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B.Sc. (Hons.) Biotechnology
Sixth Semester
BIOT- Sem-VI-IV-T: Genomics and Proteomics

Time allowed: 3 Hours   Max. Marks: 67

NOTE: *Attempt* <u>*five*</u> *questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.*

x-x-x

I.   Attempt the following:

    a)   Define gene.

    b)   Discuss INTRON.

    c)   What is ENSEMBL?

    d)   Write two advantages of 2D PAGES.

    e)   Write two Model organisms for human.

    f)   What is "proteome"?

    g)   What is physical map?

    h)   Define SNP.

    i)   Discuss disulphide bonds.

    j)   What are covalent linkages?   (10x1½)

UNIT – II

II. a) Discuss the Genome sequencing and its importance?

    b) What is a Shotgun method for sequencing?   (6,7)

III. a) What is a Maxam & Gilbert sequencing method?

    b) Write a note on tools for sequence project.   (6,7)

UNIT – III

IV. a) What are model organism and its significance?

    b) Discuss UCSC database and its applications?   (6,7)

V.   a) Write a note on web server for genome analysis.

    b) Write a note on ENSEMBL and It significance.   (6,7)

(2)

UNIT – IV

VI. a) Write a note on chemical interaction define in protein structure.

b) Write a note on Edman degration.   (6,7)

VII. a) Discuss about Gel filtration and its applications.

b) Discuss SDS - PAGE and its uses.   (6,7)

UNIT – IV

VIII. a) Write a note on Proteome and its significance.

b) Write a note on 2D- PAGE and its applications   (6,7)

IX. a) Discuss about the Mass spectroscopy based methods for protein identifications.

b) Discuss De novo sequencing using mass spectrometric data.   (6,7)

x-x-x