

2024

(FYUGP)

(3rd Semester)

ZOOLOGY

(Major)

Paper Code : ZOO/C6

(Animal Physiology-1 : Controlling and Coordinating Systems)

Full Marks : 75

Pass Marks : 40%

Time : 3 hours

The figures in the margin indicate full marks for the questions

- 1. Discuss the structural characteristics and specific functions of each type of epithelial tissue.**

15

Or

Describe different types of bone tissue and the process of bone ossification.

2. Explain the ultra-structure of a neuron with illustration and describe the mechanisms underlying the resting membrane potential.

10+5=15

Or

Describe the mechanisms of synaptic transmission and give an in-depth description of the neuromuscular junction, highlighting its structure and the interaction between motor neurons and muscle fibers.

$7\frac{1}{2}+7\frac{1}{2}=15$

3. Explain the ultrastructure of skeletal muscle and describe the molecular basis of muscle contraction.

7+8=15

Or

Give an account on motor unit and its role in muscle contraction. Describe muscle summation. How does it affect muscle contraction strength?

$7\frac{1}{2}+7\frac{1}{2}=15$

4. Discuss the structure of the testis, detailing its anatomical organization and cellular composition. Illustrate with proper diagram. 15

Or

Explain the endocrine functions of the testis and the hormonal regulation of testicular function.

(3)

5. Describe the signal transduction pathways involved in the action of steroidal hormones. 15

Or

Describe the structure and function of the pituitary gland, detailing its role in endocrine regulation.

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