Bachelor of Science (B.Sc. I.T.) Semester–III Examination

STATISTICAL METHODS

Paper–VI

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 diagram wherever necessary.

EITHER

1. (a) How is census and sample investigation performed ? Explain in detail. 5

(b) Explain various functions of statistics. 5

OR

(c) What is secondary data ? How does it differ from primary data ? 5

(d) What do you mean by data ? How can it be represented graphically ? 5

EITHER

2. (a) Define Arithmetic Mean. Explain advantages and disadvantages of it. 5

(b) 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

OR

(c) The average salary of male employees in a firm was Rs. 5,200 and that of female employees was Rs. 4,200. The mean salary of all employees was Rs. 5,000. Find the percentage of male and female employees. 5

(d) Find the mode of following frequency distribution :

Size (x) :	1	2	3	4	5	6	7	8	9	10	11	12
Frequency (f) :	3	8	15	23	35	40	32	28	20	45	14	6

5

EITHER

3. (a) What is dispersion ? Write the characteristics for an ideal measure of dispersion. 5

(b) Find the coefficient of skewness from the data given below :

Size :	3	4	5	6	7	8	9	10
Frequency :	7	10	14	35	102	136	43	8

5

OR

(c) Give the importance of skewness. Explain the coefficient of skewness based on quartiles and moments. 5

(d) Calculate the standard deviation for the following distribution of 542 members :

Age (yrs) :	20-30	30-40	40-50	50-60	60-70	70-80	80-90
No. of members :	3	61	132	153	140	51	2

5

EITHER

4. (a) Explain any two properties of regression coefficient. 5

(b) Calculate the correlation coefficient for the following scores in Physics and Chemistry :

Physics	:	65	66	67	67	69	58	59
Chemistry	:	67	68	65	69	66	56	57

5

OR

(c) Explain the coefficient of correlation with its limits. 5

(d) Following table shows height (in inches), the respective heights X and Y of a sample of 12 fathers and their eldest sons :

Height X of father	:	65	63	67	64	68	62	70	66	68	67	69	71
Height Y of Son	:	68	66	68	65	69	66	68	65	71	67	68	70

Construct a Scatter Diagram. 5

5. Attempt **all** :

(a) Give the limitations of statistics. 2½

(b) Define Geometric Mean. Also explain the merits and demerits of it. 2½

(c) What is Kurtosis ? Explain in detail. 2½

(d) Find, the most likely price in Mumbai corresponding to the price of Rs. 70 at Kolkata from the following :

		Kolkata	Mumbai
Average Price	:	65	67
Standard deviation	:	2.5	3.5

The correlation coefficient between the prices of commodities in the two citites is 0.8. 2½