

B.Sc. (Part-II) (C.B.C.S. Pattern) Sem-III
USBCT-C05 - Biochemistry Paper-I
(Macromolecules)

P. Pages : 2

Time : Three Hours



GUG/S/19/11596

Max. Marks : 50

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- Notes : 1. All questions are compulsory.
2. Draw well diagram wherever necessary.

1. Give detailed account on the determination of the primary structure of proteins with respect to cleavage of disulphide bonds, amino acid composition and endopeptidase specificity **10**

OR

- a) Give reaction of amino acid with Edman's reaction. **2½**
- b) Explain peptide mapping. **2½**
- c) Write a note on glutathione. **2½**
- d) Give reaction of amino acid with Dansyl chloride. **2½**

2. Give detailed account on secondary structure of proteins. **10**

OR

Write a note on :

- a) Submit interactions. **2½**
- b) Domains **2½**
- c) Collagen **2½**
- d) Protein denaturation. **2½**

3. Describe Watson - Crick model of DNA. **10**

OR

- a) Draw the structure of Purines. **2½**
- b) Explain base stacking. **2½**
- c) Explain Chargaff's rule. **2½**
- d) Write a note on A DNA. **2½**

4. Give detailed account on Maxam-Gilbert method for DNA sequencing. 10

OR

Write a note on :

- a) Satellite DNA. 2½
- b) t-RNA 2½
- c) Denaturation of DNA 2½
- d) T_M 2½

5. Solve any ten. 10

- i) What is Zwitter ion.
- ii) Give an example of non proteinous amino acids.
- iii) Name the complex formed when ninhydrin reacts with amino acid.
- iv) Name any one force that stabilizes tertiary structure of protein.
- v) How many O_2 bind with a single molecule of Hb ?
- vi) What is co-operative binding ?
- vii) Draw any one structure from pyrimidine bases.
- viii) What is the difference between nucleosides and nucleotides.
- ix) How many bonds present between G and C ?
- x) What is buoyant density ?
- xi) Give the range of temperature required for renaturation of DNA.
- xii) Give any one advantage of Sanger's dideoxy nucleotide sequencing.
