M. Sc. (Biotechnology) Sem-IV (2012 Course)(Choice Based Credit System) : SUMMER - 2019
SUBJECT : BIOINFORMATICS

Day : Saturday	Time : 02.00 PM TO 05.00 PM
Date: : 13/04/2019	**S-2019-1421** Max. Marks : 60

N.B.

1) Q.1 and Q.5 are **COMPULSORY.** Out of the remaining solve any **TWO** from each Sections.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in *SAME* answer book.

SECTION – I

Q.1 Define the following: **(10)**
   a) Bioinformatics
   b) HTS
   c) Microarray
   d) Super computer
   e) Transfec

Q.2 Answer the following: **(10)**
   a) Explain any two genome sequencing techniques in brief.
   b) Describe the computer hardware and software prerequisite for bioinformatics work.

Q.3 Write short note on: **(10)**
   a) Flat file formats
   b) UniProt

Q.4 Differentiate between the following: **(10)**
   a) SCOP and CATH
   b) Primary and secondary storage devices

SECTION – II

Q.5 Give two examples of: **(10)**
   a) Literature databases   b) Chemical databases   c) Pathway databases
   d) Genome databases   e) Structure visualization tools

Q.6 Answer the following: **(10)**
   a) Write a note on Entrez and SRS.
   b) Explain BLAST algorithm in brief.

Q.7 Write notes on: **(10)**
   a) Describe different protein structural levels with emphasis on the bonds involved for the same.

   b) What is homology modeling? Explain the steps in detail.

Q.8 Explain in detail applications of bioinformatics in different fields. **(10)**
OR
Write briefly on structure validation tools.

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