Exam.Code:0439
Sub. Code: 3492

1129

M.Sc. (Bio-Informatics) First Semester
MBIN-8004: Macromolecular Bio-Chemistry

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. Attempt the following:-

a) Differentiate between the conformation and configuration of macromolecules.

b) What is not possible if Ramachandran plot is not discovered?

c) Define Boltzmann distribution and it application.

d) What are neoglycan?

e) Why protein could not be act as inherent material over DNA?

f) Differentiate between collagen types.

g) Why B form of DNA helix is dominated in eukaryotic genome?

h) Define Levinthal paradox? (8x1½)

UNIT – I

II. a) Discuss the significance of primary structure of Protein and its role in folding.

b) Differentiate between protein helices and turns structures. (2x6)

III. a) How proteins become stable with the help of non covalent bonds?

b) Discuss in detail about quaternary structures. (2x6)

UNIT – II

IV. a) Discuss protein misfolding pathways and its role?

b) What are identical and independent sites models for protein binding? (2x6)

V. a) Discuss the about Helix coil transition in proteins.

b) What is partition function and its application in biological systems? (2x6)

P.T.O.

UNIT – III

VI. a) What are basic structure properties of DNA helix?

b) Write short note on sequence analysis of polysaccharides. (2x6)

VII. a) Write a note on A and B form of DNA helix.

b) Differentiate between conformation of starch and glycogen. (2x6)

x-x-x