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BICSE-008

B.Tech. – VIEP – COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

00641

Term-End Examination
June, 2014

BICSE-008 : BIO-INFORMATICS

Time : 3 hours *Maximum Marks : 70*

Note : *Answer any **seven** questions. All questions carry equal marks.*

1. (a) What is bio-informatics ? Describe its scope in modern biology. *5*

(b) What are the main objectives of bio-informatics ? *5*

2. Define Multiple Alignments. Describe in detail about the methods employed for multiple sequence alignment. *10*

3. (a) Discuss in detail about genetic networks. *5*

(b) Write any one Gene finding algorithm. *5*

4. (a) Write about Hidden Markov Model of multiple sequence alignment. *5*

(b) Discuss about single sequence alignment in sequence alignment. *5*

5. Define Genome. Outline the structure and composition of prokaryotic and eukaryotic genomes. *10*

6. Write short notes on any ***two*** of the following : *2×5=10*

   (a) RNA secondary structure

   (b) Microarray clustering

   (c) Xtallography

7. Explain about different BLAST programs in detail with a neat flowchart. How are they useful ? *10*

8. Describe the following : *2×5=10*

   (a) Natural language processing

   (b) Microarray clustering and classification

9. What are comparative genomics algorithms ? How are they useful in the field of bio-informatics ? *10*

10. (a) Describe vector machine applications in bio-informatics in detail. *5*

    (b) Explain NMR. *5*