

M. SC. BIOINFORMATICS SEM.-II (C.B.C.S.) (2013 COURSE) /
ADVANCED DIPLOMA IN BIOINFORMATICS SEM.-II
(C.B.C.S.) (2013 COURSE) : SUMMER - 2018
SUBJECT : GENOMICS & PROTEOMICS

Day : Thursday
Date : 12-04-2018 S-2018 - 1129

Time : 2.00 P.M. To 5.00 P.M.
Max. Marks : 60

N.B.:

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.** Out of the remaining questions attempt **ANY TWO** questions from each section.
- 2) Answers to both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.

SECTION – I

- Q.1** Define **ANY FIVE** of the following: [10]
- a) SNP
 - b) Pharmacokinetics
 - c) Promoters
 - d) Drug Target
 - e) EST
 - f) Paralogues genes
- Q.2** Write short notes on **ANY TWO** of the following: [10]
- a) Pyrosequencing
 - b) OMIM
 - c) Genome Assembly
- Q.3** Answer the following:
- a) What is gene expression analysis? Explain in detail. [03]
 - b) Differentiate between metabolic diseases and pathogenic diseases with example. [03]
 - c) Explain with example different genomic browsers. Why they are not under one roof? [04]

OR

Write in detail ORF prediction algorithm.

- Q.4** Explain in detail MUMmer and VISTA algorithms. [10]
- OR**
- Write a note on Gene Synteny and GeneOrder tools.

SECTION – II

- Q.5** Define **ANY FIVE** of the following: [10]
- a) Proteome
 - b) GRID
 - c) Microarray
 - d) 2D Gels
 - e) BIND
 - f) MINT
- Q.6** Write short note on **ANY TWO** of the following: [10]
- a) Size exclusion chromatography
 - b) IEF
 - c) Scope of proteomics
- Q.7** Answer **ANY TWO** of the following: [10]
- a) Explain in detail mass spectroscopy and its applications.
 - b) Explain protein sequencing steps in detail.
 - c) Explain protein engineering in detail and its application.
- Q.8** Enlist Clinical and biomedical applications of proteomics. [10]
- OR**
- Explain in detail different databases used for protein-protein interactions.