B.Sc. (Part-II) (With Credits)-Regular-Semester 2012 Sem III

B.Sc.2381 - Biochemistry Paper-I (Macromolecules)

P. Pages : 2 **GUG/S/18/3326**

Time : Three Hours * 0 5 0 9 * Max. Marks : 50

Notes : 1. All questions are compulsory and carry equal mark.
2. Draw a neat & well labelled diagram wherever necessary.

1. Define protein. Classify proteins on the basis of Composition & solubility. Give suitable examples of each class of proteins. **10**

OR

a) Explain Denaturation & Renaturation of proteins. **5**

b) Write in detail about the forces that stabilize the tertiary structure of proteins. **5**

2. What is a nucleic acid? Give a detailed account of Watson & crick model of B-DNA. Add a note on Z-DNA. **10**

OR

Describe Maxam – Gilbert method for DNA sequencing. **10**

3. a) Add a note on fibrous protein. **2½**

b) Give the structure & functions of Collagen. **2½**

c) Explain chemical structure and Base composition of nucleic acid. **2½**

d) Define Tm. What is its relationship with G-C content of DNA? **2½**

OR

e) Explain B-pleated sheet of protein. **2½**

f) Explain the concept of Domains with its functions. **2½**

g) State the Chargaff's Rules. **2½**

h) Explain the structure of t-RNA. **2½**

4. a) How Edman's reaction is important for primary protein structure determination? **2½**

b) Explain quaternary structure of proteins. **2½**

c) Describe the forces that stabilize nucleic acid structure. **2½**

d) Draw well labelled diagram of Eukaryotic mRNA. **2½**

OR

e) Discuss reaction of dansyl chloride with proteins. **2½**

f) How primary secondary and tertiary structure of proteins are different w.r.t. the forces stabilizing the structures. **2½**

g) Add a note on A-DNA. **2½**

h) Explain in detail Satellite DNA. **2½**

5. Attempt **any ten** of the following.

a) Give any two examples of globular proteins. **1**

b) Draw the reaction of formation of a dipeptide. **1**

c) Give the name of sanger's reagent for the protein structure determination. **1**

d) Give one example of Quaternary structure of protein. **1**

e) What does the term 'subunit' indicate in quaternary structure of proteins. **1**

f) Give any one example of tertiary structure of protein. **1**

g) Differentiate between nucleoside & nucleotide. **1**

h) Draw the structure of ATP. **1**

i) What is base stacking? **1**

j) Write the full form of VNTRs. **1**

k) Which type of rRNA is present in larger subunit of eukaryotic ribosome? **1**

l) Who gave dideoxynucleotide sequencing method. **1**

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