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Total No. of Pages : 02

Total No. of Questions : 09

M.Sc.(BT) (2011 & Onwards) (Sem.-3)

PROTEOMICS AND GENOMICS

Subject Code : MSBT-201

Paper ID : [F0261]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A**1. Write short notes on following :**

- a. Pairwise and multiple sequence alignment.
- b. PAM and BLOSUM.
- c. Name two nucleotide and two protein databases.
- d. *De-novo* sequencing.
- e. Co-immunoprecipitation.
- f. Dynamic programming.
- g. Polymorphism.
- h. Clone contig.
- i. Intron-Exon and their significance.
- j. Expand terms: VNTR, AFLP, DGGE, INSDC.

SECTION-B

2. How scoring matrices are used in sequence analysis?
3. Describe the role of biological databases in research.
4. What is genome sequencing? Describe the Shot gun method.
5. How phylogeny of an organism can be represented using phylogenetic tree? Explain with the help of an example.
6. How Mass Spectrometry data can be used for protein identification?

SECTION-C

7. Define Bioinformatics. Discuss its objectives, scope and applications.
8. What do you mean by sequence analysis? Describe various sequence analysis methods.
9. **Write notes on following :**
 - a. Role of SDS-PAGE and Native-PAGE for determination of protein size.
 - b. Molecular markers and their significance in research.