



K21G 0005

Reg. No. : .....

Name : .....

**I Semester B.Sc. Degree (CBCSS (O.B.E.) – Regular)**  
**Examination, November 2020**  
**(2020 Admission)**  
**CORE COURSE IN B.SC. 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. Define pH.
2. What are conjugated proteins ?
3. Define heteropolymer. Give an example.
4. What are buffers ?
5. Mention the biological functions of prostaglandins.
6. Define limit of resolution.

**PART – B**

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

7. Enumerate the biological functions of carbohydrates.
8. What are allosteric enzymes ? Give an example.
9. Write the principle of NMR spectroscopy.
10. What are glucogenic amino acids ?

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11. What is BMR ? Mention its significance.
12. Differentiate between deamination and transamination.
13. What is fluorescence ? Name a naturally occurring fluorescent material.
14. Differentiate between colorimetry and spectrophotometry.

**PART – C**

Write short essay on **any four** of the following. **Each** question carries **3** marks :

**(4×3=12)**

15. Write a note on the biological functions of proteins and amino acids.
16. Give the Michaelis-Menten equation and define each term in it. Does this equation apply to all enzymes ?
17. Describe the mechanism of fatty acid oxidation.
18. Explain the dipolar nature of water molecule and evaluate its importance as a solvent.
19. Briefly explain pentose phosphate pathway. Mention its significance.
20. Explain the principle and applications of autoradiography.

**PART – D**

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

21. Write a short account on the four levels of protein structure.
  22. Explain the regulation of enzyme action.
  23. Describe the principle, construction, working and applications of TEM.
  24. Explain the TCA cycle.
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