

A-245

Total Pages : 3

Roll No.

MSCZO-603

M.Sc. ZOOLOGY (MSCZO)

(Bioinformatics, Biostatistics and Computer Application)

3rd Semester Examination, 2024 (June)

Time : 2:00 Hrs.

Max. Marks : 70

Note :- This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

Section-A

(Long Answer Type Questions) 2×19=38

Note :- Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. Write a detailed note on types and analysis of Protein Sequence Database.
2. Explain BLAST procedures used in bioinformatics. Explain its types and applications.
3. Describe in detail the process of BLOSUM of an amino acid. Also explain its uses and applicability.
4. What is Percent Accepted Mutations (PAM) and how it is used ? Also compare PAM and BLOSUM amino acid substitution matrices.
5. Write an elaborate note on database submission and data retrieval.

Section–B

(Short Answer Type Questions) 4×8=32

Note :- Section ‘B’ contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Explain the working and services offered by DNA Data Bank of Japan (DDBJ).
2. Enlist some statistical symbols and their meaning used in biostatistics.
3. Explain briefly Gene Expression Database.

4. Write a short note on European Bioinformatics Institute (EBI).
5. Explain the principle and steps involved in sequence alignment.
6. Write a short note on chi-square test and its uses.
7. Explain Students' t -test and its application.
8. What is Biostatistics ? How is it useful in biological research ?
