

This question paper contains 3 printed pages]

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S. No. of Question Paper : 1476

Unique Paper Code : 2231303

F-7

Name of the Paper : Physiology : Controlling and Coordinating Systems

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

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.

1. (a) Define the following terms : 5
- (i) Synapse
 - (ii) Autocrine gland
 - (iii) Atresia
 - (iv) Sarcomere
 - (v) Tetanus.
- (b) Give one word for the following : 5
- (i) Hormone which decreases the blood glucose levels in the body.
 - (ii) Neurotransmitter which is excitatory as well as inhibitory.
 - (iii) Pigment present in cone cells.
 - (iv) Example of a catecholamine.
 - (v) Hormone released by the chorion of the embryo.

P.T.O.

- (c) Expand the following : 3
- (i) FSH
 - (ii) GnRH
 - (iii) EPSP
 - (iv) ACTH
 - (v) ACh
 - (vi) IDDM.
- (d) Differentiate between the following : 8
- (i) Spatial summation and temporal summation.
 - (ii) Rod cells and Cone cells
 - (iii) Spermatogenesis and Spermiogenesis
 - (iv) Myosin and Actin.
- (e) Give reasons for the following : 6
- (i) Muscles become stiff after death
 - (ii) Negative potential in a neuron at rest
 - (iii) Parathyroid hormone increases blood calcium.
2. (a) Describe the action potential of a neuron and its ionic basis. 8
- (b) Describe the neuro-muscular junction with well labelled diagram. 4
3. Explain the mechanism of hearing along with suitable diagrams. 12
4. (a) Describe a simple muscle twitch and explain the reasons for latent period. 6
- (b) Explain the ultrastructure of skeletal muscle. 6
5. (a) Give an account of the hormones secreted from the adrenal gland and their functions. 8
- (b) Explain the positive feedback mechanism of hormones with suitable example. 4

6. (a) Describe the uterine phase of the menstrual cycle. 8
- (b) What are the different hormones of posterior pituitary gland and their functions ? 4
7. Write short notes on any *three* : 3×4
- (a) Functions of Testosterone
- (b) Saltatory conduction
- (c) Energy sources for muscular contraction
- (d) Types and functions of glial cells.