Exam. Code : 103205
Subject Code : 1198

B.A./B.Sc. 5th Semester

QUANTITATIVE TECHNIQUES

(Quantitative Techniques—V)

Time Allowed—3 Hours] [Maximum Marks—100

Note :—There are **EIGHT** questions. Candidates are required to attempt any **FIVE** questions. All questions carry equal marks.

SECTION—A

1. What are the distinguishing features of Binomial and Poisson distribution ? Explain by giving suitable examples.
2. Explain in detail the Method of Maximum Likelihood Estimation.

SECTION—B

3. What do you understand by Z-distribution ? Highlight the basic properties of Z distribution.
4. Highlight the characteristic features of Chi-square distribution.

SECTION—C

5. A total of 10 persons were appointed on a clerical position in an office after checking their performance based on a test with maximum marks being 50. They

were imparted training for 6 months and again evaluated. The results are given below. Can you conclude that the employees have benefitted by the training ?

Employee Code	Marks	
	before training	after training
I	25	26
II	20	20
III	35	34
IV	15	13
V	42	43
VI	28	40
VII	26	29
VIII	44	41
IX	35	36
X	48	46

6. The following table gives the classification of 100 workers according to their sex and nature of work. Test whether the nature of work is independent of the sex of the worker.

	Skilled	Unskilled
Male	40	20
Female	10	30

Test whether the nature of work is independent of the sex of the worker.

SECTION—D

7. Describe the ANOVA technique in detail. Highlight the difference between One way and Two way ANOVA technique.

8. In order to assess the significance of possible variation in performance of three coaching centres (X, Y, Z) in a city, a common test was given to five students taken at random from each of the centres. The marks attained are given below. Frame the hypothesis and use the given information to test the same.

X	Y	Z
13	12	8
9	10	10
12	11	12
10	14	8
8	9	7