

Bachelor of Science (B.Sc.I.T.) Semester—III (C.B.S.) 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.

EITHER

1. (a) What do you mean by classification and tabulation ? What are the rules of classification ? 5
 (b) Explain the distrust of statistics with example. 5

OR

- (c) What is secondary data ? How does it differ from primary data ? 5
 (d) Define census and sampling. Explain methods of sampling. 5

EITHER

2. (a) An incomplete frequency distribution is given below :

Class	10–20	20–30	30–40	40–50	50–60	60–70	70–80
Freq.	12	30	?	65	?	25	18

Total frequency = 229

Given the Median value = 46

Determine the missing frequency, using median formula. 5

- (b) Construct the Histogram for the frequency distribution :

Wages (Rs.)	Frequency
250.00 – 259.99	8
260.00 – 269.99	10
270.00 – 279.99	16
280.00 – 289.99	15
290.00 – 299.99	10
300.00 – 309.99	8
310.00 – 319.99	3

5

OR

(c) What do you mean by central tendency ? Define the different measures of central tendency.

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(d) Calculate Geometric Mean of the following :

Yield of Wheat	No. of forms
7.5 – 10.5	5
10.5 – 13.5	9
13.5 – 16.5	19
16.5 – 19.5	23
19.5 – 22.5	7
22.5 – 25.5	4
25.5 – 28.5	1

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EITHER

3. (a) What is dispersion ? Explain any two measures of dispersion with their merits and demerits.

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(b) Calculate standard deviation from the following :

Marks	No. of Students
10	8
20	12
30	20
40	10
50	7
60	3

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OR

(c) Calculate quartile deviation and mean deviation from the following data :

Marks	0–10	10–20	20–30	30–40	40–50	50–60	60–70
No. of Students	6	5	8	15	7	6	3

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(d) Compute Karl Pearson coefficient of skewness for the following data :

Profit in (thousand)	10–12	12–14	14–16	16–18	18–20	20–22
No. of Companies	7	15	18	20	25	10

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EITHER

4. (a) Calculate the correlation coefficient for the following heights (in inches) of Father (X) and their Sons (Y) :

X	65	66	67	67	68	69	70	72
Y	67	68	65	68	72	72	69	71

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- (b) Define the regression coefficient. Prove that if one of the regression coefficients is greater than unity, the other must be less than unity.

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OR

- (c) What is correlation ? Explain types of correlations.

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- (d) The ranks of the same 10 students in Science and Arts Faculty are (1, 1), (2, 10), (3, 3), (4, 4), (5, 5), (6, 7), (7, 2), (8, 6), (9, 8), (10, 11). Calculate rank correlation coefficient for proficiencies of this group in these faculties.

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5. Attempt all :

- (a) Give the limitations of statistics.

2½

- (b) Write the requisites for an ideal measure of central tendency.

2½

- (c) What is skewness ?

2½

- (d) Explain lines of regression.

2½