Exam. Code : 103205
Subject Code : 1346

B.A./B.Sc. 5th Semester

BIOINFORMATICS

(Computational Methods for Sequence Analysis)

Time Allowed—3 Hours] [Maximum Marks—75

Note :— Attempt **FIVE** questions in all, selecting at least **ONE** question from each Section. The **FIFTH** question may be attempted from any Section. All questions carry equal marks.

SECTION—A

1. What is a scoring matrix ? Explain its different types and their significance in sequence alignment.
2. Explain different types of BLAST. Discuss their application.

SECTION—B

3. What do you understand by Fourier transform ? Explain its application in gene prediction.
4. Explain regulatory regions. Discuss methods used for prediction of regulatory region.

SECTION—C

5. Discuss methods used for prediction of secondary structure of protein.
6. What is Markov chain ? Discuss its application.

SECTION—D

7. Discuss differences between rooted and unrooted tree. Explain application of molecular markers in evolutionary studies.
8. What are clustering methods ? Discuss distance based methods for evolutionary study.