

B.Com DEGREE EXAMINATION, EVEN SEMESTER 2021**I Year I Semester****Business Statistics and Operations Research - I**

Max Marks: 25

Answer any **Five** questions (5 * 5 = 25) Marks

1. Discuss the different types of diagrams.
2. From the following data, calculate mean, median and mode.

Class:	10-15	15-20	20-25	25-30	30-35	35-40	40-45
Frequency:	8	14	18	25	15	14	6

3. In a correlation study the following values are obtained:

	X	Y
Mean	65	67
Standard deviation	2.5	3.5
Coefficient of correlation	0.8	

Find out the coefficient of Variation and also fit two regression equations that are associated with the above values.

4. Calculate Karl Pearson's Coefficient of Correlation:

X: 43 44 46 40 44 42 45 42 38 40 42 57

Y: 29 31 19 18 19 27 27 29 41 30 26 10

5. Write short notes on Secular trend.
6. From the following data fit a straight-line trend by the method of three year Moving Average

Year	2000	2001	2002	2003	2004	2005	2006
Production	12	10	14	11	13	15	16

7. Solve the following LPP using simplex method:

$$\text{Max } z = 3x_1 + 2x_2 + 5x_3$$

Sub to

$$X_1 + 2x_2 + x_3 \leq 40$$

$$3x_1 + 2x_3 \leq 60$$

$$X_1 + 4x_2 \leq 30$$

$$X_1, x_2, x_3 > 0$$