



# LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – CHEMISTRY

FIFTH SEMESTER – APRIL 2018

**CH 5404- BIO CHEMISTRY**

Date: 10-05-2018  
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

## Part-A

Answer ALL questions.

(10 × 2 = 20)

1. What are organelles?
2. What are essential and non-essential amino acids?
3. Mention any two important characteristics of enzymes.
4. What do you understand by the terms cofactors and coenzymes?
5. Define acid number and saponification number.
6. What is meant by "Polenske number"?
7. Define the term epimer with an example.
8. What are called anomers?
9. What are the purine bases in DNA?
10. What are nucleosides?

## Part-B

Answer any EIGHT questions.

(8 × 5 = 40)

11. How can amino acids be prepared by reductive amination? Give an example.
12. What are called N-terminus and C-terminus of a peptide? Give the standard way of describing the sequential order of amino acids in a peptide.
13. Discuss the mechanism of an enzyme catalyzed reaction with a suitable example.
14. Explain the factors affecting the rate of enzyme reaction.
15. Write a note on "classification of lipids".
16. List any five biological functions of lipids.
17. Explain the process of oxidative rancidity of lipids with a suitable example.
18. How do reducing sugars differ from non-reducing sugars? Give an example.
19. Give the structure and explain the uses of starch.
20. Discuss the relation between glycolysis and respiration.
21. Write a note on biosynthesis of protein.
22. Explain the denaturation and renaturation of proteins with examples.

## Part-C

Answer any FOUR questions.

(4 × 10 = 40)

- 23a. What is called the Strecker synthesis? Give an example. (4)
  - b. Discuss the 3D structure of proteins. (6)
- 24a. What do you mean by catabolism and anabolism? Explain the four stages of catabolism. (5)
  - b. Explain the four different types of mechanism of inhibition. (5)
- 25a. Write a note on "biosynthesis of cholesterol". (5)
  - b. Discuss the mechanism of  $\beta$ -oxidation of fatty acids. (5)
26. Discuss the nomenclature, structure, conformation and stability of glucose.
27. Discuss the different reactions of glycolysis.
- 28a. Write any five difference between DNA and RNA. (5)
  - b. Explain the types and functions of RNA. (5)

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