TKN/KS/16 – 5837

Third Semester B. Sc. Examination

BIOCHEMISTRY

Paper : I

(Macromolecules)

Time : Three Hours] [Max. Marks : 50

N. B. : All question are compulsory and carry equal marks.

1. Describe reactions of amino acid with
   (a) Ninhydrin. 5
   (b) Edmans. 5

OR

Describe Merrifield and Gutt's synthesis method for peptides. 10

2. Explain the forces that stabilize tertiary structure of protein. 10

OR

Write notes on :—
   (a) β–pleated sheet. 5
   (b) Structure of collagen. 5

3. Explain with respect to DNA structure :
   (a) Denaturation and Renaturation. 5
   (b) Watson and Crick model. 5

OR

   (c) Write the chemical structure of A,T,G,C,U. 5

(d) Write chemical structure of nucleotides showing A = T and G ≡ C pairing. 5

4. Write short notes on :—

(a) Tm and its relationship to G–C content. 5

(b) t–RNA. 5

OR

Describe Sangers dideoxy method of DNA sequencing. 10

5. Answer any **Ten** of the following :—

(I) Write the structure of one sulphur containing amino acid. 1

(II) Name any two usual amino acids. 1

(III) Peptide mapping was first done by ———. 1

(IV) Give any one biological function of collagen. 1

(V) What is meant by denaturation of protein ? 1

(VI) What are domains ? 1

(VII) Name the forces responsible for base stacking in DNA. 1

(VIII) How many base pairs are present in one turn of Z–DNA ? 1

(IX) A–Form of DNA is left handed helix–True or False. 1

(X) What is meant by satellite DNA ? 1

(XI) Name any two types of r–RNA in prokaryotes. 1

(XII) Chemical cleavage method of DNA sequencing is also known as ————. 1