

**2025/FYUG/ODD/SEM/
ZOODSM-201T/337**

FYUG Odd Semester Exam., 2025

ZOOLOGY

(3rd Semester)

Course No. : ZOODSM-201T

(Physiology and Biochemistry)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

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

UNIT—I

1. Answer any *two* from the following : $2 \times 2 = 4$
- (a) Mention the function of bile in digestion.
 - (b) How does transport of oxygen take place in blood during respiration?
 - (c) What do you mean by emulsification of fat?

(2)

2. Answer any one from the following :

- (a) What are biomolecules? Describe the process of digestion and absorption of protein in different parts of the alimentary canal. $2+(5+3)=10$
- (b) What is pulmonary ventilation? Describe the process of pulmonary ventilation during respiration. Add a note on respiratory volumes. $1+6+3=10$

UNIT—II

3. Answer any two from the following :

- (a) What is nephron? $2 \times 2 = 4$
- (b) What is cardiac cycle?
- (c) Explain how cardiac impulse originates.

4. Answer any one from the following :

- (a) Describe the structure and function of nephron with suitable diagram. $8+2=10$
- (b) Why is blood called liquid connective tissue? Describe the composition and function of different components of blood. $3+7=10$

(Continued)

(3)

UNIT—III

Answer any two from the following : $2 \times 2 = 4$

(a) Write the difference between oogenesis and spermatogenesis.

- (b) Why is pituitary gland regarded as the 'master gland' of endocrine system?
- (c) Write a note on the function of thyroid gland.

Answer any one from the following : 10

- (a) What is menstrual cycle? Describe the different phases of menstrual cycle. Add a note on hormonal regulation of menstrual cycle. $2+6+2=10$
- (b) Describe the structure of endocrine pancreas. Mention the different hormones secreted by the gland and state their functions. $4+(2+4)=10$

UNIT—IV

1. Answer any two from the following : $2 \times 2 = 4$

- (a) What is action potential?

(Turn Over)

(4)

- (b) What is saltatory propagation of nerve impulse?
- (c) Mention the difference between actin and myosin.

8. Answer any one from the following :

- (a) What is synapse? Describe the process of conduction of nerve impulse across the synapse with proper illustration.

2+8=10

- (b) What is resting membrane potential? Describe the process of conduction of nerve impulse in myelinated nerve fiber with proper illustration.

2+8=10

UNIT—V

Answer any two from the following :

2×2=4

- (a) Name the different classes of enzymes with suitable examples.
- (b) Write a note on pentose phosphate pathway.
- (c) What is transamination?

741

(5)

Answer any one from the following :

10

- (a) What is glycolysis? Describe the different steps of glycolysis with necessary flow chart.

2+8=10

- (b) What is deamination? Describe the various steps of urea cycle with necessary diagrams.

2+(6+2)=10

Continued) 1010/741

2025/FYUG/ODD/SEM/
ZOODSM-201T/337