

**M. SC. (BIOTECHNOLOGY) SEM-IV (2012 COURSE)(CHOICE
BASED CREDIT SYSTEM) : SUMMER - 2018**

SUBJECT: BIOINFORMATICS

Day: **Monday**
Date: **16/04/2018**

S-2018-1095

Time: **02.00 PM TO 05.00 PM**
Max Marks: 60

N.B:

- 1) Q.No.1 and Q.No 5 are **COMPULSORY** out of the remaining solve any **TWO** From each sections.
- 2) Answer to both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.

SECTION-I

- Q.1** What is? (10)
- | | |
|-------------------|---------------------|
| a) Bioinformatics | c) Web servers |
| b) Microarray | d) Storages devices |
| e) Transfec | |
- Q.2** Write short notes on: (ANY TWO) (10)
- a) X-ray crystallography
 - b) Supercomputing & cloud computing
 - c) Genome sequencing
- Q.3** Answer in brief: (ANY TWO) (10)
- a) Briefly explain protein structure database.
 - b) Discuss about different genomic browsers.
 - c) Explain any two primary nucleotide databases.
- Q.4** Explain in detail secondary nucleotide databases. (10)
- OR**
- Explain in your words scope of bioinformatics in today's era.

SECTION-II

- Q.5** What is? (10)
- | | |
|-------------|-------------------------|
| a) Entrez | c) 3D protein structure |
| b) PubMed | d) VMD |
| e) ProCheck | |
- Q.6** Write short notes on: (ANY TWO) (10)
- | | |
|--------|--------------------|
| a) PMC | d) BLAST |
| b) SRS | e) Enzyme database |
| c) PDB | |
- Q.7** Answer the following: (ANY TWO) (10)
- a) Write a note on Rasmol & SPDBV
 - b) What are the applications of Ramachandran plot?
 - c) What is homology & ab initio modeling?
- Q.8** Write in detail about gene prediction & annotation tools. Explain with example. (10)
- OR**
- What is mutation, SNP, indel, inversion & gene fusion? What are the applications of bioinformatics in different disciplines?

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