

Exam. Code : 206603
Subject Code : 5016

M.Sc. Bio-Informatics 3rd Semester
ADVANCED ALGORITHMS FOR
COMPUTATIONAL BIOLOGY
Paper : BI-632

Time Allowed—3 Hours] [Maximum Marks—75

Note :— Candidates are required to attempt **five** questions, 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 do you understand by complexity theory ? Explain abstract data types.
2. What do you understand by interval graphs ? Explain double digest problem.

SECTION—B

3. What is a motif ? Discuss applications of HMM in motif recognition.
4. What is physical mapping of genomes ? Discuss cloning and clone libraries.

SECTION—C

5. What is Back propagation algorithm ? Discuss training and testing of artificial neural networks.
6. What is perceptron ? Discuss methods used for feature selection and supervised classification.

SECTION—D

7. What is ant colony optimization ? Discuss its application in multiple sequence alignment.
8. Explain clustering algorithm. Discuss non hierarchical clustering.