Faculty of Engineering & Technology
Seventh Semester B.E. (Infor. Tech.) (C.B.S.)
Examination
ELECTIVE–I : BIOINFORMATICS

Time—Three Hours]   [Maximum Marks—80

INSTRUCTIONS TO CANDIDATES

(1)   All questions carry marks as indicated.

(2)   Solve Question No. **1 OR** Questions No. **2**.

(3)   Solve Question No. **3 OR** Questions No. **4**.

(4)   Solve Question No. **5 OR** Questions No. **6**.

(5)   Solve Question No. **7 OR** Questions No. **8**.

(6)   Solve Question No. **9 OR** Questions No. **10**.

(7)   Solve Question No. **11 OR** Questions No. **12**.

(8)   Assume suitable data wherever necessary.

1.   (a)   What is Bio-Informatics ? State its objectives.   7

      (b)   What challenges does biology offer to Computer Scientists ?   7

OR

2. (a) Write a note on reference systems for Metadata. 7

   (b) Give the importance of Biological Research on the web. 7

3. With a suitable diagram explain replication of one strand of the DNA Helix. 13

OR

4. (a) What are various bio-informatics applications ? 6

   (b) Write a note on Transcription of DNA. 7

5. (a) Write a note on Nucleic Acids. 7

   (b) With suitable diagram explain structure of DNA. 7

OR

6. (a) How DNA sequencing takes place ? 7

   (b) Write a note on Protein falding and its importance. 7

7. (a) What are the strengths of Perl Programming Language ? 6

   (b) Write a note on Biostatstics. 7

OR

8. (a) Explain Relational Database with suitable example. 6

   (b) Explain important features of Linux Operating System. 7

9. (a) How genomic sequencing is performed ? 7

   (b) Write a note on representations of molecular biological data storage techniques. 6

OR

10. (a) Explain the importance of controlled vocabularies. 6

   (b) Write a note on Fuzzy search and Boolean search. 7

11. (a) Write a note on Chemistry of Proteins. 6

   (b) State the significance of Generic variability. 7

OR

12. (a) Describe the role of alignments in representation of patterns. 6

   (b) In short explain macromolecular structures. 7