

(Following Paper ID and Roll No. to be filled in your Answer Books)

Paper ID : 113663

Roll No.

B.TECH.

Theory Examination (Semester-VI) 2015-16

BIOINFORMATICS

Time : 3 Hours

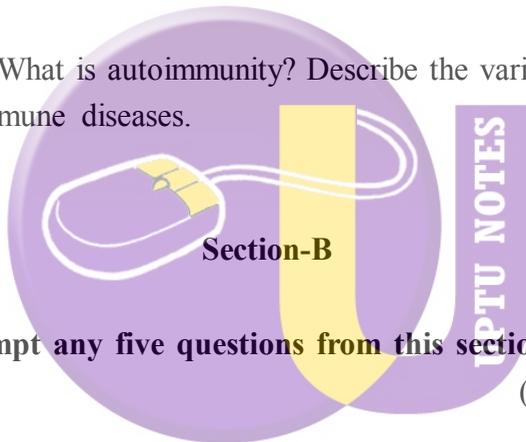
Max. Marks : 100

Section-A

1. Attempt all parts. All parts carry equal marks. Write answer of each part in short. (2×10 = 20)

- (a) Describe the term bio-information also explain its advantages.
- (b) What is DNA polymorphism?
- (c) Explain the scope and importance of bioinformatics.
- (d) Discuss on searching biological database.
- (e) Discuss about genomic databanks.

- (f) Explain the primary structure of proteins.
- (g) Describe the secondary and tertiary structure of RNA.
- (h) What are micro arrays? Write about their working and applications.
- (i) Explain any one method of sequence alignment and its applications.
- (j) What is autoimmunity? Describe the various autoimmune diseases.

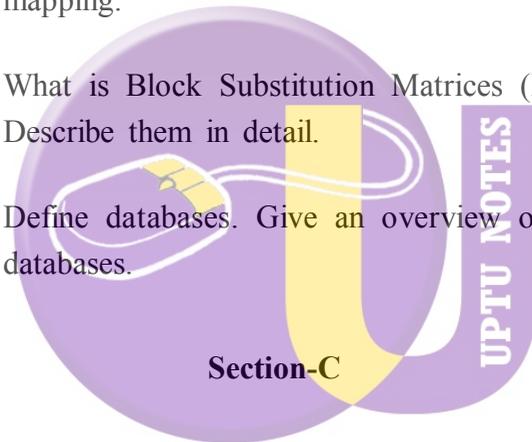


2. Attempt any five questions from this section.

(10×5 = 50)

- (a) Describe the applications of bioinformatics in drug designing. Describe spectroscopic techniques.
- (b) Define genome? Outline the structure and composition of prokaryotic and eukaryotic genomes?
- (c) What is HTTP? Explain about operation of HTTP.

- (d) What is the basic computer skills required for bioinformatician? Write elementary commands in Linux operating system.
- (e) Name the database search algorithm employed in alignment of sequences and explain in detail about any one of it.
- (f) Describe briefly about different types of gene mapping.
- (g) What is Block Substitution Matrices (BLOSUM)? Describe them in detail.
- (h) Define databases. Give an overview of biological databases.



Attempt any two questions from this section.

(15×2 = 30)

3. Give an account of BLAST programs and how are they useful?
4. Discuss about concept of trees in phylogenetic analysis.

5. Write Short Note on:
- (a) Java Programming
 - (b) Operating System
 - (c) PERL.

