

1128

B.A./B.Sc. (General) First Semester

Biochemistry

Paper - B: Nitrogen Containing Biomolecules

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. a) Explain briefly the following terms:

i)  $\beta$ -turns

ii) Denaturation of proteins

iii) Z DNA

iv) Bile pigments

(4x2)

b) What do you mean by ribozyme?

(1)

**UNIT - II**

II. a) Give the classification of amino acids based on nature of "R" groups. Write the structure of aromatic amino acid.

b) Write a short note on non-protein amino acids.

(6,3)

III. a) Describe the process of chemical synthesis of polypeptides.

b) Explain the term 'zwitterion'.

(7,2)

**UNIT - II**

IV. a) Describe the Edman degradation method for sequencing of polypeptide.

b) Comment on salting in &amp; salting out of the proteins.

(5,4)

V. a) Write in detail about the salient features of collagen.

b) Discuss the forces stabilizing structure and shape of proteins.

(2x4½)

**UNIT - III**

VI. a) Define the term nucleic acid.

b) Discuss different types of RNA.

(3,6)

P.T.O.

(2)

- VII. a) Give the salient features of double helical structure of DNA with the help of diagram.
- b) What do mean by minor bases of DNA. Give structure of any two such bases. (6,3)

#### UNIT - IV

- VIII. a) What do you mean by porphyrins? Draw structure of porphyrin nucleus.
- b) Write a detailed note on the detection of porphyrins. (6,3)
- IX. Discuss heme and other metalloporphyrins occurring in nature in detail. (9)

X-X-X