

**2025/FYUG/EVEN/SEM/
ZOODSC-251/051**

FYUG Even Semester Exam., 2025

ZOOLOGY

(4th Semester)

Course No. : ZOODSC-251

(Histology)

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 questions : 2×2=4

- (a) Mention different types of cell junctions present in epithelial tissue.
- (b) Differentiate between areolar and reticular connective tissue.
- (c) Why is transitional epithelium also called urothelium?

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(Turn Over)

(2)

2. Answer any *one* from the following questions : 10

(a) What are the characteristic features of epithelial tissues? Explain the structure with diagram, location and functions of simple epithelial tissue. 2+8=10

(b) Describe the structure and functions of adipose tissue. Add a note on dense connective tissue. 5+5=10

UNIT—II

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

(a) Mention the functions of plasma proteins.

(b) What is golden blood?

(c) Mention the functions of cartilage.

4. Answer any *one* from the following questions : 10

(a) Describe the structure of a compact bone with suitable illustrations. Differentiate between red and yellow bone marrow. 8+2=10

(3)

(b) Write short notes on the following : 5×2=10

(i) Structure and function of hemoglobin

(ii) Bicarbonate buffer system of blood

UNIT—III

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

(a) Enlist the locations of smooth muscles in the body.

(b) What is meant by summation in context of muscle contraction?

(c) What is muscle treppe?

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

(a) Describe the ultrastructure of skeletal muscle with suitable diagram. How does striated muscle fibre differ from non-striated muscle fibre? 8+2=10

(b) Describe the molecular and chemical bases of muscle contraction with suitable diagrams.

(4)

UNIT—IV

7. Answer any *two* from the following questions : $2 \times 2 = 4$

- (a) What is the neuron doctrine?
- (b) Mention the criteria used for the classification of nerve fibres.
- (c) Mention the name of glial cells that form myelin sheath of CNS and PNS neuron.

8. Answer any *one* from the following questions : 10

- (a) Describe the structure of a myelinated neuron with a neat labelled diagram. Add a note on the properties of nerve fibres. $6 + 4 = 10$
- (b) Write a note on synaptic transmission with diagram. Add a note on neuromuscular function. $7 + 3 = 10$

UNIT—V

9. Answer any *two* from the following questions : $2 \times 2 = 4$

- (a) State the important function of different types of cells present in islets of Langerhans.

(5)

(b) What is Kupffer cell? State its function.

(c) What are alveoli? Mention their functions.

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

(a) Describe the structural and functional unit of kidney with suitable diagram. Add a note on different functions performed by kidney. $7 + 3 = 10$

(b) Write short notes on the following : $5 \times 2 = 10$

- (i) Histology of liver
- (ii) Histology of blood vessels
