NRT/KS/19/2208

Bachelor of Computer Application (B.C.A.) Semester-I Examination

STATISTICAL METHODS

Paper—III

Time : Three Hours] [Maximum Marks : 50

N.B. :— (1) All questions are compulsory and carry equal marks.

(2) Assume suitable data wherever necessary.

(3) Draw neat and labelled diagrams wherever necessary.

EITHER

1. (a) Write a short note on tabulation of data. 5

(b) Explain the importance and scope of statistics in detail. 5

OR

(c) Define statistics and discuss the cause of distrust of statistics. 5

(d) Prepare a suitable frequency table of the marks in the subject Statistics obtained by the students from the following data by taking a class interval of 10-15, 15-20, 20-25 etc. :

11, 18, 25, 27, 16, 29, 30, 20, 26, 12, 25, 28, 19, 13, 30, 22, 23, 29, 30, 36, 22, 25, 27, 14, 30, 31, 21, 34, 20, 37, 23, 27, 36, 32, 19, 35, 34, 33, 32, 40, 42, 15, 41, 38. 5

EITHER

2. (a) Write short notes on :

(i) Geometric mean

(ii) Harmonic mean. 5

(b) Calculate mode for the following data :

Marks	50-55	55-60	60-65	65-70	70-75	75-80
No. of students	3	8	14	20	16	2

5

OR

(c) Explain the different measures of central tendency. 5

(d) Obtain the median for the following frequency distribution :

x	1	2	3	4	5	6	7	8	9
y	8	10	11	16	20	25	15	9	6

5

EITHER

3. (a) Explain in brief how the measures of skewness and kurtosis can be used in describing frequency distribution. 5

(b) Calculate the mean-deviation for the following data :

Quantity demanded (Units)	10	20	30	40	50	60	70	80	90	100
Frequency	7	13	16	6	14	19	28	17	21	9

5

OR

(c) Define the term dispersion. Explain any two measures of dispersion. 5

(d) Find the standard deviation for the following distribution :

x	4.5	14.5	24.5	34.5	44.5	54.5	64.5
y	5	3	7	18	14	9	4

5

EITHER

4. (a) What is correlation ? Explain the types of correlations. 5

(b) Calculate Karl Pearson coefficient of correlation :

x	42	52	55	60	66	68	65	60	58	34
y	11	13	18	22	26	40	31	27	24	18

5

OR

(c) Calculate coefficient of correlation between the expenses and saving of any family :

Expenses (Rs.)	10	18	27	39	46
Saving (Rs.)	70	55	47	28	20

5

(d) Derive the formula for an angle between two lines of regression. 5

5. (a) Explain primary data and secondary data in brief. 2½

(b) Explain the following :

(i) Weighted arithmetic mean

(ii) Relationship between A.M., GM and HM. 2½

(c) What are quartiles ? How are they used for measuring dispersion. 2½

(d) Differentiate between correlation and regression. 2½