

2053  
B.Sc. (Hons.) Bio-Informatics  
Second Semester  
BIN-2006: Introduction to Bioinformatics

Time allowed: 3 Hours

Max. Marks: 60

*NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.*

x-x-x

I. Answer the following:-

- (a) What is pair-wise alignment?
- (b) Define homologous sequences.
- (c) What is sequence panility?
- (d) What is central dogma of molecular biology?
- (e) Define BLAST?
- (f) What is PAM?
- (g) What is canonical form of RNA?
- (h) Write significance of swissport database?

(8x1½)

UNIT - I

II. a) Write a note on NCBI.

b) Discuss PDB dataset advanced search.

(2x6)

III. a) Discuss the role of Matrices in amino acids alignments.

b) Differentiate between SCOP and CATH.

(2x6)

IV. a) Write a note on structural database & its significance.

b) What is the concept of scoring matrices?

(2x6)

UNIT - II

V. a) What are PSI BLAST and its significance?

b) What are five applications of multiple sequence alignments?

(2x6)

VI. a) Discuss applications of global alignment and its significances.

b) Differentiate between Clustal W & X.

(2x6)

VII. a) Discuss statistical significances of sequence alignments.

b) Discuss Motifs methods and it advantage.

(2x6)