- D. Analysis

151. Select the valid reasons for using Simulation.

- A. Relationship between the variables is non-linear.
- B. Optimized solutions are obtained.
- C. Conduct experiment without disrupting the real system.
- D. Both (a) and (c)

152. Simulation may be applied to: MQP DEC24

- a) Bricklaying
- b) Scheduling aircraft
- c) Paper manufacturing
- d) Toy manufacturing

153. The important step(s) required for simulation approach in solving a problem is/are:

JUNE24

- Test and validate the Model
- Design the experiment
- Conduct the experiment
- All of the above

Question 30 : - DEC 23

The drive up window of a fast food centre was being studied using simulation for a variety of operating characteristics. As part of the study data was collected on Customer Arrivals as given in the following table. Using expected value calculations determine the expected time between customer arrivals.

Inter arrival time (Minutes)	0.5	1.0	2.0	3.0	4.0	5.0	6.0
Probability	0.10	0.25	0.20	0.30	0.05	0.05	0.05

- 2.35 minutes
- 2.00 minutes
- 2.70 minutes
- 1.65 minutes

Question 29 : -

The drive up window of a fast food operation was being studied using simulation for a variety of operating characteristics. As part of the study data was collected on Order Processing Time as given in the following table. Using the first two digits of the Random Numbers, determine the processing time that would be used to simulate the fifth sample.

Processing time (Minutes)	1	2	3	4						
Relative Frequency	0.30	0.45	0.20	0.05						
Customer	1	2	3	4	5	6	7	8	9	10
Random No.	1048	2236	2413	4216	3757	1501	4657	4836	9309	3997

- 2 minutes
- 4 minutes
- 1 minute

(d) 3 minutes

DEC 24

Children's park in a city with various signals and crossing is the simulated model of city traffic. This is type of

- Analogue simulation
- Computer simulation
- Monte Carlo simulation
- Both (A) and (C) of the above

NETWORK ANALYSIS

154. Critical Activities have:

- Maximum float
- Minimum float
- Zero float
- Negative float

155. In PERT Chart, the Activity time distribution is - JUNE23

- Normal
- Binomial
- Poisson
- Beta

156. The time by which the activity completion time can be delayed without affecting the start of the succeeding activities is known as -

- Total float
- Free float
- Independent float
- Head slack

157. Which of the following statement is not true?

- PERT is deterministic in nature.
- CPM is probabilistic in nature.
- PERT Network can not be crashed.
- All of the above.

158. The amount of time by which an activity can be delayed without affecting the project completion is called -

- A. Free float
- B. Total float
- C. Interfering float
- D. None of the above

159. In a project planning Free float can affect which of the following?

- A. Succeeding activity
- B. Only that activity
- C. Preceding activity
- D. All of the above

160. Solution of problems of Crashing has to be started by applying the technique on -

- A. Any activity of the Network.
- B. Non critical activities
- C. Critical activities
- D. None of the above.

161. The reduction in project time normally results in -

- A. Decrease in Direct Cost and increase in Indirect Cost
- B. Increase in Direct Cost and decrease in Indirect Cost
- C. Increase in both Direct and Indirect Costs
- D. Decrease in both Direct and Indirect Costs.

162. Following data refers to a project Network. What will be the Critical Path? Activity

1 - 2, 2 - 3, 3 - 4, 1 - 4, 2 - 5, 3 - 5, 4 - 5

Duration 2 Days, 1 Day, 3 Days, 3 Days, 3 Days, 2 Days, 4 Days

- A. 1-2-3-5
- B. 1-2-3-4-5
- C. 1-4-5
- D. 1-4-3-5

163. Activities A, D and F merges at the event 6. If the earliest finish times of A, D and F are respectively 13, 17 and 8 then the earliest time of Event 6 is -.

- A. 8
- B. 13
- C. 17
- D. Cannot be determined from the given information.

