

**M. SC. (MEDICAL BIOTECHNOLOGY) SEM-III (CHOICE  
BASED CREDIT SYSTEM) : WINTER - 2017  
SUBJECT: GENOMICS & PROTEOMICS**

Day: **Friday**  
Date: **10/11/2017**

**W-2017-1057**

Time: **10.00 AM TO 01.00 PM**  
Max. Marks: **60**

**N.B:**

- 1) **Q.No1** and **Q.No 5** are **COMPULSORY**. Out of the remaining questions, attempt Any **TWO** from each sections.
- 2) Answer to both the sections should be written in **SEPARATE** answer book.
- 3) Figures to the right indicate **FULL** marks.
- 4) Draw neat labeled diagram **WHEREVER** necessary.

**SECTION-I**

- Q.1** Answer the following: [10]
- a) What are pseudo genes? What is their importance in genome?
  - b) Define RFLP & SNP.
  - c) Briefly explain the functions of map repositories.
  - d) What are P elements?
  - e) Define gene order & syntenry.
- Q.2** Answer the following: ( **ANY TWO**) [10]
- a) What are linkage maps? Give practical uses of them.
  - b) Give the steps used in construction of genetic maps. Differentiate between cytogenetic & physical maps.
  - c) Write a note on HGP. Explain its outcomes.
- Q.3** Write short notes on: ( **ANY TWO**) [10]
- a) Prokaryotic transposons
  - b) OMIM
  - c) Gene clustering
- Q.4** Give a comparative statement on genome size, features and characteristics of different organisms. Explain with suitable examples. [10]

**OR**

Explain in brief the concept of chromosome rearrangement, compositional analysis & composite genes.

**SECTION-II**

- Q.5** Define: [10]
- |         |         |
|---------|---------|
| a) CATH | d) FSSP |
| b) SCOP | e) MMDB |
| c) PSSM |         |
- Q.6** Answer the following: ( **ANY TWO**) [10]
- a) Explain in brief transcriptomics & its applications in data analysis.
  - b) Describe the steps involved in microarray data analysis.
  - c) Write a note on SARF.
- Q.7** Write short notes on: ( **ANY TWO**) [10]
- a) Comparative genomics
  - b) BLOCKS
  - c) Motif, pattern & prosite
- Q.8** Explain automation of proteomic analysis with respect to organ comparison, spatio-temporal comparison, intra-species comparison. [10]

**OR**

Explain the following:

- a) Phage antibody as a tool    b) Protein expression analysis