Exam.Code:0441
Sub. Code: 3507

2122

M.Sc. (Bio-Informatics) Third Semester

MBIN-8015: Genomics and Proteomics – I

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. Answer briefly:-

(a) Transposons

(b) DNA methylation

(c) Centromere

(d) Ion Torrent

(e) Base calling

(f) Reference based genome assembly

(g) Disulphide bond

(h) Edman degradation (8x1½)

UNIT - I

II. a) Explain the organization of Chloroplast genome.

b) Discuss the significance chromatin modification and genome expression. (5,7)

III. a) Write a note on C value Paradox.

b) Elaborate on the organization of prokaryotic genes in Operons. (2x6)

UNIT - II

IV. a) Describe the solubilization and sample preparation for 2D PAGE.

b) Why is reproducibility a problem with 2D PAGE and how is it addressed? (2x6)

V. a) Discuss any technique used for proteome analysis.

b) Discuss the principle and procedure of MALDI-TOF for protein mass determination? (5,7)

UNIT - III

VI. a) Discuss the principle and applications of Next Generation Sequencing.

b) Write a note on Sanger method of DNA sequencing. (2x6)

VII. Elaborate on any two types of Post translation modifications in Eukaryotic proteins. (12)

x-x-x