

Roll No.

Total No. of Pages : 02

Total No. of Questions : 11

M.Sc (Biotechnology) (2018 Batch) (Sem.-3)

**GENOMICS AND PROTEOMICS**

Subject Code : MBT-303

M.Code : 76730

Time : 3 Hrs.

Max. Marks : 70

**INSTRUCTIONS TO CANDIDATES :**

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

**SECTION-A**

1) Write briefly :

- (a) Genomics
- (b) Genome databases
- (c) Functional genomics
- (d) TILLING
- (e) SNPs
- (f) Protein digestion techniques
- (g) Proteome
- (h) Tandem mass spectrometry
- (i) Applications of Proteomics
- (j) Protein-protein interactions

## SECTION-B

- 2) Compare genetic organization of prokaryotes and eukaryotes.
- 3) Give methods and applications of sequence comparison.
- 4) Explain principle, method and applications of SAGE.
- 5) Discuss in detail the strategies and applications of SNP determination.
- 6) Explain theory, technique and applications of 2D-IEF.
- 7) Give a detailed description of tools and techniques used in proteome analysis.
- 8) Outline features, techniques and applications of peptide sequencing.

## SECTION-C

- 9) Write down detailed notes on :
  - (a) Genome evolution
  - (b) ESTs
- 10) Give a detailed description of strategies and methods of comparative genomics.
- 11) Write down detailed notes on :
  - (a) Peptide sequence analysis
  - (b) Analysis of protein modification

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**