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BIELE-017

B.Tech. – VIEP – ELECTRONICS AND COMMUNICATION ENGINEERING (BTECVI)

Term-End Examination

00903

June, 2015

BIELE-017 : BIO-INFORMATICS

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **seven** questions. All questions carry equal marks. Missing data, if any, may be suitably assumed.*

1. Explain the process of Bio-Informatics and Computational Genomics. List their advantages. *10*

2. Explain the procedure for preparation of Biological Databases. What precautions are necessary in collection of these databases ? *6+4=10*

3. Define the term "Xtallography" and explain in brief the process of Xtallography. *10*

4. What are microarrays ? What are the different methods used for clustering and classification of microarrays ? *3+7=10*

5. Discuss about the various terminologies and ontologies used in Bio-Informatics. *10*

6. Explain the steps involved in Multiple Sequence Alignment and list its advantages. *7+3=10*

7. What are molecular energetics and dynamics ? Explain their significance in the context of Bio-Informatics. *4+6=10*

8. Explain the methods involved in the prediction of protein structure. *10*

9. What do you understand by the term, 'Natural Language Processing' ? List the features which makes it useful in Bio-Informatics. *4+6=10*

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

    (a) 3D Structure Alignment

    (b) BLAST and FASTA

    (c) Proteomics

    (d) 1D Motifs