

This question paper contains 3 printed pages]

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S. No. of Question Paper : 2080

Unique Paper Code : 32231302

GC-3

Name of the Paper : Physiology: Controlling and Coordinating System

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

Semester : III

Duration : Three 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 :

4

(i) Oocyte maturation

(ii) Trigger Zone

(iii) Perimysium

(iv) Positive Feedback

(b) Distinguish between :

5×2=10

(i) Compact and Spongy Bone.

(ii) Latent Period and Refractory Period.

(iii) Menarche and Menopause

(iv) Calcitonin and Calcitonin Receptor

(v) Ionotropic and Metabotropic Receptors

P.T.O.

(c) Expand the following :

3

(i) ENS

(ii) ECF

(iii) RAAS

(iv) RMP

(v) IGF

(vi) ABP.

(d) Explain the location and function :

4

(i) Interneuron

(ii) Zona fasciculata

(iii) Myoglobin

(iv) Macula lutea.

(e) Fill in the blanks :

4

(i) Thyroxine is transported in plasma by.....

(ii) Adrenal medulla is an extension of nervous system.

(iii) Delta cells of pancreas secrete.....

(iv) is the alternative energy rich phosphate compound in skeletal muscle.

(v) The neuronal cell bodies contain free ribosomes and clusters of rER known as

(vi) Theca interna cells produce..... which are converted into by granulosa cells.

(vii) is the structural and functional unit of a myofibril.

- (f) Give reasons/physiological singnificance of (any *two*) : 2
- (i) Rigor mortis.
- (ii) Posterior pituitary is not a true endocrine gland.
- (iii) Height does not increase after a certain age.
2. (a) Explain the mechanism of transduction of sound waves into electrical signals with the help of a well labelled diagram of Organ of Corti. 7
- (b) What are the different types of epithelia ? 5
- 3 (a) Give an account of the hormones secreted by the anterior pituitary. 9
- (b) With the help of a flow chart explain dark current. 3
- 4 (a) Where and how are graded and action potentials generated in a neuron ? 8
- (b) Why does the impulse travel faster in a myelinated fiber ? 4
- 5 (a) Describe the process of Spermatogenesis. 6
- (b) Give an account of the hormonal regulation of male reproduction. 6
- 6 (a) Describe the various types of muscle proteins. 6
- (b) How do these proteins help in maintaining the muscle structure and function ? 6
7. Write short notes on any *three* of the following : 3×4=12
- (a) Neuromuscular junction
- (b) Hormone interactions
- (c) Types of cartilage
- (d) Ovarian events in menstrual cycle