

SEVENTH SEMESTER B.TECH DEGREE EXAM (MODEL) NOVEMBER 2016

BIOTECHNOLOGY & BIOCHEMICAL ENGINEERING

13.702 BIOINFORMATICS (B)

Model Question Paper

Time: 3 Hours

Max. Marks: 100

Instructions: 1) Answer **all** questions from Part **A**

2) Answer **any one full** question from **each** module of Part **B**

PART – A

1. What is fasta format?
2. Discuss about fold libraries
3. What are biological databases?
4. Describe on hybridoma data bank
5. Write a note on cell lines.
6. Distinguish between motif and profile.
7. Comment on the quaternary structure of protein
8. Write a note on homology modeling
9. Deliberate the role of NCBI in computational biology
10. Write the difference between local and global alignment **(10 X 2 = 20Marks)**

PART B

MODULE I

11. a) Write a note on
- i.** NBRF – PIR
 - ii.** SWISS PROT
 - iii.** EMBL
 - iv.** GenBank **8**
- b) What are structural databanks? Elaborate about PDB **12**

OR

12. a) Explain the protein and nucleotide databases with examples **10**

b) Give an account on CSD and its importance **10**

MODULE II

13. a) What is BLAST? Explain its working with a suitable sequence **10**

b) Explain the local alignment with the help of an algorithm **10**

OR

14. a) Deliberate on MSDN **10**

b) Explain the global alignment with an algorithm **10**

MODULE III

15. a) Write a note on tertiary structure of protein and its importance **10**

b) Narrate the hidden Markov model **10**

OR

16. a) Explain the neural networking method of secondary structure prediction **10**

b) Deliberate the Chao-Fasman algorithm for structure prediction **10**

MODULE IV

17. Write in detail about protein folding and threading **20**

OR

18. a) Write a note molecular modeling **8**

b) Explain the method comparative modeling for protein structure prediction **12**