164. The slack times of Tail and Head events of Activity P are 10 days and 4 days respectively. If the Free float of the Activity P is 12 days then the

Total float would be -

- A. 8 days
- B. 16 days
- C. 22 days
- D. none of the above

165. The slack time of tail event of activity Z of a project is 2 days. If the Total Float and Free float of the activity Z are 10 days and 7 days respectively, the Independent float of activity Z will be: **DEC23**

- (A) 5 days
- (B) 6 days
- (C) 7 days
- (D) 2 days

166. For an activity the pessimistic, most likely and optimistic times are respectively 10, 6 and 2 days. The expected duration of the activity -
- 6 days
 - 3 days
 - 2 days
 - 9 days
167. Optimistic time and pessimistic time of an activity are respectively 4 days and 16 days. Variance of the duration of the activity will be -
- 4 days
 - 2 days
 - 3 days
 - None of the above
168. The expected time for an activity of Project LM is 20 days. If the most likely and pessimistic time are 19 days and 28 days, what will be the variance of the activity? JUNE24
- 1.36
 - 1.78
 - 4.
 - 0
169. Question 12 :-
A PERT activity has an optimistic time of 3 days, pessimistic time of 15 days and an expected time of 7 days. What is the most likely time of the activity?
- 10 days
 - 6 days
 - 5 days
 - None of the above
170. A PERT Network has nine activities on its Critical Path. The Standard Deviation of each activity on the Critical Path is 3. The S. D of the Critical Path is - MQP JUNE25

JUNE25(SD - 4 was given IN J25)

- 3
 - 9
 - 81
 - 27
171. In a PERT network, the optimistic time for a particular activity is 9 weeks and the pessimistic time is 21 weeks. Which one of the following is the best estimate of the standard deviation for the activity? MQP DEC24
- 12
 - 9
 - 6
 - 2
- Question 14 :- JUNE24 MQP JUN25 , DEC24
The Normal duration and Normal cost of an activity are respectively 10 days and ₹ 350. The cost slope is ₹ 75 per day. If the Crash duration is 8 days then what is the Crash cost of the activity?
- ₹ 400/-
 - ₹ 500/-
 - ₹ 600/-
 - ₹ 650/-
172. Which of the following is incorrect?
- PERT is suitable for projects having probabilistic time estimates.
 - CPM is suitable for projects having deterministic activities.
 - Both PERT and CPM are event oriented.
 - PERT is event oriented while CPM is activity oriented.
173. The activity that must be completed prior to the start of an activity is called
- Dummy activity
 - Successor activity
 - Concurrent activity
 - Predecessor activity
174. Which of the following represents reduction in project duration?
- Crashing
 - Negative slack
 - Variance
 - All of the above
175. Critical Path Method is good for -

- A. Small projects only
 - B. Large projects only
 - C. Both small and large projects equally
 - D. Neither small nor large projects
- 176.** The optimum duration is the -
- A. Summation of normal durations of each activity of the project.
 - B. Summation of normal durations of activities in the Critical Path
 - C. One which gives the minimum Total Cost for the completion of the project.
 - D. Summation of crash durations of activities in the Critical Path.
- 177.** Which of the following is not a notable challenge while scheduling a project?
- A. Deadlines exist
 - B. Independent activities
 - C. Too many workers may be required
 - D. Costly delay
- 178.** A critical path is -
- A. The shortest path
 - B. The longest path
 - C. The path that begins from the start node and ends at the last node.
 - D. All of the above

LEARNING CURVE

- 179.** A Learning Curve describes:
- A. The increase in number of units produced per unit time as the total number of units produced increases
 - B. The rate at which an organisation acquires new information
 - C. The amount of production time per unit as the total number of units produced increases.
 - D. The increase in production time as the total number of units produced increases.
- 180.** Limitations of the Learning Curve approach include -
- A. Learning Curves must be redeveloped whenever the product or the production process is modified.
 - B. Learning Curves are applicable when considering a highly automated process.
 - C. Learning Curves are only valid when considering simple production process
 - D. Learning Curves are only valid when the total number of units produced is relatively small.

