

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. Attempt the following:-

- a) What is PMC?
- b) Write URL of NCBI.
- c) What is Bit Score?
- d) What does 65 signifies in BLOSUM65?
- e) Name any two specialized Databases.
- f) Expand the term INSDC.
- g) What is FASTA Format?
- h) Define Affine Gap Penalty.

(8x1½)

UNIT - I

II. (a) Write note on primary nucleotide sequence databases.

(b) Write the scope and applications of Bioinformatics in genomic era.

(6+6)

III. (a) Write a note IBDC and its Data Portals.

(b) Write note on:-

- i) Boolean Search Terms ii) NCBI Book Self

(6+6)

IV. (a) Write a note on PubMed and Uniprot.

(b) Write comparison between Flat file of EMBL and DDBJ.

(6+6)

UNIT - II

V. (a) Explain Global Alignment Method of pairwise sequence alignment with suitable example.

(b) Explain the concept behind affine gap penalty and its significance.

(6+6)

VI. (a) Explain Dot matrix and write its advantages and disadvantage.

(b) What are amino acid substitution matrices?

(6+6)

VII. (a) Give various types of BLAST and explain its algorithm.

(b) Differentiate between global and local alignment.

(6+6)

X-X-X