

**C. ABDUL HAKEEM COLLEGE (AUTONOMOUS),
MELVISHARAM - 632 509.
SEMESTER EXAMINATIONS, NOVEMBER – 2018**

**M.Sc., ZOOLOGY
P18EZL101 – BIOSTATISTICS AND BIOINFORMATICS
SEMESTER I
(ELECTIVE)**

Time: Three Hours

Maximum: 75 Marks

SECTION - A (5 X 6 = 30 Marks)

Answer ALL Questions.

1. a) Explain the with suitable examples:

- i) Apriori and Posteriori Probabilities.
- ii) Multiplication and Conditional Probabilities.

(Or)

b) List out the applications of binominal distribution.

2. a) A sample of 100 individuals is drawn from a population whose mean is 162 and S.D is 4.16. The mean of the sample is 162.23. Does the sample mean represent significance divergent from the population mean? Explain.

(Or)

b) When a black rat (heterozygous) is crossed with another heterozygous black rat, 43 black, 15 cream and 22 albino offspring are produced in the F_2 generation. Using chi-square, test the genetic hypothesis 9:3:4 is consistent with the data. (χ^2 2df at 5% level of significance the table value 5.96).

3. a) Differentiate the natality from morality rates and add notes on the population growth.

(Or)

b) Explain the different types of correlation.

4. a) Comment on Data mining.

(Or)

b) Write an account on the servers of Bioinformatics.

5. a) Discuss about the molecular docking.

(Or)

b) List out the various steps used in the FASTA search.

SECTION - B (3 X 15 = 45 Marks)

Answer ANY THREE Questions.

6. Explain in detail the Poisson distribution.

7. A certain drug was administered to 500 people out of a total of 800 included in the sample to test its efficacy against typhoid. The results are given below. Find out the effectiveness of the drug against the disease. (The table value of χ^2 for 1 df at 5% level of significance is 3.84).

	Typhoid	No typhoid	Total
Administering the drug	200	300	500
Without administering the drug	280	20	300
Total	480	320	800

8. Calculate Karl Pearson correlation coefficient for the following data.

X	12	18	16	15	12	10	20	17
Y	6	10	9	8	9	8	12	10

9. Write a detailed account on the Biological database.

10. Discuss the role of bioinformatics in drug discovery.