- 181.** Which of the following statements about Learning Curve is incorrect?
- A. A change in the process disrupts the Learning Curve.
 - B. The rate of learning varies depending on the quality of management
 - C. The Learning Curve can be disrupted by the change in personnel
 - D. Learning Curves show that the time saved in completing each subsequent unit increases.
- 182.** Which of the following is not an application of Learning Curve?
- A. Learning Curves allow a manager to predict the time required for new employee orientation on company policies and procedures
 - B. Learning Curves permit a manager to prepare a work schedule.
 - C. Learning Curves allow a manager to forecast the labour requirements while preparing a departmental employee budget.
 - D. Learning Curves can be employed in supply chain negotiations
- 183.** Bimal and Kamal are the two industrial workers engaged in doing a similar job. They have different learning rates of 80% and 90% respectively. Times taken to complete their first jobs are respectively 12 and 8 hours. If both continue with the same learning rate then after how many units Bimal will be faster than Kamal?
- A. 5th unit
 - B. 7th unit
 - C. 11th unit
 - D. 19th unit
- 184.** How long will it take to produce the fifth unit with 85% learning rate, if the third unit took 13 hours? **MQP JUNE25**
- A. 10.3 hours
 - B. 10.0 hours
 - C. 11.4 hours
 - D. 11.5 hours
- 185.** When 24 hours is required to produce a condenser of a particular type then the time required to produce the 16th unit with 85% Learning Curve is - **MQP JUNE25 JUNE25**
- A. Between 9 and 10 hours
 - B. Between 12 and 14 hours
 - C. Between 15 and 17 hours
 - D. Between 18 and 20 hours
- 186.** A diesel engine manufacturing company has an order of 4 large engines. A crew of 16 members took 4000 hours to assemble the first engine. If 80% Learning Curve is

used then what will be the labour cost of the fourth engine, assuming average labour rate to be Rs. 180 per hour?

- A. Between Rs. 4 to 4.5 Lakhs
- B. Between Rs. 3.5 to 4 Lakhs
- C. Between Rs. 3 to 3.5 Lakhs
- D. Between Rs. 4.5 to 5 Lakhs

187. An employee of ROR Ltd, took 200 minutes to complete the first set up on a new machine. Using a 90% incremental unit time learning model indicates that the second set up on the new machine is expected to take **DEC23**

- (A) 160 minutes
- (B) 120 minutes
- (C) 100 minutes
- (D) 80 minutes

188. If the time taken to produce the first unit of a product is 4000 hrs, what will be the total time taken to produce the 5th to 8th unit of the product, when a 90% learning curve applies? **MQP DEC24**

- a) 10,500 hours
- b) 12,968 hours
- c) 9,560 hours
- d) 10,368 hours

189. DOXT Ltd., a manufacturing company, is preparing a quotation for a new product-
D. The time taken for the first unit is 30 hours. The company expects 85% learning curve (Index is - 0.2345). The company desires that the quotation should be based on the time taken for the final output within the Learning period which is expected to end after the company has produced 200 units. What will be the time per unit of

product to be used for the quotation?

[Given: $199^{-0.2345} = 0.28901$, $200^{-0.2345} = 0.28867$ and $201^{-0.2345} = 0.28834$]

- a. 6.63 hours
- b) 10.34 hours
- c) 11.50 hours
- d) None of the above

190. LONAX Ltd., a manufacturing company has developed a new product and just completed the manufacture of first 16 units of the product. If the first unit took 6 hours to manufacture and the first 16 units together took 62.9856 hours to produce, the Learning Curve (LC) rate would be **DEC24**

- A. 80 %
- B. 85 %
- C. 90 %
- D. 95 %

MAXIMA MINIMA

191. Optimization is the method of finding: **MQP**

- A. The maximum point
- B. The minimum point
- C. The critical point
- D. All of the above

192. Choose the correct answer:

- A. Optimization problems should have only one objective function
- B. Constraint functions are compulsory for any optimization problem
- C. Objective function must be a continuous function
- D. None of the above

193. The process of finding relative maximum or minimum of a function is known as:

- A. Optimization
- B. Maximization
- C. Minimization
- D. Any of these

194. For a Cost Function $TC = 3Q^2 + 7Q + 12$, MC is - **MQP JUNE25**

- A. $6Q$
- B. $6Q + 7$
- C. $3Q + 12$
- D. None of the above

195. MR is: **MQP J23**

- A. First order derivative of TC
- B. Second order derivative of TR
- C. First order derivative of TR
- D. Second order derivative of TC

196. In the expression $D = AC - B^2$ used for describing the sufficient conditions for unconstrained optimization involving two variables (x and t), the meaning of A and C are -

- A. 2nd order partial derivative of the objective function (f) with respect to x and y respectively.
- B. 2nd order partial derivative of $\partial f / \partial x$ with respect to y
- C. Both (a) and (b)
- D. none of the above

197. A price discriminating Monopolist Firm operates in -

- A. Such a Market where it is the sole supplier.
- B. More than one Market
- C. Markets where it sells same product but in different prices.
- D. All of the above.

