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

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  

MODULE II  

13. a) What is BLAST? Explain its working with a suitable sequence  
    b) Explain the local alignment with the help of an algorithm  

   OR  

14. a) Deliberate on MSDN  
    b) Explain the global alignment with an algorithm  

MODULE III  

15. a) Write a note on tertiary structure of protein and its importance  
    b) Narrate the hidden Markov model  

   OR  

16. a) Explain the neural networking method of secondary structure prediction  
    b) Deliberate the Chao-Fasman algorithm for structure prediction  

MODULE IV  

17. Write in detail about protein folding and threading  

   OR  

18. a) Write a note molecular modeling  
    b) Explain the method comparative modeling for protein structure prediction