



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – CHEMISTRY

FIFTH SEMESTER – NOVEMBER 2015

CH 5404 - BIOCHEMISTRY

Date : 14/11/2015

Dept. No.

Max. : 100 Marks

Time : 09:00-12:00

Part-A

Answer all the questions.

(10 × 2 = 20)

1. Define isoelectric point.
2. What is a peptide bond?
3. What are NAD and FAD?
4. Give any four differences between DNA and RNA.
5. What are epimers? Give an example.
6. Give any two characteristic tests for proteins.
7. What is meant by rancidity of butter?
8. Give an example for enzyme specificity.
9. Define Polenske number.
10. What is genetic code?

Part-B

Answer any eight questions.

(8 × 5 = 40)

11. Draw and explain the double helical structure of DNA.
12. Draw the structures of the following compounds.
a) Adenosine b) Sucrose c) Haworth structure of fructose
13. How are enzymes classified? Explain them.
14. Write a note on oxidative phosphorylation.
15. Explain any one method of determination of the sequence of amino acids in a protein.
16. How are triglycerides synthesized?
17. Discuss the role of bile acids in the metabolism of cholesterol.
18. Discuss the structure of amylopectin.
19. How are carbohydrates classified?
20. Write a note on -keratin.
21. Explain any one model of enzyme mechanism.
22. Explain denaturation and renaturation of proteins.

Part-C

Answer any four questions.

(4 × 10 = 40)

- 23a. Explain the β -oxidation of fatty acids.
b. Explain the mechanism of competitive inhibition of enzyme action.
24. Outline the steps involved in the biosynthesis of cholesterol.
25. Write all the steps involved in glycolysis.
26. Write the various methods involved in the separation and purification of colloids.
27. Derive the equation of Michaelis-Menton constant.
28. Write the various steps involved in DNA recombinant technology.
