



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – CHEMISTRY

FIFTH SEMESTER – NOVEMBER 2014

CH 5404 / CH 5401 - BIOCHEMISTRY

Date : 12/11/2014
Time : 09:00-12:00

Dept. No.

Max. : 100 Marks

Part-A

Answer all the questions. Each question carries two mark:

10X2=20

1. How is α -amino acid synthesized by Strecker's synthesis?
2. Define denaturation of proteins.
3. What are isomerases? Give an example.
4. Give an example for the geometrical specificity of the enzymes.
5. Draw the structure of cholesterol.
6. Define the iodine number of oil.
7. What is hydrolytic rancidity?
8. Mention the differences between amylose and amylopectin.
9. What is base pairing in nucleic acids? Give examples.
10. Give the structure of cytosine and uracil.

Part-B

Answer any eight questions. Each question carries five marks:

8X5=40

11. How is N-terminal sequence of an amino acid determined by Sanger's method?
12. How is phenylalanine prepared by transamination?
13. Explain the mechanism involved in the biosynthesis of any one fatty acid.
14. Draw the clover leaf model of t-RNA and explain its structure.
15. Discuss the steps involved in the β -oxidation theory of fatty acids.
16. Describe the steps involved in the preparatory phase of glycolysis.
17. What are cozymes? Discuss the mechanism of its action.
18. Explain the transport of hydrogen and electron through various carriers of electron transport chain.
19. What are carbohydrates? Explain their classification with examples.
20. Explain the cyclic structure of glucose and its significance.
21. How is electrophoresis method helpful in the separation and purification of proteins?
22. Discuss the salient features of DNA replication.

Part-C

Answer any four questions. Each question carries ten mark:

4X10=40

23. Discuss the primary and secondary structure of proteins.
24. Draw citric acid cycle and explain the steps with the enzymes involved.
25. Define enzyme inhibition? Explain any three types of enzyme inhibition.
- 26a. Draw the structure of hemoglobin and discuss its role in respiration.
b. Write a short note on recombinant DNA technology. (7+3)
27. Discuss the Watson and Crick mode of DNA with a neat diagram.
28. What are phospholipids? Explain the classification of phospholipids.
