

Roll No.

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Total No. of Pages : 03

Total No. of Questions : 17

MBA/MBA IB (Sem.-1)
QUANTITATIVE TECHNIQUES
Subject Code : MBA-103-18
M.Code : 75404
Date of Examination : 02-01-2024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A contains EIGHT questions carrying TWO marks each and students has to attempt ALL questions.
2. SECTION-B consists of FOUR Subsections : Units-I, II, III & IV. Each Subsection contains TWO questions each carrying EIGHT marks each and student has to attempt any ONE question from each Subsection.
3. SECTION-C is COMPULSORY carrying TWELVE marks.

SECTION-A

Answer briefly :

1. What is a decile?
2. What is Skewness?
3. What is linear correlation?
4. What is the regression coefficient?
5. What is Conditional Probability?
6. What is Big-M Method?
7. What is CPM?
8. What are the limitations of the least cost method in Transportation problems?

SECTION-B

UNIT-1

9. Write notes on:

- a) Functions of Statistics
 - b) Limitations Statistics
10. a) What are the applications of Mean Deviation and Standard Deviation?
- b) What are the applications of measures of central tendency?

UNIT-II

11. a) Discuss the business applications of correlation. Explain by citing examples.
- b) What are the addition and multiplication laws of probability?
12. **Write notes on :**
- a) Bayes theorem and its applications
 - b) Why is regression considered a better technique as compared to the correlation?

UNIT-III

13. What is a normal distribution? Explain by discussing the properties and applications of normal distribution
14. **Write notes on :**
- a) Features of Poisson Distribution
 - b) Business Applications of Linear Programming.

UNIT-IV

15. a) What is North-West Rule in Transportation Problems?
- b) Applications of PERT in solving business problems.

16. a) Discuss the procedure of applying the MODI Method in Transportation problems.
b) Discuss in detail the Hungarian method for solving assignment problems.

SECTION-C

17. a) Using Big-M Method

$$\text{Maximize } Z = x_1 + 2x_2 + 3x_3 - x_4$$

Subject to the constraints

$$x_1 + 2x_2 + 3x_3 = 15$$

$$2x_1 + x_2 + 5x_3 = 20$$

$$x_1 + 2x_2 + x_3 + x_4 = 10;$$

$$x_1, x_2, x_3, x_4 \geq 0$$

- b) Height of the fathers and sons is given below. Find the height of the son when the height of the father is 70 inches

Father (Inches)	71	68	66	67	70	71	70	73	72	65	66
Son (Inches)	69	64	65	63	65	62	65	64	66	59	62

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.