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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. 1 which is compulsory and selecting atleast one question from each Unit.

x-x-x

I. Answer the following:-

- a) What is a hydropathy plot?
- b) Differentiate between PFAM types?
- c) Name 2 softwares for whole genome alignment?
- d) What is the application of Phage display?
- e) Name any two protein interaction databases?
- f) Give full forms of RFLP and RAPD.
- g) Name any disease associated with SNPs.
- h) Which organization/s played a pivotal role in the HGP? (8x1½)

UNIT – I

- II. a) What are SNPs? How are they detected?
- b) Compare and contrast physical and genetic maps. (8,4)
- III. Write notes on the following:-
 - a) AFLP
 - b) Polymorphism and Mutations
 - c) SNP database (6,4,2)

UNIT – II

- IV. a) How is MS used to characterize proteins and their complexes?
- b) How is Yeast two hybrid system used to detect PPI? (2x6)
- V. Write notes on the following:-
 - a) FRET
 - b) GST pull down assay
 - c) STRING database (3x4)

(2)

UNIT - III

- VI. a) Discuss any one online tool for genome analysis.
 b) Write a note on homology based protein tertiary structure prediction. (2x6)
- VII. a) Compare and contrast SCOP and CATH.
 b) What strategy is used by MUMMER for aligning large genomes? (2x6)

x-x-x