

This question paper contains 3 printed pages]

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S. No. of Question Paper : 884

Unique Paper Code : 223301

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Name of the Paper : ZOHT-304 Animal Physiology and Functional Histology -I

Name of the Course : B.Sc. (Hons.) Zoology

Semester : III

Duration : 3 Hours

Maximum Marks : 75

*(Write your Roll No. on the top immediately on receipt of this question paper.)*

Attempt *Five* questions in all.

Question No. 1 is compulsory.

Draw diagrams wherever required

1. (a) Define the following terms :

5

(i) Muscle Twitch

(ii) Spermiation

(iii) Hyperpolarization

(iv) Interstitial growth

(v) Tropic Hormone

(b) Differentiate between any six of the following pairs:

12

(i) Graafian Follicle and Corpus Luteum

(ii) Electrical and Chemical Synapse

(iii) Compact and Spongy Bone

P.T.O.

- (iv) Fused and Unfused Tetanus
- (v) Diabetes mellitus and Diabetes insipidus
- (vi) Light and Dark Adaptation
- (vii) Apocrine and Merocrine Glands.

(c) Expand the following :

3

- (i) CRH
- (ii) ENS
- (iii) EPSP
- (iv) ABP
- (v) NMJ
- (vi) OT

(d) Give the location and function of the following :

4

- (i) Schwann Cells
- (ii) Principal Cells
- (iii) Triad
- (iv) Bipolar Cells

(e) Fill in the blanks :

3

- (i) Summation is not possible in ..... Potential
- (ii) ..... is the heaviest structural protein of muscle.
- (iii) ..... is the second messenger involved in transduction of water soluble hormones.

2. (a) Draw a neat and well labelled diagram of T.S Adrenal gland.

4,6,2

(b) How are the thyroid hormones synthesized, stored and secreted ? Give an account of their Physiological effects.

- (c) Add a note on negative feedback mechanism.
3. (a) Illustrate the structure of seminiferous tubule with a suitable diagram. 4,6,2  
(b) Describe the hormonal regulation of testicular function.  
(c) Comment upon the "blood-testes barrier".
4. (a) Describe the action of excitatory and inhibitory neurotransmitter release across a synapse. 6,3,3  
(b) Explain the mode of transmission of an impulse in a myelinated neuron.  
(c) List the different types of bone cells.
5. (a) Give the location, structure and function of different types of epithelia. 6,6  
(b) Describe the various types of neuroglial cells of the nervous system.
6. (a) Explain the molecular mechanism of muscle contraction using sliding filament theory. 6,6  
(b) Describe the role of voltage-gated channels in the generation of action potential.
7. Write short notes on any *three* of the following : 4,4,4  
(a) Structure of organ of Corti  
(b) Types of cartilages  
(c) Sequence of events in Oogenesis  
(d) Structural organization of skeletal muscle