

**M. Sc. Bioinformatics Sem.-I (C.B.C.S.) (2013 Course) / Advanced
Diploma in Bioinformatics Sem.-I (C.B.C.S.) (2013 Course) :
SUMMER - 2019
SUBJECT: BIOLOGICAL INFORMATICS**

Day: Thursday
Date: 04/04/2019

S-2019-1460

Time: 10.00 AM TO 01.00 PM
Max Marks: 60

N.B

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.** Out of the remaining, attempt **ANY TWO** from each section.
- 2) Answer to both the sections should be written in **SAME** answer books.
- 3) Figures to the right indicate **FULL** marks.
- 4) Draw neat labeled diagram **WHENEVER** necessary.

SECTION –I

- Q.1** Enlist two names of the following databases and their domains: (10)
- a) Literature Databases
 - b) Nucleotide Databases
 - c) Gene Expression databases
 - d) Pathway databases
 - e) Chemical databases
- Q.2** Answer **ANY TWO** of the following: (10)
- a) Why different filters are utilized in databases?
 - b) Write briefly on any two sequence submission tools.
 - c) Describe NCBI's search engine.
- Q.3** Write short notes on **ANY TWO** of the following: (10)
- a) PIR-PSD
 - b) DDBJ tools
 - c) Bioinformatics Scope
- Q.4** Write in detail on Smith –Waterman and Needleman-Wunch algorithm. (10)
- OR
- Give an overview of scoring matrices for nucleic acids and proteins.

SECTION II

- Q.5** Explain the provision of following tools: (10)
- a) LALIGN
 - b) T-coffee
 - c) SBASE
 - d) PVS
 - e) Mol4D
- Q.6** Answer **ANY TWO** of the following: (10)
- a) Enlist and explain all types of BLAST.
 - b) Briefly explain MSA algorithm.
 - c) Explain motifs, pattern and profiles concept.
- Q.7** Write short notes on **ANY TWO** of the following: (10)
- a) HGP
 - b) PDB
 - c) Pfam
- Q.8** Explain in detail functioning of primer designing tools. (10)
- OR
- What do you mean by DNA/RNA sequence analysis? How do you do it? Explain with example.

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