

**2024/TDC (CBCS)/EVEN/SEM/
ZOOHCC-403T/019**

TDC (CBCS) Even Semester Exam., 2024

ZOOLOGY

(4th Semester)

Course No. : ZOOHCC-403T

(Biochemistry of Metabolic Process)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

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

UNIT—I

1. Answer any two questions from the following : 2×2=4

(a) What is metabolism?

(b) What do you understand by intermediary metabolism?

(c) "ATP is known as energy currency of the cell." Justify the statement.

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(Turn Over)



(2)

2. Answer any *one* question from the following : 6
- (a) Describe the stages of catabolism with suitable illustration.
 - (b) Discuss the shuttle systems and membrane transporters.

UNIT—II

3. Answer any *two* questions from the following : $2 \times 2 = 4$
- (a) What is glycolysis?
 - (b) Why is citric acid cycle important?
 - (c) Write a short note on glycogenesis.
4. Answer any *one* question from the following : 6
- (a) Mention the steps of citric acid cycle with proper illustrations.
 - (b) Discuss the process of gluconeogenesis with a flowchart.

UNIT—III

5. Answer any *two* questions from the following : $2 \times 2 = 4$
- (a) Define ketogenesis.

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(Continued)

(3)

- (b) Mention the importance of β -oxidation of fatty acids.
- (c) Write the overall equation for palmitic acid biosynthesis.

6. Answer any *one* question from the following : 6

- (a) Describe the process of β -oxidation of fatty acid with even number of carbon atoms.
- (b) Discuss the enzymatic steps in biosynthesis of palmitic acid.

UNIT—IV

7. Answer any *two* questions from the following : $2 \times 2 = 4$
- (a) What are glucogenic amino acids?
 - (b) Define deamination.
 - (c) What are ketogenic amino acids?
8. Answer any *one* question from the following : 6
- (a) Describe the process of urea cycle with proper illustration.
 - (b) Discuss the catabolism of amino acids.

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UNIT—V

9. Answer any *two* questions from the following : 2×2=4

- (a) What are inhibitors of ETS?
- (b) Mention the complexes of mitochondrial respiratory chain.
- (c) Define redox system.

10. Answer any *one* question from the following : 6

- (a) Write a review of mitochondrial respiratory chain.
- (b) Mention the uncouplers of electron transport chain. How does they differ from inhibitors of ETC? 4+2=6
