No. of Printed Pages : 03 **Roll No. .....**

CC-331

M. Sc. EXAMINATION, May 2018

(Third Semester)

(Re-appear Only)

BIOTECHNOLOGY

BT601MS

Genomics and Proteomics-I

Time : 3 *Hours*] [*Maximum Marks :* 100

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. Discuss the prokaryotic and eukaryotic genomic organization. Also describe the organization of organellar genomes. **20**

2. Discuss the significance of mapping in genomic studies. How are genetic mapping techniques different from physical mapping techniques ? Explain with the help of suitable examples. **20**

Unit II

3. Describe the principle, procedure and applications of various techniques used for DNA sequencing. **20**

4. Describe the various experimental and computational approches used for structure annotation of genomes. **20**

Unit III

5. Write notes on the following : **4×5=20**

(a) Protein Profiling

(b) MALDI-TOF for protein identification

(c) Mass spectrometry for protein characterization

(d) X-ray crystallography for structural analysis of proteins.

6. Describe the role of the following in protein-protein interaction studies : **2×10=20**

(a) Phase display technique

(b) Yeast two-hybrid system.

Unit IV

7. Write notes on the following : **2×10=20**

(a) Pharmacogenomics and personalized medicine

(b) Comparative genomics.

8. Discuss the applications of genomics and proteomics in agriculture and human healthcare. **20**