

K21U 6838



Reg. No. :

Name :

I Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/
Improvement) Examination, November 2021
(2020 Admission Onwards)
CORE COURSE IN LIFE SCIENCES (ZOOLOGY) AND
COMPUTATIONAL BIOLOGY
1B01 ZCB : Biochemistry and Biophysics

Time : 3 Hours

Max. Marks : 40

PART – A

Write about **each** of the following in **2** or **3** sentences. **Each** question carries **1** mark.
(6×1=6)

1. What is a dipole ?
2. Mention the biological functions of steroids.
3. Why phenylalanine is an essential amino acid in humans ?
4. Which category of enzyme is used for joining two molecules ?
5. Differentiate between aldoses and ketoses with an example for each.
6. Explain the role of debranching enzyme in glycogenolysis.

PART – B

Explain about **any six** of the following. **Each** question carries **2** marks. (6×2=12)

7. What are globular proteins ? Give examples.
8. Define pKa. What happens if pH of a weak acid is greater than its pKa ?
9. Describe competitive and non-competitive inhibition.
10. Differentiate between the N-terminus and C-terminus of a peptide chain.

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11. State Beer-Lambert law. Mention its application.
12. Explain the hydrogen bonding between water molecules.
13. Write an account on the principle of SEM.
14. What are isozymes ? Give examples.

PART – C

Write short essay on **any four** of the following. **Each** question carries **3** marks. **(4×3=12)**

15. Describe the biosynthesis of fatty acids.
16. Write an account on different types of centrifuges.
17. Explain the process of glycolysis.
18. What is TLC ? Explain its principle and applications.
19. Write a note on the biological functions of lipids.
20. Explain decarboxylation with examples from TCA cycle.

PART – D

Write essay on **any two** of the following. **Each** question carries **5** marks. **(2×5=10)**

21. Explain the basic structure and classification of amino acids.
 22. Write an essay on oxidative phosphorylation.
 23. Describe the principle, procedure and applications of PAGE.
 24. Explain the classification and nomenclature of enzymes.
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