

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

**M.Sc., ZOOLOGY
P15EZL101 / P14EZL104– BIOSTATISTICS AND
BIOINFORMATICS (ELECTIVE)
SEMESTER I**

Time: Three Hours

Maximum: 75 Marks

SECTION - A (5 X 6 = 30 Marks)

Answer **ALL** Questions.

1. a) What are the Type-I and Type –II errors?
(Or)
- b) Explain the permutation and combination with its relationship.
2. a) In a sample of 400 population from village, 230 are found to be eaters of vegetarian and the rest of non-vegetarian items. Can we assume that both vegetarian and non-vegetarian foods are equally popular?
(Or)

b) 150 wheat earheads of C 306 variety gave an average 45 grains/earhead with a standard deviation of 3 and 100 earhead of kalyan variety gave an average of 75 grains/earhead with a standard deviation of 5. Do you conclude that kalyan variety has more grains/earhead at 0.05 level of significance?

3. a) Explain the method of plotting a Scatter diagram.

(Or)

b) What is ANOVA and mention its applications.

4. a) Write about the applications of Bioinformatics.

(Or)

b) Explain the data mining.

5. a) Describe the Needleman-Wunsch Algorithm.

(Or)

b) Explain the BLAST.

SECTION - B (3 X 15 = 45 Marks)

Answer **ANY THREE** Questions.

6. Suppose it is known that in a certain area of a large city the average number of rats per quarter block is 2. Assuming that the number of rats follows a poisson distribution, find the probability that in a randomly selected quarter block, there are exactly 5 rats.

7. A group of seven week old chickens reared on a high protein diet weigh 13,16,12,17,15,15 and 17 ounces, a second group of 5 chickens similarly treated except that they receive a low protein diet weigh 9,11,15,11, and 14 ounces. Test whether there is significant evidence that additional protein has increased the weight of chickens. (the table value of t for $V=10$ at 5% level of significance is 2.23).

8. In a study of the effect of a dietary component on plasma lipid composition, the following rations were obtained on a sample of experimental animals. A) Obtain the regression equation for these data by least squares. B) Predict the ratio of plasma lipid level with 4 dietary components.

Measure of dietary component (x)	1	5	3	2	1	1	7	3
Measure of plasma lipid level (Y)	6	1	0	0	1	2	1	5

9. Write an essay on Genomics.

10. Give a detailed account on Drug designing.
