Total No. of Questions : 10]

SEAT No. :

P3145

[Total No. of Pages : 2

[5154]-710-A

B.E. (Information Technology)

BIOINFORMATICS

(2012 Course) (Semester -II) (Elecitve-IV) (414464A) (End Sem.)

Time : 2½Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answers Q.1 or Q.2, Q.3 or Q4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
2) ***Assume suitable data, if necessary.***

Q1) a) Explain central dogma of moleculer biology with neat diagram. **[5]**

b) What is structure visualization? Explain any two rendering tools in structure visualization. **[5]**

OR

Q2) a) Define Bioinformatics. Explain Bioinformatics application related to following areas **[5]**

i) Proteomics.

ii) Sequence Assembly.

b) Explain microarray process spotting flow with neat diagram. **[5]**

Q3) a) Explain knowledge discovery process with neat diagram. **[5]**

b) Write short note on: **[5]**

i) PAM

ii) BLOSUM

OR

Q4) a) Explain text mining with NLP process. **[5]**

b) Explain major steps in pattern recognition & discovery process. **[5]**

P.T.O.

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

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

i) Heuristic methods for sequence Alignment.

ii) Phlylogenetic.

OR

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

b) Explain working with BLAST. What are different services available from NCBT related to BLAST? **[8]**

Q7) a) Explain methods for protein modeling. **[8]**

b) Explain comparative modeling process with neat diagram. **[8]**

OR

Q8) a) Write short note on: **[8]**

i) Structural Bioinformatic in drug discovery.

ii) Tools for modeling & simulation.

b) Discuss components of modeling & simulation system along with the process. **[8]**

Q9) a) Define genetic Engineering. Discuss current developments in genetic engineering. **[9]**

b) What is Biotechnology? What is role of Bioinformatics in biotechnology? **[9]**

OR

Q10)a) How system biology play role in human health disease and future of medicine? **[9]**

b) Explain any two techniques of genetic engineering in detail. **[9]**

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