198. For a dual plant Monopolist Firm with respective production costs C_1 & C_2 in the two plants, the necessary condition of equilibrium is:

- A. $MC_1 = MC_2 \neq MR$
- B. $MC = MR$
- C. $MC_1 = MC_2 = MR$
- D. $MC_1 = MR_1$ & $MC_2 = MR_2$

199. Total Revenue of ZOM Ltd., from the Sales of the quantity (units) is given by the equation $R = 3x^3 - x^2 + 10x + 5$. If the Marginal revenue is 25, what will be number of quantity (in units)? **JUNE24**

- a) 6

- b) 4
- c) 5
- d) None of the above

200. The average cost function for a product is given by $AC = 1/3 X^2 + X + 8$ in terms of output x if the marginal cost is rs 23 what will be the number of units (output)? **DEC24**

- (A) 3
- (B) 4
- (C) 5
- (D) 0

Question 8 **JUNE25**

The Cost function of TNZ PIC is given by $C = X^3 - 4X^2 + 7X$ in terms of output X. Assess at what level of output the average cost is minimum.

- (A) 3
- (B) 2
- (C) 4
- (D) None of the above

Correct Answer: (B) 2

Working & Explanation:

Working & Explanation:

$$\text{Average cost } AC = \frac{C}{X} = \frac{X^3 - 4X^2 + 7X}{X} = X^2 - 4X + 7.$$

$$\text{Differentiate AC w.r.t. } X : \frac{d(AC)}{dX} = 2X - 4.$$

$$\text{Set to zero for minimum: } 2X - 4 = 0 \Rightarrow X = 2.$$

Second derivative is $2 > 0$, so this is a minimum.

Hence, average cost is minimum at $X = 2$.

BUSINESS FORECASTING

201. Which of the following is not a part of qualitative type of forecasting techniques? **DEC23**

- (A) Survey Technique
- (B) Barometric Technique
- (C) Exponential Smoothing

(D) Delphi Technique

202. In Exponential Smoothing Method which one of the following is true?
- $0 \leq \alpha \leq 1$ and high value of α is used for stable demand.
 - $0 \leq \alpha \leq 1$ and high value of α is used for unstable demand. $\alpha \geq 1$ and high value of α is used for stable demand.
 - $\alpha \geq 1$ and high value of α is used for stable demand.
 - $\alpha \leq 0$ and high value of α is used for unstable demand.
203. Which of the following is not a Casual Forecasting Method?
- Trend adjusted Exponential Smoothing
 - Econometric models
 - Linear Regression
 - Multiple Regression
204. In a Time Series forecasting model, the demands for five time periods are 10, 13, 15, 18 and 22. A linear regression fit resulted in the equation $y = 6.9 + 2.9t$, where y is the forecast for the period t . The sum of the absolute deviations for the five data with respect to their corresponding forecasts (taking $t = 1$ for the first one) is:
- 23
 - 0.2
 - 1
 - 22
205. Which of the following is not a forecasting technique?
- Trend line estimate
 - Delphi Method
 - Hungarian Method
 - Judgemental technique
206. In Simple Exponential Smoothing forecast, to give higher weightage to recent demand information, the smoothing constant must be close to - DEC24
- 1
 - 0
 - 0.5
 - 1

207. A linear Trend equation has the form -
- $F = a - bt$
 - $F = a + bt$
 - $F = 2a - bt$
 - $F = 2a + bt$
208. The actual demand for a period is 100 units. But forecast demand was 90 units. The forecast error is -
- 10
 - 10
 - ₹5
 - None of the above
209. If the estimate of the Trend Component is 158.2, the estimate of Seasonal Component is 94%, the estimate of the Cyclical Component is 105% and the estimate of the Irregular Component is 98%, then the multiplicative model will produce a forecast of -
- 1,53,02
 - 1,53%
 - 1,53%
 - 15,30,20,532
210. Which of the following is not true for forecasting?
- Forecasts are rarely perfect.
 - The underlying casual system will remain same in the future.
 - Forecast for group of items is accurate than individual item
 - Short range forecasts are less accurate than long range forecasts E.
211. Delphi Method is used for -
- Judgemental forecast
 - Time Series forecast
 - Associative model
 - All of the above

Question 30 : - MQP J23

The equations of the two lines of Regression are $4x + 3y + 7 = 0$ and $3x + 4y + 8 = 0$. The Coefficient of Correlation between x and y is -

- (a) 1.25
- (b) 0.25
- (c) - 0.75
- (d) 0.92

TOOLS FOR DATA ANALYTICS.

