Exam. Code : 107402

Subject Code : 2215

B.Sc. Bio-Technology 2nd Semester

BIOSTATISTICS

Paper—BT-5

Time Allowed—3 Hours] [Maximum Marks—40

Note :— The question paper consists of three Sections—A, B and C. The candidates are required to attempt all questions of Section-A, and five questions from Section—B and any two questions from Section—C.

SECTION—A

1. Write short notes around 50 words :

   (i) Representation of Data

   (ii) Discrete Data

   (iii) Sample Space

   (iv) Events

   (v) Scatter diagram

   (vi) Linear Correlation

   (vii) Bernoulli distribution

   (viii) Poisson distribution. 8×1=8

SECTION—B

2. What is goodness of fit ? How will you determine it ?

3. What is T test ? How will you determine it by comparison of sample mean with population mean ?

4. What is scattered diagram ? Explain .

5. What is Linear correlation ? Explain.

6. Explain the Bayes theorem.

7. How will you find linear regression line ?

8. What is normal distribution ? Explain.

9. What is chi-square test ? 5×4=20

SECTION—C

10. The arithmetic mean of 5 observations is 4.4 and the variance is 8.24. If three of the five observations are 1, 2 and 6 find the values of the other two.

11. (a) Explain in detail the use of counting method in probability.

    (b) Define conditional probability.

12. From the following table calculate the coefficient of correlation by Karl Pearson's method :

X :	6	2	10	4	8
Y :	9	11	?	8	7

The arithmetic means of X and Y series are 6 and 8 respectively.

13. The following figures show the distribution of digits in numbers chosen at random from a telephone directory :

Digit :	0	1	2	3	4	5
Frequency :	1026	1107	997	996	1075	933

Digit :	6	7	8	9	Total
Frequency :	1107	972	964	853	10,000

Test whether the digits may be taken to occur equally frequently in the directory (The table values of χ^2 for 9 d.f. at 5% level of significance is 16.92) 2×6=12