

Exam. Code : 107202

Subject Code : 1945

BCA Semester—II

NUMERICAL METHODS AND STATISTICAL
TECHNIQUES

Paper—III

Time Allowed—3 Hours] [Maximum Marks—75

Note :— Attempt any **five** questions.

1. (a) Find the percentage error if 715.481 is approximated to 3 significant places. 5
- (b) Solve the following system of linear equations by Gauss Jordan method :

$$x + y - z = 2$$

$$2x + 3y + 5z = -3$$

$$3x + 2y - 3z = 6. \quad 10$$

2. Evaluate $\sqrt{5}$ to three decimal places by using Newton Raphson method. 15
3. From the data given below :

x	3	5	11	19	26
y	9.7	13.2	22.1	30	42.1

Compute y at x = 8. 15

4. Use Trapezoidal rule to evaluate $\int_0^1 x^3$ considering 5 subintervals. 15

5. By the method of least squares, find the regression line of Y on X for the following data :

x	0	1	2	3	4
y	1	1.8	3.3	4.5	6.3

15

6. Calculate mean, median and mode for the following data :

Central Value	5	10	15	20	30	40	50	60
Frequency	5	9	13	15	20	15	8	3

15

7. Calculate standard deviation for the following data :

Marks	20	40	60	80	100
No. of Students	8	20	50	70	80

15

8. Find the coefficient of correlation between the two variables using Karl Pearson's direct method based on values for the following data :

U	1	2	3	4	5
V	6	7	8	9	10

15