



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – CHEMISTRY

FIFTH SEMESTER – APRIL 2016

CH 5404 - BIO CHEMISTRY

Date: 25-04-2016
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

Part-A

Answer ALL questions.

(10 × 2 = 20)

1. Draw the structure of D-ribose and D-deoxyribose.
2. Give any four differences between DNA and RNA.
3. Define Iodine number.
4. What is saponification?
5. What are anomers? Give examples.
6. What is meant by DNA repair?
7. Define isoelectric point.
8. Show the peptide bond formation between glycine and alanine.
9. What are NAD and ATP?
10. Give any two uses of bile acids.

Part-B

Answer any EIGHT questions.

(8 × 5 = 40)

11. Discuss the various steps involved in β oxidation of amino acids.
12. Explain the following with an example
 - a) Transamination
 - b) Decarboxylation
13. Discuss the factors that influence enzyme action.
14. What is the role of coenzymes in enzyme action?
15. Explain the structure of amylose.
16. Enzymes are specific in their action. Support this statement with relevant examples.
17. How are carbohydrates classified?
18. Discuss the various tests used for the identification of carbohydrates.
19. Write a note on compound lipids.
20. Define the following terms:
 - a) RM number
 - b) Polenske number
21. Discuss the structure of DNA.
22. Explain the role of different types of RNA.

Part-C

Answer any FOUR questions.

(4 × 10 = 40)

23. Explain the primary and secondary structures of proteins.
24. Explain the (i) lock and key model and (ii) induced fit model of enzyme action.
25. Write all the steps involved in TCA cycle.
26. Discuss in detail, the process of protein synthesis by nucleic acids.
27. Derive the equation of Michaelis-Menton constant.
28. Outline the steps involved in the biosynthesis of cholesterol.
