Exam.Code:0044 Sub. Code: 1016

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 proteinprotein 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

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(8) How are proteins thereplanting during past translational medification of the