Roll No. | | | | | | | | | | | | |

Total No. of Pages : 03

Total No. of Questions : 17

M.Com. (2018 Batch) (Sem.–1)

QUANTITATIVE TECHNIQUES

Subject Code : MCOP-103-18

Paper ID : [75335]

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. **SECTIONS-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 and consist of ONE Case Study carrying TWELVE marks.**

SECTION-A

Q1 Explain the importance of statistics.

Q2 What is the significance of skewness and kurtosis?

Q3 How is correlation different from causation?

Q4 What is conditional probability?

Q5 Differentiate between Binomial and Poisson distributions.

Q6 Discuss the concept of duality in LPP.

Q7 What is optimality analysis in transportation?

Q8 Explain the significance of activity scheduling.

SECTION-B

UNIT-I

Q9 Discuss the various functions, scope and limitations of statistics. Give examples.

Q10 Find the variance of the 3 variables from the following data, and comment on it:

X	22	28	21	29	30	27
Y	11	13	18	17	10	15
Z	33	35	39	31	36	32

UNIT-II

Q11 Explain what is meant by correlation? Discuss its various types.

Q12 A husband & a wife appear for an interview for 2 vacancies against the same post. The probability of the husband's selection is 1/7 and that of wife's rejection is 4/5. What is the probability that

a) Both of them will be selected

b) Only one of them will be selected

c) At least one of them will be selected

UNIT-III

Q13 Discuss the relevance of game theory to managerial decision making. Also explain the various strategies in game theory.

Q14 Solve the following L.P.P. using graphical technique:

Max $Z = 5x_1 + 7x_2$

Sub to $3x_1 + 4x_2 \leq 7$; $2x_1 + 5x_2 \geq 9$; $3x_1 - 2x_2 \geq 6$; where $x_1, x_2 \geq 0$

UNIT-IV

Q15 What is meant by network analysis? Discuss and differentiate between PERT & CPM.

Q16 Solve the following assignment problem:

	Market				
Salesman	**M_1**	**M_2**	**M_3**	**M_4**	**M_5**
S_1	20	28	25	27	26
S_2	28	32	29	24	27
S_3	31	33	28	26	33
S_4	27	25	29	24	31

SECTION-C

Q17 Study the following case and answer the question(s) that follow :

A firm employs typists on an hourly piece basis for their daily work. There are 5 typists for service and their charges and speeds are different. According to an earlier understanding only one job is given to one typist and the typist is paid for full hours even if he works for a fraction of an hour.

Typist	Rate per Hour	No. of Pages typed / hour	Job	No. of Pages
A	5	12	P	199
B	6	14	Q	175
C	3	8	R	145
D	4	10	S	298
E	4	11	T	178

Question :

Determine how should the typist be allocated so as to minimize the cost.