

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.Sc. DEGREE EXAMINATION – ADVANCED ZOOLOGY AND BIOTECHNOLOGY

THIRD SEMESTER – NOVEMBER 2022

UCH 3403 – BIOCHEMISTRY FOR BIOLOGY

Date: 01-12-2022

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

PART – A

Answer ALL Questions.

(10 x 2 = 20 Marks)

1. Identify the peptide bond in dipeptide.
2. What is Zwitterion?
3. State Chargaff's rule.
4. What are the pyrimidine bases present in RNA and DNA?
5. What are essential fatty acids? Give an example.
6. Define Reichert-Meissl number.
7. What are disaccharides? Give an example with structure.
8. List the biological importance of carbohydrate.
9. What is isoprene rule?
10. Write any four biologically active natural products.

PART – B

Answer any **EIGHT** Questions.

(8 x 5 = 40 Marks)

11. Discuss denaturation and renaturation of proteins.
12. Illustrate the factors that influence enzyme activity.
13. How are enzymes classified?
14. Explain the functions of different type of RNAs.
15. Describe the significance of enzymes in the process of DNA replication.
16. What are phospholipids? How are they classified?
17. Illustrate the biological importance of lipids.
18. Compare animal and plant fats.
19. Draw the Fischer and Haworth structures of glucose and fructose.
20. Explain the classification of carbohydrates with suitable examples.
21. How are alkaloids extracted from the plant material?
22. How are terpenoids classified?

PART – C

Answer any **FOUR** Questions.

(4 x 10 = 40 Marks)

23. Draw and explain the primary and secondary structures of proteins.
24. Discuss the salient features of double helical structure of DNA.
25. Describe the translation and transcription processes.
26. Explain the properties of triacylglycerol with suitable reactions.
27. Describe the following (i) inversion of cane sugar (ii) mutarotation
28. Explain the functions of the following with structure
(a) papaverine (b) nicotine (c) α -pinene

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