

1293

**B. C. A. (Third Semester)  
EXAMINATION, 2023-24  
STATISTICAL TECHNIQUES**

Course Code : BCA-304T

Time : Three Hours

Maximum Marks : 75

**Note :** (i) All questions are compulsory.

(ii) Answer each part of the first question in not more than 100 words and the remaining questions in 800 words.

(iii) Marks are mentioned against the questions.

1. Answer each of the following questions :

5×3=15

- (a) What do you mean by histogram ?  
(b) Define Geometric mean.  
(c) What do you mean by dispersion ?

- (d) What do you mean by conditional probability ?  
(e) What is the difference between binomial and normal distribution ?

2. Answer the following question : 15

- (a) What is data science ? How is data science differing from traditional programming ? Explain the role of data science in modern era.

Or

- (b) Compute Arithmetic Mean and Median for the following data :

Class Interval	Frequency
0-5	5
5-10	8
10-15	3
15-20	4
20-25	13
25-30	7

3. Answer the following question : 15

- (a) Discuss Skewness and Kurtosis with suitable examples.

*Or*

- (b) Find quartile deviation for the following data :

Class Interval	Frequency
0-15	5
15-30	7
30-45	3
45-60	6
60-75	4
75-90	12
90-105	10
105-120	3

4. Answer the following question : 15

- (a) Suppose that A and B are two independent events, associated with a random experiment. If the probability that A or B occurs equals 0.6; while probability that A occurs equals 0.4, determine the probability that B occurs.

*Or*

- (b) Explain Bayes Theorem and its applications.

5. Answer the following question : 15

- (a) What do you mean by correlation ? Calculate the Karl Pearson's Correlation coefficient between X and Y for the following :

X	Y
4	5
7	11
13	19
18	28

*Or*

- (b) What do you mean by regression ? Find both the lines of regression for the following :

X	Y
2	3
4	7
6	5
8	10