



**2020/TDC(CBCS)/ODD/SEM/  
ZOOHCC-302T/029**

**TDC (CBCS) Odd Semester Exam., 2020  
held in March, 2021**

**ZOOLOGY**

**( 3rd Semester )**

Course No. : ZOOHCC-302T

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

Full Marks : 50

Pass Marks : 20

Time : 3 hours

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

**SECTION—A**

**1. Answer any ten of the following questions :**

**2×10=20**

(a) What is cornification and what is meant by stratified epithelium?

(b) Differentiate between collagen and elastic fibrous tissue.



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- (c) What are perichondrium and chondrocytes?
- (d) Why are cardiac muscles considered an intermediate type of muscle in between striated and unstriated muscles?
- (e) What is neurotransmitter? Cite one example.
- (f) What is meant by saltatory transmission?
- (g) What is reflex arc?
- (h) What is meant by refractory period?
- (i) Differentiate between voluntary and involuntary muscle fibres.
- (j) What is meant by summation in context to muscle contraction?
- (k) What is sarcomere? Name the muscle proteins.
- (l) What is meant by muscle fatigue? Elucidate.
- (m) What are spermatid and spermiogenesis?

- (n) What are Graafian follicles and what are their functions?
- (o) Differentiate between oestrus cycle and menstrual cycle.
- (p) Name the three layers of uterine wall and write the functional significance of uterus in reproduction.
- (q) What is ADH? What is its functional significance?
- (r) Why is adrenal gland also called suprarenal gland? Mention the anatomical divisions of adrenal gland.
- (s) Classify hormones.
- (t) Name the principal hormone of parathyroid glands and mention its physiological roles.

SECTION—B

Answer any five questions

2. What is areolar connective tissue? Discuss briefly the structure and cell types of areolar tissue. Add a brief note on lymph. 1+3+2=6



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3. What is meant by Haversian system? Discuss briefly the structure and types of cartilage.  $2+4=6$
4. What is neuron? Discuss the structure of a typical neuron with a suitable diagram.  $1+5=6$
5. Discuss briefly the mechanism of transmission of nerve impulse through a synapse. Add a brief note on neuromuscular junction.  $4+2=6$
6. Discuss the molecular and chemical bases of muscle contraction. 6
7. Write short notes on the following :  $2+2+2=6$ 
  - (a) Tetanic contractions
  - (b) Muscle treppe
  - (c) Isotonic and isometric contractions
8. Define puberty. Discuss the reproductive cycles of mammalian female.  $1+5=6$
9. Write short notes on the following :  $3+3=6$ 
  - (a) Methods of contraception in male and female
  - (b) Placental hormones and their functions

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( Continued )

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10. What are the anatomical divisions of pituitary gland? Mention the hormones secreted by anterior pituitary and state their functions.  $2+4=6$
11. Why is pancreas called mixed gland? Briefly discuss the histology of islets of Langerhans. Mention the hormones secreted by the Islet tissue and state their physiological roles.  $1+2+3=6$

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