



**TDC (CBCS) Odd Semester Exam., 2022**

**ZOOLOGY**

**( Honours )**

**( 3rd Semester )**

Course No. : ZOOHCC-302T

**( Animal Physiology : Controlling and  
Coordinating System )**

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* of the following :  $2 \times 2 = 4$

(a) Mention the various types of epithelial tissues you have studied.

(b) Write a short note on the structure of myelinated neuron.

(c) Differentiate between cartilage and bone.



( 2 )

2. Answer any *one* of the following : 6
- (a) What are the types of muscular tissue? Write about the structure, location and functions of unstriated muscle. 2+4=6
- (b) What is connective tissue? Write briefly about the composition and function of blood as connective tissue. 1+3+2=6

UNIT—II

3. Answer any *two* of the following : 2×2=4
- (a) The transmission of impulse through myelinated neuron is faster than that through non-myelinated ones. Why?
- (b) Write a short note on 'neuromuscular junction'.
- (c) What is synapse? What are its types?
4. Answer any *one* of the following : 6
- (a) What is reflex action? Describe various types of reflex action with suitable illustrations. 1+5=6
- (b) What is action potential? Illustrate the steps of generation of the action potential in nerve fibre with diagram.

( 3 )

UNIT—III

5. Answer any *two* of the following : 2×2=4
- (a) Differentiate between striated and non-striated muscle fibres.
- (b) What is 'muscle treppe'?
- (c) How does isotonic contraction differ from isometric contraction?

6. Answer any *one* of the following : 6
- (a) Describe the ultrastructure of skeletal muscle with suitable diagram.
- (b) Describe the molecular and chemical bases of muscle contraction with suitable illustration.

UNIT—IV

7. Answer any *two* of the following : 2×2=4
- (a) What is GnRH? How does GnRH regulate male and female reproductive physiology?
- (b) Mention various placental hormones and their functions.
- (c) Write a short note on 'puberty'.



( ( 4 ) )

8. Answer any one of the following : 6

(a) What is menstrual cycle? Describe the roles and influences of various hormones in regulation of this cycle in humans. 1+5=6

(b) What is contraception? Write briefly about various methods of contraception used in female. 1+5=6

UNIT—V

9. Answer any two of the following : 2×2=4

(a) Classify hormones on the basis of their nature and mechanism of action.

(b) Mention the functions of hormone secreted from parathyroid gland.

(c) Write a short note on 'islets of Langerhans'.

10. Answer any one of the following : 6

(a) Describe the mechanism of action of steroid hormone with suitable illustration.

(b) Describe the histology of adrenal gland with diagram. Mention the hormones secreted from this gland and their functions. 4+2=6

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