[5354]-710-A

B.E. (Information Technology) (Semester - II)
BIOINFORMATICS
(Elective - IV) (2012 Pattern)

Time : 2½ Hours]   *[Max. Marks :70*

Instructions to the candidates:
1) *Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6., Q.7 or Q.8, Q.9 or Q.10.*
2) *Neat diagrams must be drawn whenever necessary.*
3) *Full marks for right and well labeled diagram.*
4) *Assume Suitable data when necessary.*

Q1) a)   Define bioinformatics? Discuss challenges of bioinformatics   **[5]**

   b)   Enlist biological database? Give an example of database.   **[5]**

OR

Q2) a)   Write a structure visualization tools available on web.   **[5]**

   b)   Explain the difference between PAM & BLOSUM matrix.   **[5]**

Q3) a)   What is Data mining? Explain data mining applications in genomic
       sequences.   **[5]**

   b)   What is the role of microarray in bioinformatics?   **[5]**

OR

Q4) Explain methods of computational sequence alignment;

   a)   Dynamic programming.   **[5]**

   b)   Dot matrix methods.   **[5]**

Q5) a)   Write about the impact of drug discovery process in business
       management.   **[8]**

   b)   What are the components of modeling and simulation system?   **[8]**

OR

Q6) a) Discuss the comparative modeling. **[8]**
   b) What is pattern matching? Discuss different methods of pattern matching. **[8]**

Q7) a) Enlist different bioinformatics tools. Explain any one in brief. **[8]**
   b) Explain FASTA algorithm in detail with neat diagrams. **[8]**

OR

Q8) a) Discuss BLAST Algorithm. **[8]**
   b) Explain the difference in the approach of BLAST and FASTA? **[8]**

Q9) a) What is modern biotechnology? What is biotechnology in agriculture? **[6]**
   b) What is Genetic Marker? What is GMO (Genetically modified organism)? **[6]**
   c) Write about dangers of Genetic Engineering. **[6]**

OR

Q10) a) Define Biotechnology. What is the significance of environmental Biotechnology? **[8]**
   b) Explain various applications of genetic engineering. **[10]**

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