

M.Sc. (Botany) Semester - 1 (CBCS) Examination**Oct/Nov. -2019 - [NEW COURSE]****BIostatistics and Bioinformatics (Multi/Inter Disciplinary)****Time: 2:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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Que.1 Answer the following (Any seven out of Ten, each of 02 marks) (14)

- (1) Write the merits and demerits of the median.
- (2) Define the term Bioinformatics.
- (3) What is the regression analysis?
- (4) Enlist the types of nucleotide databases.
- (5) Write the formula of standard deviation
- (6) What is 'null-hypothesis'?
- (7) What is the pairwise alignment?
- (8) What is the range?
- (9) Which tools are used in gene prediction?
- (10) Give the name of the father of bioinformatics?

Que.2 Answer the following (Any two out of three, each of 07 marks) (14)

- (A) What is frequency distribution and graphics? Exemplify.
- (B) Write a note on central tendency.
- (C) What is Confidence limit and confidence interval? Briefly describe

Que.3 Answer the following (a & b – Both are compulsory, each of 07 marks) (14)

- (A) Write a detail note on Student's T-test? Discuss paired student's T-test with suitable example
- (B) What is the Chi-square test? Discuss in detail.

OR

Que.3 Answer the following (a & b – Both are compulsory, each of 07 marks) (14)

- (A) Write a note on correlation analysis using hypothetical data.
- (B) Write a detail note on the analysis of variance.

Que.4 Answer the following (Both are compulsory – Each of 07 marks) (14)

- (1) What are the applications of bioinformatics in the field of agriculture?
- (2) Write a note on nucleotide database

Que.5 Answer the following (Any two out of four, each of 07 marks) (14)

- (A) Write a note on pairwise alignment and multiple sequence alignment.
- (B) Briefly discuss a phylogenetic analysis
- (C) Write a short note on BLAST.
- (D) Write a note on gene prediction, and its tools.
