



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – ZOOLOGY

FOURTH SEMESTER – NOVEMBER 2016

CH 4202 - BIO-CHEMISTRY FOR BIOLOGIST

Date: 11-11-2016
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

Part-A

Answer ALL questions.

(10 × 2= 20)

1. What is denaturation of proteins?
2. Define isoelectric point of an amino acid.
3. Draw the structure of lecithin.
4. What is hydrogenation of oils?
5. Draw the structural formula of a nucleotide. Indicate clearly the nucleoside portion in it.
6. Mention the functions of different types of RNA.
7. How will you convert fructose into glucose?
8. Differentiate reducing sugars from non-reducing sugars with a suitable example.
9. What is Bordeaux mixture? Mention its application.
10. Write the uses of flavonoids.

Part-B

Answer any EIGHT questions.

(8 × 5= 40)

11. How is N-terminal amino acid of proteins determined by Sanger's method?
12. Illustrate the two models proposed to explain the enzyme action.
13. Explain the classification of amino acids with relevant examples.
14. What are the differences between plant and animal fats?
15. Write a short note on rancidity.
16. Illustrate the hydrogen bonding existing between nitrogenous bases in DNA.
17. Discuss the replication of DNA.
18. What is mutarotation? Explain it with the help of α -D-glucose.
19. Write the steps involved in citric acid cycle and calculate the net ATPs gained.
20. Explain isoprene rule with an example.
21. Describe the importance of micro and macro nutrients.
22. Explain the structure and physiological action of papaverine.

Part-C

Answer any FOUR questions.

(4 × 10= 40)

- 23a. Discuss the secondary structure of proteins. **(5)**
 - b. Explain the reversible and irreversible enzyme inhibition mechanisms. **(5)**
- 24a. Describe the classification of lipids. **(5)**
 - b. Mention the various steps involved in the biosynthesis of cholesterol. **(5)**
- 25a. Write the differences between DNA and RNA. **(5)**
 - b. What are the advantages and disadvantages of genetic engineering? **(5)**
26. What is glycolysis? Discuss the various steps involved in the glycolysis of glucose to pyruvate.
27. Describe in detail the different types of soil.
- 28a. Write a method to synthesis DDT and BHC. **(6)**
 - b. Explain the terms involved in Michaelis-Menten equation. **(4)**
