

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY & ADV. ZOOLOGY

THIRD SEMESTER – NOVEMBER 2013

CH 3204 - CHEMISTRY FOR BIOLOGISTS - II

Date : 13/11/2013

Dept. No.

Max. : 100 Marks

Time : 9:00 - 12:00

Part-A

Answer all questions. Each question carries two marks.

1. What is meant by isoelectric point of amino acids?
2. Define denaturation of proteins with an example.
3. What is oxidative rancidity?
4. Give two functions of waxes.
5. What are steroids? Give the names of any two steroids.
6. Draw the structure of thymine and uracil.
7. What is mutarotation? Give an example.
8. What are hetero polysaccharides? Give an example.
9. What are terpenes? Which terpene is obtained from lemongrass oil?
10. Write Michelis-Menten equation and mention the terms involved.

Part-B

Answer eight questions. Each question carries five marks.

11. Describe the factors affecting the enzymatic activity.
12. Explain any one method to determine the N-terminal residue of an amino acid.
13. Discuss the secondary structure of proteins.
14. Write notes on (a) hydrogenation of oils (b) saponification value.
15. What are phospholipids? Explain any two types of them.
16. Bring out the differences between DNA and RNA.
17. Discuss the replication of DNA.
18. How are the following conversions made?
(a) D-glucose to D-fructose (b) D-fructose to D-glucose.
19. Outline the relationship between glycolysis and respiration.
20. Discuss in detail how the structure of sucrose is determined.
21. Account for the analysis of a soil sample.
22. How are DDT and BHC prepared?

Part-C

Answer four questions. Each question carries ten marks.

- 23a. Explain the classification of enzyme with suitable examples.
- b. Discuss the mechanism of enzyme action. (5+5)
24. Discuss the biosynthesis of cholesterol.
25. Describe the Watson-Crick's model of DNA.
26. Explain TCA cycle in detail.
27. Outline briefly the method used for the isolation of alkaloids.
- 28a. Give the preparation of urea and superphosphate.
- b. How is nicotine extracted from tobacco leaves. (5+5)