

PE-844-CV-19
M.Sc. BIOTECHNOLOGY (4th Semester)
Examination, June 2022
Bioinformatics, genomics & proteomics

Time : Three Hours]

[Maximum Marks : 80
[Minimum Pass Marks : 29

Note : Answer from both the Sections as directed. The figures in the right-hand margin indicate marks.

Section-A

1. Answer the following short answer questions: 1x10=10
- (a) The needle man Wunsch proposed the.....alignment algorithm for the sequences.
 - (b) The Smith-Waterman proposed the.....alignment algorithm for the sequences.
 - (c) In which year the first draft sequences of human genome published?
 - (d) The main Laboratory of EBI-EMBL operates from which country?
 - (e) The sequence alignment tool BLAST abbreviation is.....
 - (f) The UniProt-SwissProt protein database operates from which country?
 - (g) The Nucleic Acid and Sequence Database GenBank is operated by which country?
 - (h) The term Genomics was coined by.....
 - (i) The term proteomics was coined by.....
 - (j) The database MMDB (Molecular Modelling) database is available at which web resource?

2. Answer the following short type questions: 2x5=10
- (a) What do you understand from DNA?
 - (b) What are expressed sequence tags?
 - (c) What do you understand from single nucleotide polymorphism (SNP)?
 - (d) Write short note on structural genomics.
 - (e) Write short note on protein chips.

Section-B

15x4=60

Answer the following Long-Answer questions:

3. Write in detail on history and scope of bioinformatics.
OR
Write in detail on Biotechnology Information System Network (BTIS) of India.
4. Write in detail about the basic local alignment search tool (BLAST)
OR
Write in detail on micro array technology.
5. Write in detail on various methods available for DNA sequencing.
OR
Write in detail the impact of genomics in discovery of new medicines.
6. Describe in detail the protein micro arrays and their application.
OR
Write an essay on various databases related to protein sequence & 3D structure of proteins.