BB334

M. Sc. EXAMINATION, May 2019

(Second Semester)

(B Scheme) (Re-appear)

BIO-TECHNOLOGY

BT508MS

Introduction to Bioinformatics

Time : 3 *Hours*]   [*Maximum Marks :* 100

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. What is Bioinformatics ? Explain the various operation and number systems used in bioinformatics. **20**

2. Describe in detail various sequence databases used in bioinformatics. **20**

Unit II

3. Write short notes on the following :
   (a) Genome database
   (b) FASTA tool
   (c) Multiple sequence alignment
   (d) NCBI **20**

4. Explain about data analysing algorithms in detail. **20**

Unit III

5. What is the principle of distance based methods ? Explain in detail the steps involved in substitution and maximum likelihood method in phylogenetics. **20**

6. Write short notes on the following :
   (a) Phylogram and cladogram with a neat labelled diagram.
   (b) Neighbourhood joining method in phylogenetics. **20**

Unit IV

7. Describe the various predictive methods used for database search and detecting functional sites in DM using nucleotide sequences. **20**

8. What is homology modelling ? Explain its use in protein structure prediction. **20**