LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **CHEMISTRY**

FIFTH SEMESTER – **APRIL 2014**

CH 5404 - BIO CHEMISTRY

Date : 11/04/2014 Dept. No. Max. : 100 Marks
Time : 01:00-04:00

Part-A

Answer all questions. Each question carries two marks.

1. Amino acids can act as proton donor as well as proton acceptor. Comment.
2. What is a peptide bond? Cite an example.
3. How are enzymes different from catalyst?
4. Explain feed-back inhibition with an example.
5. What are PUFA? Give two examples.
6. Define iodine value of oil.
7. What is gun cotton?
8. Give the structure of purine bases found in DNA.
9. What are carbohydrates?
10. Draw Haworth configuration of α-D-Glucose.

Part-B

Answer eight questions. Each question carries five marks.

11. What are proteins? How are they classified?
12. Explain transamination. Mention its use?
13. Discuss the separation and isolation of proteins using electrophoresis.
14. Explain the mechanism of coenzyme action.
15. Why are enzymes said to be specific in nature? Give an example.
16. Write a note on essential fatty acids.
17. Explain rancidity and Reichert-Meissl number.
18. Bring out the differences between reducing and non-reducing sugars.
19. Describe the structure of starch.
20. What is genetic code? Discuss any five important characteristics of genetic code.
21. Draw and explain the clover leaf model of *t*-RNA.
22. Explain the mechanism of electron transport chain.

Please go on to the next page

Part-C

Answer four questions. Each question carries ten marks.

23a. Explain urea cycle in detail.

b. Write a note on protein absorption. (6+4)

24. Discuss the kinetics of mono and disubstrate enzyme catalyzed reaction.

25. Explain the following: (a) acid number, (b) saponification number, and (c) β-oxidation of fatty acids. (3+3+4)

26a. Elucidate the structure of glucose.

b. Explain oxidative phosphorylation. (6+4)

27a. What are phospholipids? Explain any two types of them.

b. How are triglycerides synthesized? (6+4)

28. Discuss the biosynthesis of proteins.

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