

**2025/FYUG/ODD/SEM/  
ZOODSC-301T/340**

**FYUG Odd Semester Exam., 2025**

**ZOOLOGY**

**( 5th Semester )**

**Course No. : ZOODSC-301T**

**( Animal Physiology )**

**Full Marks : 70**

**Pass Marks : 28**

**Time : 3 hours**

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

**UNIT—I**

**Answer any two of the following questions :**

**2×2=4**

- (a) Define digestion. What is extracellular digestion?**
- (b) What are the functions of saliva?**
- (c) What is the role of pancreas in digestion?**

( 2 )

2. Answer any one of the following questions :

- (a) What do you understand by absorption of food? Explain the mechanism of absorption of protein in the body. Add a brief note on the absorption of water in the body.  $2+5+3$
- (b) Write short notes on the following :  $5+5$

- (i) Mechanism of digestion of carbohydrates
- (ii) Gastrointestinal hormones and their role in digestion in mammals

UNIT—II

3. Answer any two of the following questions :  $2 \times 2$

- (a) Define respiration. What do you mean by vital capacity?
- (b) What is carbon monoxide poisoning?
- (c) What are respiratory pigments? Give example.

4. Answer any one of the following questions :

- (a) Differentiate between internal and external respiration. What is meant by respiratory quotient? Describe the mechanism of transport of oxygen in blood.  $2+2+6=$

( 3 )

- (b) What is dissociation curve? Name the factors that influence the dissociation curve. Write a brief note on the regulation of respiration.  $2+2+6=10$

UNIT—III

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

- (a) Define pulmonary and systemic circulation in mammals.
- (b) What is blood pressure? How is it measured?
- (c) Where does blood clotting factor V occur? Name the blood clotting factor which is lipoprotein in nature.

Answer any one of the following questions : 10

- (a) What is bundle of His? Write in detail about the circulation of blood through the heart of mammal with appropriate diagrammatic representation.  $1+6+3=10$
- (b) Write notes on any two of the following :  $5 \times 2=10$

- (i) Cardiac cycle
- (ii) Structure of heart of mammal
- (iii) Mechanism of blood coagulation

( Continue )

( Turn Over )

( 4 )

UNIT—IV

7. Answer any *two* of the following questions :

2×2=

- (a) Define ultrafiltration. What is GFR?
- (b) Mention the importance of counter-current mechanism in the excretion process of mammals.
- (c) What are juxtaglomerular nephrons?

8. Answer any *one* of the following questions :

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- (a) Name different parts of the nephron of mammalian kidney mentioning their functions. Describe the mechanism of urine formation in mammals.
- (b) Explain the regulation of acid-base balance by kidney in mammals. Add a note on the hormonal regulation of urine volume in mammals.

3+7=10

6+4=10

UNIT—V

Answer any *two* of the following questions :

2×2=4

- (a) Differentiate between myelinated and non-myelinated nerve fibres.

( 5 )

(b) What are neurodegenerative disorders? Give examples.

(c) Define resting potential. How is it determined?

10. Answer any *one* of the following questions : 10

(a) What is synaptic transmission? Explain the mechanism of synaptic transmission with labelled diagram. What is synaptic delay? Why does it occur?

1+7+2=10

(b) Write notes on the following : 5+5=10

- (i) Conduction of nerve impulse through myelinated nerve fibre
- (ii) Neurotransmitters

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