

2124
M.Sc. (Bio-Informatics) Third Semester
MBIN-8014: Structural Biology

Time allowed: 3 Hours

Max. Marks: 60

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting atleast one question from each Unit.

x-x-x

I. Answer the following :-

- a) Define resolution of a microscope.
- b) What is the application of light microscope?
- c) Name any two post translational modifications of proteins.
- d) Define chemical shift.
- e) Give one application of LC/MS.
- f) Name one protein database and give its application. (6x2)

UNIT - I

- II. a) Compare and contrast SEM and TEM.
- b) Give application of fluorescence phase contrast microscope. (8,4)
- III. a) Give the applications of electron microscope.
- b) Discuss principle and working of confocal microscope. (4,8)

UNIT - II

- IV. a) Discuss principle and working of MS.
- b) Write a note on peptide mapping. (8,4)
- V. Write note on the following:-
- a) Protein sequencing
- b) DNA component analysis using MS (6,6)

UNIT - III

- VI. a) Discuss principle and methodology for structure determination using NMR.
- b) Write a note on protein folding problems. (8,4)
- VII. a) Compare and contrast NMR and X-ray crystallography.
- b) Discuss principal and physical basis of structure determination using X-ray crystallography. (6,6)

x-x-x