Code No. 7041

FACULTY OF SCIENCE
B.Sc. II-Semester (CBCS) Examination, May / June 2018

Subject : Biotechnology

Paper – II : Nucleic Acids and Bioinformatics

Time : 3 Hours Max. Marks: 80

PART – A (5 x 4 = 20 Marks)
(Short Answer Type)
Note : Answer any FIVE of the following questions.

1 Describe Tobacco Mosaic Virus (TMV).
2 Write in brief about transposable elements.
3 Distinguish between transition and transversion.
4 Discuss mismatch repair mechanism.
5 What are UNIPROT and PIR? Write about their utilization.
6 Distinguish between pBLAST and nBLAST.
7 Define gap and gap penalty.
8 What is genome annotation? Write about gene identification tools.

PART – B (5 x 15 = 60 Marks)
(Essay Answer Type)
Note: Answer all the questions.

9 (a) Describe in detail about Griffith's experiment on transformation.

OR

(b) Write in detail about the organization of eukaryotic genes.

10 (a) Explain in detail about semi-conservative mode of DNA replication.

(b) What is mutagen? Explain in detail about spontaneous and induced mutations.

11 (a) Define Bioinformatics. Discuss the scope of Bioinformatics.

OR

(b) Explain in detail about biological database and their importance with examples.

12 (a) Write in detail about the protein structure prediction.

(b) Describe the role of bioinformatics in identification drug targets and drug designing.