



K22U 3454

Reg. No.: .....

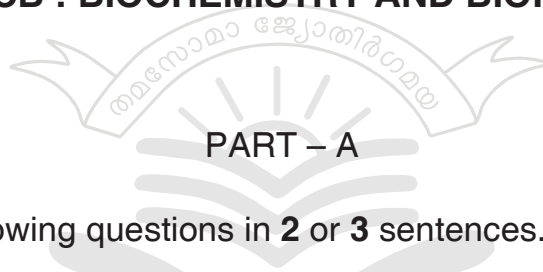
Name : .....

**I Semester B.Sc. Degree (C.B.C.S.S.– O.B.E. – Regular/Supplementary/  
Improvement) Examination, November 2022  
(2020 Admission Onwards)**

**Core Course in Life Sciences (Zoology) and Computational Biology  
1B01 ZCB : BIOCHEMISTRY AND BIOPHYSICS**

Time : 3 Hours

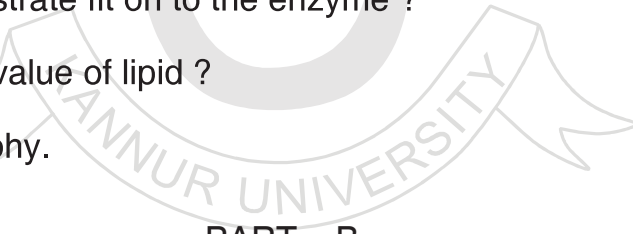
Max. Marks : 40



PART – A

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

1. What are isozymes ?
2. How many ATP molecules are produced in aerobic respiration ?
3. Give an example of a trisaccharide.
4. Where does the substrate fit on to the enzyme ?
5. What is the calorific value of lipid ?
6. Define autoradiography.



PART – B

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

7. State Henderson-Hasselbalch equation.
8. What are allosteric enzymes ?
9. What is gluconeogenesis ?
10. What are the subunits of ETS ?

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11. Explain induced fit hypothesis of enzyme action.
12. Write the principle of ultracentrifugation.
13. Name any 4 essential aminoacids.
14. Name two secondary structures of proteins.

PART– C

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

(4×3=12)

15. Briefly explain Kreb's cycle.
16. Write the classification of aminoacids.
17. State the principle of density gradient centrifugation.
18. Write a short note on breakdown of glycogen.
19. State Beer Lamberts law, write briefly about the instrument that works based on this law.
20. Explain Pentose Phosphate Pathway. Write the significance.

PART– D

Write essay on **any two** of the following questions. **Each** question carries **5** marks.

(2×5=10)

21. What are the major classes of lipids ? Explain their biological importance.
  22. Explain two important electrophoresis techniques and give their applications.
  23. Write in detail about the various pathways of carbohydrate metabolism.
  24. How is enzyme action regulated ? Discuss enzyme activation and inhibition mechanisms in detail.
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