

2019

B.Sc.

3rd Semester Examination

ZOOLOGY (Honours)

Paper - C 6-T

(ANIMAL PHYSIOLOGY : CONTROLLING AND  
COORDINATING SYSTEM)

Full Marks : 40

Time : 2 Hours

*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 five questions from the following :  $5 \times 2 = 10$ 
  - (a) What is meant by neuromodulation ?
  - (b) Why is cartilage is slow to heal ?
  - (c) Where from chorionic gonadotropin is secreted?  
Mention its biological importance. 1+1
  - (d) Write down the function of Cowper's gland.

[ Turn Over ]

- (e) What is menarche ?
- (f) What do you mean by reflex action ?
- (g) What is Frohlich's syndrome ?
- (h) What is Grave's disease ?

**Group - B**

2. Answer *four* questions : 4×5=20

(a) In what ways do intramembranous and endocardial ossification differ ?

(b) (i) State the difference between spermatogenesis and spermiogenesis. 3

(ii) Write down the role of hormone in sperm production. 2

(c) Write down the function of Osteoblast and Osteoclast cells. 4

State the origin of Osteoblast cell. 1

(d) Draw a sarcomere and label its components. Briefly state the function of each component.

(e) Explain how intracellular free  $Ca^{2+}$  is regulated in striated muscle fibers and how does it control their contraction ?

- (f) What are the four important hormones and their respective functions in the female menstrual cycle?

**Group - C**

3. Answer any *one* question : 1×10=10

- (a) (i) Explain the role of different channel proteins in maintenance of resting membrane potential.
- (ii) Briefly explain synaptic transmission in neural signalling.
- (b) (i) Illustrate diagrammatically the role of insulin hormone signalling in response to high blood sugar condition.
- (ii) Compare the signal transduction pathway between protein, thyroid and steroidal hormone.
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