| BICSE-008 |

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

Term-End Examination

⬜⬜⬜4⬜   **December, 2017**

BICSE-008 : BIO-INFORMATICS

Time : 3 hours   *Maximum Marks : 70*

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

1. Briefly explain about Biological databases. Why is bio-informatics important ? Explain its applications in the field of biology.   *10*

2. Write the concept of ID Motifs. What are the different representations in ID motifs ?   *10*

3. (a) Describe the dynamic programming for sequence alignment.   *5*

    (b) Explain integrated genomic maps in detail.   *5*

4. (a) What are the current approaches for bio-informatics and the problems associated with them ?   *5*

    (b) Discuss genetic networks in detail.   *5*

5. (a) What are the challenges in Moore's law ? *5*

   (b) Define the structural classification of proteins. *5*

6. Explain classical NMR spectroscopy in detail. *10*

7. Define Terminologies and Ontologies. Differentiate between two terminologies and two ontologies. *10*

8. Differentiate between the following : *5+5*

   (a) Protein and Amino Acid

   (b) DNA and RNA

9. Describe the following in brief : $4{\times}2\frac{1}{2}=10$

   (a) Genome Alignment

   (b) Gen Bank

   (c) PDB

   (d) Microarray Clustering and Classification

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

   (a) Hidden Markov Model

   (b) NLP

   (c) CAPRI