

M.Sc.(Bio-Chemistry) (NEP Pattern) - Sem-I  
**01MSCBIC01 / STPG01BCH01 - Protein Biochemistry**

P. Pages : 2

Time : Three Hours



**GUG/W/24/16131**

Max. Marks : 80

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- Notes :
1. All questions are compulsory.
  2. Draw neat and labelled diagram wherever necessary.
  3. All questions carry equal marks.

1. Give a detail account of amino acid sequencing by Sanger's FDNB Method and Edman's Degradation method. **16**

**OR**

- a) Write a note on Primary Structure of protein. **8**
  - b) Give different types of classifications of amino acid. **8**
2. Discuss in detail the quaternary structure of collagen and myoglobin. **16**

**OR**

- a) Describe the Ramchandran plot with proper examples. **8**
  - b) Write a note on  $\beta$ -Conformation protein. **8**
3. Give an detail account of Protein denaturation and renaturation with proper examples. **16**

**OR**

How 3-D structure of protein structure is determine by-

- a) XRD Method **8**
  - b) NMR Method **8**
4. Discuss complementary protein ligand interaction with the example of T-Cell Receptor and MHC molecule. **16**

**OR**

- a) Describe co-operative binding of protein with its ligand. **8**
- b) What is quantitative description of protein ligand interaction? Describe with Hill equation and Plot. **8**

5. Attempt **any eight** from following.

**8x2  
=16**

- a) Draw structure of lysine and tyrosine.
- b) Give four example of uncommon amino acid.
- c) Name the enzyme which breaks amino acids from carboxyl end.
- d) Give two examples of protein stabilizing forces.
- e) How many amino acid comprise in a single turn of  $\alpha$ -helix?
- f) Give two examples of fibrous protein.
- g) Give full form of XRD and name scientist who invent it.
- h) Draw icosahedral symmetry.
- i) Give two example of stable folding.
- j) What is allosteric protein? Give one example of allosteric protein.
- k) How 2, 3 Bisphosphoglycerate control the  $O_2$ -HB binding?
- l) What is ligand? Give one example of ligand.

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