LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

**B.Sc.** DEGREE EXAMINATION – **CHEMISTRY**

FOURTH SEMESTER – APRIL 2011

# CH 4204 / 4202 - CHEMISTRY FOR BIOLOGISTS - II

 Date : 05-04-2011 Dept. No. Max. : 100 Marks

 Time : 1:00 - 4:00

**PART-A**

 ***Answer* *ALL* *the questions*** (10 x 2 = 20)

1. How is glycine synthesized from serine?
2. What is peptide bond? How is it formed?
3. Write any two properties of lipids.
4. What are steroids? Give an example
5. What are the different types of RNA? Mention their functions.
6. What is mutation?
7. What are epimers? Give example.
8. Write down the biological importance and functions of carbohydrate.
9. What is ADP? Draw its structure.
10. What are herbicides? Give an example.

**PART – B**

 ***Answer any* *EIGHT* *questions*** (8 x 5 = 40)

1. Discuss the primary structure of protein.
2. How are enzymes classified? Give an example for each.
3. What are essential and non-essential amino acids? Draw the structures of any three amino acids.
4. Discuss the following a) Lecithins b) Cephalins and c) plasmologens
5. Discuss the replication of DNA.
6. Draw and discuss the structure of RNA.
7. Write a note on a) mutarotation b) Inversion of cane sugar
8. Explain the first five steps in the process of conversion of glucose to pyruvic acid.
9. Draw the Fischer and Haworth structure of D-Fructose.
10. Draw the structure of sucrose. Discuss its non-reducing property.
11. What is BHC? Write down its preparation and uses.
12. Describe the manufacture of superphosphate of lime.

**PART – C**

 ***Answer Any*** **FOUR** ***questions*** (4 x 10 = 40)

1. Discuss Edman and Sanger’s methods to determine the N-terminal sequence of amino acid.
2. a) Write in detail the classification of proteins based on solubility and structure. (8)

b) What is meant by hydrogenation of oil? (2)

1. Discuss the biosynthesis of cholesterol. (10)
2. a) Write a brief note on genetic engineering. (5)

b) Write the differences between DNA and RNA. (5)

1. Explain the complete changes that occur during one complete turn of the citric

 acid cycle. (TCA Cycle) (10)

1. Discuss the following with structures (10)
2. Papaverine b) Nicotine c) Coniine d) Camphor

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