

2071

M.Sc. (Bio-Informatics) Fourth Semester  
MBIN-8017: Genomics and Proteomics – II

Time allowed: 3 Hours

Max. Marks: 60

**NOTE:** Attempt five questions in all, including Question No. I which is compulsory and selecting atleast one question from each Unit.

x-x-x

I. Write short note on:-

- a) Explain PROSITE?
- b) What are hydropathy plots and its significance?
- c) Explain Ensemble database.
- d) Differentiate between Genetic and Physical map.
- e) Why the genome coverage of AFLP is higher compared to RAPD/RFLP?
- f) What is BAC library?
- g) What are string databases?
- h) What is GST pull down assay? (8x1½)

UNIT - I

- II. a) Define chromosome mapping? Explain methods used for chromosome mapping.  
b) What are SSR Markers? How the association mapping is done using SSR markers? (2x6)
- III. a) What do you know about human genome project? Explain significance of human genome mapping in relation to human welfare?  
b) Explain the method of developing SSCP markers? How these are different from SNPs. (2x6)

UNIT - II

- IV. a) How Chip-on-Chip is used to study the genome wide DNA protein interactions?  
b) Explain phage display and its applications? (2x6)
- V. a) Explain with methodology, how the yeast 1 hybrid and yeast 2hybrid system is useful for protein interaction analysis?  
b) Explain databases used for studies interactions and biological pathways? (2x6)

P.T.O.

(2)

**UNIT - III**

- VI. a) Explain Unigene and Genome databases of NCBI?  
b) Explain SCOP and CATH? (2x6)
- VII. a) How BLASTZ and VISTA is used for genome alignments?  
b) Explain homology and fold recognition based methods of protein structure prediction? (2x6)

*x-x-x*