

B.Sc. 3rd Semester (Honours) Examination, 2022 (CBCS)

Subject : Zoology

Course : CC-VI

(Animal Physiology : Controlling and Coordinating Systems)

Time: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Group-A

1. Answer *any five* questions of the following: $2 \times 5 = 10$
- (a) Distinguish between resting membrane potential and action potential.
 - (b) Name four proteolytic enzymes released from pancreatic acinar cells.
 - (c) Specify the importance of sarcoplasmic reticulum.
 - (d) Compare between chemical and electrical synapse.
 - (e) Mention the significance of colloid.
 - (f) Differentiate between isometric and isotonic contraction with example.
 - (g) Write the name and function of one adrenal androgen.
 - (h) Differentiate between holocrine and apocrine gland.

Group-B

2. Answer *any two* questions of the following: $5 \times 2 = 10$
- (a) State different types of stratified epithelial tissues found in human body. State their location and function. $1+4$
 - (b) Describe the histological structure of a seminiferous tubule with diagram.
 - (c) Schematically represent the events of synaptic transmission.
 - (d) Give a brief account of hypothalamic control on anterior pituitary gland.

Group-C

3. Answer *any two* questions of the following:

$10 \times 2 = 20$

- (a) Elucidate endochondral ossification of bones with a flow diagram. State the location of spongy bone. 5+3+2
- (b) Give a comparative account on mechanism of action of steroid and nonsteroid hormones.
- (c) Describe the molecular structure of a sarcomere. Write a short note on the role of Ca^{++} in skeletal muscle contraction. 6+4
- (d) Mention the histological changes that occur in ovary and uterus during different phases of menstrual cycle.
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