215. Which of the following is/are not the features of Jedox tool? JUNE24

- (A) Deployable in the cloud as well as on premise server or Hybrid.
- (B) BI and Analytics platform.
- (C) Allows users to easily create and share powerful reports within minutes.
- (D) (B) and (C) only

Question 4 JUNE 25

Which of the following is related to Financial Data Analytics?

- (A) Value driver analytics
- (B) Financial ratio analytics
- (C) Predictive sales analysis
- (D) All of the above

Correct Answer: (D) All of the above

Explanation:

Financial Data Analytics is a broad field. It includes analysis of value drivers (factors that influence firm value), traditional financial-ratio analysis, and predictive analytics such as forecasting sales — all of which are part of financial analytics.

Question 5 JUNE25

Python can be used on Linux, Windows, Macintosh, Solaris and many more. What category of language features of Python it comes under?

- (A) Robust
- (B) Embeddable
- (C) High Level Language
- (D) Platform Independent

Correct Answer: (D) Platform Independent

Explanation:

Python programs can run on multiple operating systems (Linux, Windows, Macintosh, Solaris, etc.) without requiring modification. This feature is known as platform independence.

- *Robust* → means error-resistant and reliable.
- *Embeddable* → Python code can be embedded in other languages.

- *High Level Language* → Python is indeed a high-level language, but the specific feature tested here relates to its ability to run across platforms.

Question 1 : - DEC24 MQP,J23MQP

Tableau is a -

- a. Business Intelligence Tool
- b. Visualisation Tool
- c. Both (a) and (b)
- d. None of the above

Question 2 : -

Which of the following statement is correct?

- a. Functioning of ETL Tool is same as that of ELT Tool.
- b. For Data Analytics the purpose of ETL Tool is same as that of ELT Tool.
- c. Both (a) and (b)
- d. None of the above

Question 3 : -

Which of the following statement is incorrect?

- a. Microsoft Excel is most popular among all the available spreadsheets.
- b. Zoho Analytics is a tool used for Financial Data analysis.
- c. Visualisation Tools are the Reporting Tools.
- d. None of the above.

Question 4 : - MQP J24

Prescriptive Analytics is very important because -

- a. It tells about the action to be taken.
- b. It tells about what is likely to happen.
- c. It tells about how something has happened.
- d. It tells about what has happened.

Question 5 : - DEC23 MQPJUNE25 MQP JUNE24

Which of the following has no relation to Business Intelligence?

- a. A set of business analytics solutions to retrieve, analyse and transform data into useful business sights
- b. Visualisation Tools are primarily BI Tools.
- c. ABS Glue is a tool used for the purpose of Business Intelligence.
- d. Embedded Analytics is an important part of any Business Intelligence tool.

Question 6 : - DEC23 MQP DEC24 JUNE24

Which of the following is related to Financial Data Analytics?

- Value driver analytics
- Financial ratio analytics
- Predictive sales analysis
- All the above

Question 7 : - JUNE24

Analysis of a dataset has revealed the fact that profit of a business has reduced for the financial year 2021-22. What category of data analytics it comes under?

- Descriptive Analytics
- Predictive Analytics
- Diagnostic Analytics
- Prescriptive Analytics

Question 8 : - MQP JUNE25 MQP JUNE24 MQP DEC24, DEC24

Script Ends - is related to which type of programming language?

- R Programming
- SAS
- Python
- SPSS

Question 9 : - DEC23 ,MQP JUNE24, MQPJ23

Which one of the following is a Key feature of SAS language?

- Capability of handling data analysis related to Operations Research and Project Management.
- Capability of report formation with perfect graphs.
- Capability to interact with multiple host systems
- All the above

Question 10 : - DEC24 MQP J25

Which one of the following is not a spreadsheet?

- Google Sheets
- MS Excel
- EViews
- Quip

Answers:

1	2	3	4	5	6	7	8	9	10
c	b	d	a	c	d	a	c	d	c