

2012
B.A./B.Sc. (General) First Semester
Biochemistry
Paper - B: Nitrogen Containing Bio-molecules

Time allowed: 3 Hours

Max. Marks: 45

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

x-x-x

I. Explain briefly the following terms:

- a) Native protein
- b) Globular protein
- c) Denaturation of DNA
- d) Conjugated protein
- e) Stereoisomerism
- f) Biologically active peptides
- g) Biologically important nucleotides
- h) Salting in and salting out protein
- i) Ribozyme

(9x1)

UNIT - I

II. a) Classify amino acids based on R groups. Draw the structure of positively charged amino acids.

b) Explain physical and chemical properties of amino acids. (5,4)

III. a) Discuss α -helix and β -pleated sheets of polypeptides.

b) Discuss titration curve of glycine. (5,4)

UNIT - II

IV. a) Explain various forces stabilizing structure and shape of proteins.

b) Describe amino acids present in proteins and non-proteins. (5,4)

V. a) Discuss structural levels of proteins.

b) Elaborate briefly fibrous proteins. (5,4)

P.T.O.

UNIT – III

- VI. a) Discuss different forms of DNA.
b) Explain double helical model of DNA. (5.4)
- VII. a) Explain physical and chemical properties of nucleic acids.
b) Elaborate different types of RNA. (5.4)

UNIT – IV

- VIII. a) Write short notes on metalloporphyrin.
b) How will you detect porphyrin by spectrophotometrically. (5.4)
- IX. a) Explain chemical and physiological significance of bile pigments.
b) Discuss porphyrin nucleus and classification of porphyrin. (5.4)