CBCS SCHEME

18BT63

Sixth Semester B.E. Degree Examination, June/July 2024
Bioinformatics

Time: 3 hrs.

Max. Marks: 100

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1 a. Describe Structural Database, in detail prioritize about SCOP and PROSITE Database. **(12 Marks)**

   b. Give an account on Genbank flat file and FASTA format. **(08 Marks)**

OR

2 a. Explain the Substitutional matrices in sequence alignment. Add a note on PAM and BLOSUM matrices. **(12 Marks)**

   b. Summarize the working of BLAST TOOL and comment on various BLAST types. **(08 Marks)**

Module-2

3 a. Explain how Boot – Strapping method is used for Evaluating phylogenetic tree. **(08 Marks)**

   b. Write short note on : i) GENSCAN   ii) JPRED. **(12 Marks)**

OR

4 a. Give an account on the methods involved in building a Phylogenetic tree. **(10 Marks)**

   b. Discuss the predictive methods of secondary structure and folding classes of protein. **(10 Marks)**

Module-3

5 a. Write the utility of Bioinformatics in Microarray Data Analysis. **(10 Marks)**

   b. Infer on AVID and COG as a tools for comparative genomics study. **(10 Marks)**

OR

6 a. Define EST and prioritize on tools available for EST Database. **(08 Marks)**

   b. Write short note on : i) Artificial Intelligence   ii) Neural Network. **(12 Marks)**

Module-4

7 a. Explain the features of Molecular visualization tools Cn3D and Spdb viewer. **(12 Marks)**

   b. Discuss the concept and significance of Energy minimization. **(08 Marks)**

OR

8 a. Emphasize on Formulation of Force field and MD - algorithm. **(12 Marks)**

   b. Discuss on scope and application of Insilico modeling in Modern Biology. **(08 Marks)**

Module-5

9 a. Explain Primer design ; add a note on Parameters need to be considered during designing a primer. **(12 Marks)**

   b. Discuss about QSAR and its role in Drug design. **(08 Marks)**

OR

10 a. Emphasize Vector NTI and Geno Construction Kit as a Restriction mapping web based tool. **(12 Marks)**

    b. Write a note on Molecular Docking and its types. **(08 Marks)**

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