Printed Pages : 3

EBT404

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

PAPER ID : 154410

Roll No.

B. Tech.

(SEM. IV) THEORY EXAMINATION, 2014-15

BIOINFORMATICS - I

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

Note : Attempt all questions.

1 Attempt any two parts of the following : **10×2=20**

(a) Differentiate between primary and secondary biological databases? Explain the methodology of data curation in PROSITE with example.

(b) What are SNPs? Describe the databases linked to SNPs. How are they useful in the field of health care?

(c) Write short notes on:

(i) SRS

(ii) BLOCK

2 Briefly describe the sequencing methods of any two : **10x2=20**

(a) DNA

(b) RNA

(c) Protein

3 Attempt any two parts of the following: **10x2=20**

(a) What are local and global sequence alignments? Discuss their significances citing examples.

(b) What do you mean by database similarity search? Give the algorithinic detail of BLAST along with their limitations.

(c) Write short note on :

(i) PAM

(ii) BLOSUM

4 Attempt any two parts of the following : **10x2=20**

(a) Explain the characteristics of protein secondary structural elements. Mention the tools available for prediction and their benchmarks.

(b) Define the various levels of protein structures. Explain the homology modeling of protein structure.

(c) Write short notes on :

(i) ORF prediction

(ii) Profile search.

5 Attempt any two parts of the following : **10x2=20**

(a) What do you mean by protein structure visualization? Mention the tools available along with their specific features.

(b) Write short note on:

(i) RASMOL

(ii) DALI

(c) Describe the rational approach for drug designing with suitable examples.