Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   **Total No. of Pages : 02**

Total No. of Questions : 08

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MBA/MBA(IB) (Sem.–1)

QUANTITATIVE TECHNIQUES

Subject Code : MBA-103-18

M.Code : 75404

Date of Examination : 16-08-21

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Time : 2 Hrs.   **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1.   **Attempt any FIVE question(s), each question carries 12 marks.**

1.   What is statistics? Explain the utility of statistics as a managerial tool. Also discusses its limitations.

2.   Following is the distribution of marks obtained by 125 students in quantitative technique paper :

Marks (less than)	10	20	30	40	50	60	70	80
No. of Students	4	16	40	76	96	112	120	125

   Compute Mean and Median

3.   Given the following data, using regression analysis, find the regression equations to find :

   a) The value of X when Y is equal to 275

   b) The value of Y when X is equal to 50

X	22	29	36	44	38
Y	211	228	239	251	246

4.   a) Explain the following in context with probability Equally-likely events, Mutually exclusive events, Independent events and Dependent events.

   b) A Chartered Accountant applied for a job in two firms X and Y. He estimated that the probability of being selected in a firm X is 7/10 and being rejected in firm Y is 5/10 and the probability that will be selected in both firms is 4/10. What is the probability that he will be selected in one of the firms?

5. What do you mean by infeasible solution, unbounded solution and multiple optimal solutions? Hence solve the following linear programming problem :

Max. $Z = 3X_1 + 2X_2$

Subject to $-2X_1 - X_2 \geq -2$

$3X_1 + 4X_2 \geq 12$

$X_1 \geq 0, X_2 \geq 0$

6. What is normal distribution? Explain its properties and bring out its importance in statistics.

7. Solve the following assignment problem :

Persons	Jobs				
	J1	J2	J3	J4	J5
P1	27	18	-	20	21
P2	31	24	21	12	17
P3	20	17	20	-	16
P4	20	28	20	16	27

8. Explain the following :

a) Estimation of activity times in PERT.

b) Critical path and why it is so important in scheduling and controlling large projects?

c) Differentiate between PERT and CPM.