B. Tech.
(SEM. VI) EXAMINATION, 2006-07
BIOINFORMATICS - 1

Time : 3 Hours] [Total Marks : 100

Note : (1) Attempt all questions.
(2) All questions carry equal marks.

1 Attempt any four of the following:
   (a) How summary and reference system make the database searching an easy job?
   (b) What are the ways to find new online data from public database?
   (c) What is Metadata? Why is it important in bioinformatics?
   (d) How many fragments will be generated by a restriction enzyme having 6 base recognition sequence in a 100 kb genomic DNA?
   (e) What is primary database? Name the different databases relevant to biological data?
   (f) What is data annotation? Which database for protein sequence is best in its level of annotation?

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2 Attempt any four of the following:

(a) What is Fuzzy search and Borlean search?

(b) What is sensitivity and selectivity of any search engine?

(c) What is “Unigene”? How it is clustered?

(d) What is flat file database? What are advantages and disadvantages of it?

(e) What is controlled vocabulary? How it modifies search strategy of biological database searching?

(f) What is object oriented database? Why it is called so?

3 Attempt any two of the following:

(a) Patterns and Regular expression are useful; why? What are disadvantage of Regular expression? Write difference between BLOCK, Pattern.

(b) What is low complexity region in any genomic sequence? How it can be detected? Why it is important?

(c) How MSA can be used to predict 2" structure of Protein? What is “finger print” in PRINTs data base?
4 Attempt any two of the following:
(a) How a 3D viewer gives results from raw data? Give utility of RasMol.
(b) What are difference between PDB formal and mmCIF format in extensibility in 3D viewer?
(c) Write different sequence viewer available for viewing different genetic map?

5 Attempt any two question:
(a) What is XML? What are differences between XML and HTML? What is Utility of XMLs?
(b) What is XML tags? Why tags are important to represent data? What is Pythm interpreter?
(c) What is CORBA? What are components of CORBA(R) What is OMG?