

**2023/TDC(CBCS)/ODD/SEM/
ZOOHCC-303T/030**

TDC (CBCS) Odd Semester Exam., 2023

ZOOLOGY

(Honours)

(3rd Semester)

Course No. : ZOOHCC-303T

(Fundamentals of Biochemistry)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

SECTION—A

Answer ten questions, selecting any two from each

Unit : 2×10=20

UNIT—I

- 1. What are monosaccharides? Name the bond by which monosaccharides are joined to form oligosaccharides.**
- 2. What is mutarotation?**
- 3. What are glycoconjugates? Give examples.**

(2)

UNIT—II

4. What are glycolipids? Name two glycolipids.
5. Write the difference between saturated and unsaturated fatty acids.
6. Name two groups of derived lipids.

UNIT—III

7. What is peptide bond? How is it formed?
8. Name the two different types of secondary structural motif found in protein.
9. What are simple proteins? Give examples.

UNIT—IV

10. Mention the biological significance of Watson and Crick model of DNA.
11. Write the difference between nucleotide and nucleoside.
12. What is denaturation of DNA?

UNIT—V

13. What is active site of an enzyme? Mention its biological significance.
14. How does temp of pH affect the activity of an enzyme?
15. Define Micheliş-Menten constant (K_m).

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(Continued)

(3)

SECTION—B

Answer *five* questions, selecting any *one* from each

Unit : 6×5=30

UNIT—I

16. What are carbohydrates? Why are carbohydrates generally optically active? Give an account of structure and biological importance of oligosaccharides. 1+1+4=6
17. How are polysaccharides formed? Classify the polysaccharides and mention the biological significance of polysaccharides. 1+2+3=6

UNIT—II

18. Define lipids. Classify lipids with suitable examples. Also mention the biological importance of lipids. 1+4+1=6
19. Write short notes on the following : 3+3=6
 - (a) Phospholipids
 - (b) Steroids and their importance

UNIT—III

20. Name the different levels of structural organization found in proteins with example. Briefly discuss about the various bonds that stabilize protein structure. 1+4+1=6

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(Turn Over)

21. What are amino acids? Write a brief note on the physical properties of amino acids. Mention the physiological importance of essential and non-essential amino acids.

1+2+3=6

UNIT—IV

22. Describe the chemical composition of RNA. What are the different kinds of RNA? State their functions.

2+3+1=6

23. Write short notes on the following :

3+3=6

- (a) Purines and pyrimidines
(b) Complementarity of DNA.

UNIT—V

24. What are enzymes? Describe the IUB system of nomenclature and classification of enzymes with proper examples.

1+5=6

25. Write short notes on the following :

3×2=6

- (a) Regulators of enzyme activity
(b) Theories explaining mechanism of enzyme action

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