ST.JOSEPH'S UNIVERSITY, BENGALURU -27
BCA (DATA ANALYTICS) – I SEMESTER
SEMESTER EXAMINATION: OCTOBER 2023
(Examination conducted in November / December 2023)

Registration Number:

Date & session:

BCADA1221: Exploratory data Analysis using Excel

Time: 2 Hours **Max Marks: 60**

This paper contains ONE printed pages and THREE parts

PART-A

Answer ALL the questions $5 \times 2 = 10$

1. Define the terms population and sample.
2. What is a Deterministic experiment?
3. Give two examples of Bernoulli experiment.
4. What do you mean by positive correlation? Give an example.
5. Give an expression to estimate the slope of regression simple linear regression equation.

PART-B

Answer ANY FIVE questions $5 \times 4 = 20$

6. Explain Interval data and Ration data
7. Find the median and mode of 3, 5, 4, 2, 3, 6, 7
8. With an example define complementary event and Union of two events.
9. Define probability mass function and Probability density function?
10. Define central limit theorem.
11. Explain Simple correlation, Multiple correlation and Partial correlation
12. Write a note on least square method.

PART-C

Answer ANY THREE the following $3 \times 10 = 30$

13. For the following distribution find Mean and variance

X	2	3	4	5	6
F	2	3	10	4	1

14. Following is the probability distribution of a continuous random variable

$$f(x) = \begin{cases} 3x^2, & 0 < x < 1 \\ 0, & else\ where \end{cases}$$

Find mean, Variance, $P[X < 0.2], P[X > 0.3]\ and\ P[0.1 < X < 0.7]$

15.
   a) On an average page of a book contains 4 mistakes. A page is randomly selected from the book. Find the probability that the number of mistakes in the selected page is i) equal to 3 ii) at least 3
   b) A machine is adjusted to produce the items with mean length 100 cms and standard deviation of 8 cms. If there are 5000 items then find the expected number of items with length i) less than 92 cms ii) more than 110 cms and iii) between 82 cms and 110 cms.

16. Following are the information on two variables X and Y

X	1	2	3	4	5
Y	5	7	6	8	9

Obtain the simple linear regression equation of Y on X. Estimate Y if X=6