Total No. of Questions : 10]

SEAT No. :

P3650

[Total No. of Pages : 2

[4959]-1141
B.E. (Information Technology)
BIOINFORMATICS
(2012 Course) (Elective-IV) (414464 A) (Semester-II)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.***
2) ***Figures to the right side indicate full marks.***
3) ***Assume suitable data if necessary.***

Q1) a) What is scope of Bioinformatics? Explain protein structure databases. **[6]**

b) Explain any two rendering tools used in visualization. **[4]**

OR

Q2) a) Define Bioinformatics. Explain Bioinformatics application related to the following areas. **[6]**

i) Phylogenetic Analysis.

ii) Genome Annotation.

b) Explain sources of veriability in microarray preparation & reading. **[4]**

Q3) a) Explain major steps in pattern recognition & discovery process with diagram. **[8]**

b) Difference between clustering & classification. **[2]**

OR

Q4) a) What is meant by sensitivity & specificity of statistical analysis tool. **[2]**

b) Explain knowledge discovery process or datamining methods with neat diagram. **[8]**

P.T.O.

Q5) a) Explain similarities & differences between BLAST & FASTA tools for sequence elignment. **[8]**

b) Write short note on: **[8]**

i) Heuristic methods for sequence alignment.

ii) Prediction algorithm for phylogenetic.

OR

Q6) a) Explain FASTA algorithm with recommended steps for similarity searching in detail. **[8]**

b) Explain different prediction algorithm for genes. **[8]**

Q7) a) Explain comparitive modeling process with neat diagram. **[8]**

b) Explain process of drug discovery in detail. **[8]**

OR

Q8) a) Discuss the components of modeling & simulation system alongwith process. **[8]**

b) Write short note on: **[8]**

i) Methods for protein modeling.

ii) Model refinement & evaluation.

Q9) a) Write short note on: **[12]**

i) Tools for modeling & simulation.

ii) Hidden Markov model.

b) Explain recent trends in Bioinformatics. **[6]**

OR

Q10)a) What are Future trends in Bioinformatics? **[6]**

b) Write short note on: **[12]**

i) Structural Bioinformatics in drug discovered.

ii) System Biology in human health & disease.

●●●●●