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Total No. of Pages : 03

Total No. of Questions : 10

MBA / MBA(IB/Fintech) (Sem.-1)
QUANTITATIVE TECHNIQUES

Subject Code : MBA-103-18

M.Code : 75404

Date of Examination : 18-06-2025

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION 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

1. **Answer briefly :**
 - a. Meaning of Statistics.
 - b. Positional Average
 - c. Correlation Coefficient
 - d. Event Probabilities
 - e. Probability Distribution
 - f. Zero Sum Game
 - g. PERT
 - h. Feasible Solution.

SECTION - B

UNIT - I

2. Distinguish between Statistical Methods and Statistics. Discuss the scope and significance of the study of statistics.
3. Find the standard deviation from the following frequency distribution :

Marks	10	20	30	40	50	60
No. of students	8	12	20	10	7	3

UNIT - II

4. From the following data of the age of husband and the age of wife, form the two regression lines and calculate the husband's age when the wife's age is 16. And also find the value of coefficient of correlation :

Husband's age	36	23	27	28	28	29	30	31	33	35
Wife's age	29	18	20	22	27	21	29	27	29	28

5. Explain Addition and Multiplication Laws of Probability.

UNIT - III

6. Siva Kumar & Co. manufactures two types of T-shirts, one with collar and another without collar. Each T-shirt with collar yields a profit of Rs. 20, while each T-shirt without collar yields Rs. 30. Shirt with collar requires 15 minutes of cutting and 25 minutes of stitching. Shirt without collar requires 10 minutes of cutting and 20 minutes of stitching. The full shift time is available for cutting in an 8 hour shift, but only 6 hours are available for stitching. Formulate the problem as an LP model to maximize the profit.
7. What is Game Theory? What are the properties of a game? Explain the best strategy on the basis of Minimax criterion of Optimally.

UNIT - IV

8. The cost of transportation per unit from three sources and four destinations are given in Table below. Obtain the initial basic feasible solutions using the following methods.
 - a) North-west corner method
 - b) Least cost method.

Source	Destination				Supply
	1	2	3	4	
1	4	2	7	3	250
2	3	7	5	8	450
3	9	4	3	1	500
Demand	200	400	300	300	1200

9. What is Travelling-Salesman Problem? How does it differ from an assignment Problem?

SECTION - C

10. Case Study :

You are required to prepare a Network Diagram for constructing a 5 floor Apartment. The major activities of the project are given as follows :

Activity	Description	Immediate Predecessor
A	Selection of site	-
B	Preparation of drawings	-
C	Arranging the for finance	A
D	Selection of contractor	A
E	Getting approval from Govt.	A
F	Laying the foundation	E
G	Start construction	D, F
H	Advertise in newspaper	B, C
I	Allocation of tenants	G, H

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.