2072
B.Sc. (Hons) Bio-Informatics
Sixth Semester
BIN-6002: Introduction to Proteins and Proteomics

Time allowed: 3 Hours

Max. Marks: 60

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

x-x-x

I. Attempt the following :-

    a) Define proteome.

    b) Briefly explain principle of MS.

    c) Give the full form of STRING.

    d) What is the application of LC/MS?

    e) Name any two post translational modifications.

    f) Briefly explain the phage display method for mapping protein-protein interactions. (6x2)

UNIT - I

II. How is solubility of protein affected by:-

    a) Salt concentration

    b) Organic solvents

    c) pH (3x4)

III. a) Discuss the process of Edman degradation and its importance.

    b) How are proteins stabilized during isolation? (8,4)

IV. a) What are protein arrays and their applications?

    b) How are microheterogeneity in proteins determined using MS. (6,6)

UNIT - II

V. a) Discuss two hybrid method of mapping protein-protein interactions.

    b) How are proteins phosphorylated during post translational modifications? (8,4)

VI. a) Explain the protein components present in RNA polymerase II and their protein-protein interactions.

b) How are disulphide bonds formed during post translational modifications of proteins.   (8,4)

VII. Write notes on the following:-

a) Attachment of lipids to proteins

b) STRING   (6,6)

x-x-x