

**3rd Semester Examination, 2020***Time : 3 hours**Full Marks : 60*Answer any **one** Group as per your syllabusAnswer from **all** the Sections as per direction*The figures in the right-hand margin indicate marks**Candidates are required to answer in their own words  
as far as practicable***GROUP — A****( MODEL SYLLABUS )****( PHYSIOLOGY-CONTROLLING AND  
COORDINATING SYSTEM )****SECTION — A**

1. Answer the following questions using only *one* word : 1 × 8

(a) Simple epithelium covering alveoli of lungs is \_\_\_\_\_ epithelium.

- (b) Cells responsible for destruction of osteocytes in a bone is called \_\_\_\_\_ .
- (c) Fluid present inside anterior chamber of eye is called \_\_\_\_\_ .
- (d) Neuromuscular junction is the contact between muscle fibre and \_\_\_\_\_ neuron.
- (e) Which cells provide nourishment to spermatozoa inside seminiferous tubule.
- (f) During ovulation cell that sheds from the mammalian ovary is called \_\_\_\_\_ Oocyte.
- (g) Enzyme that forms cyclic AMP from ATP is called \_\_\_\_\_ .
- (h) Leaching of calcium from bones is due to a hormone called \_\_\_\_\_ .

**SECTION — B**

2. Answer any *eight* of the following questions within *two to three* sentences each :  $1\frac{1}{2} \times 8$

( Turn Over )

- (a) What is the role of Haversian canal in bone tissue ?
- (b) Write two important characteristics of connective tissue.
- (c) What is saltatory conduction ?
- (d) What are ear ossicles ?
- (e) How FSH and oestrogen are related ?
- (f) What is menarche ?
- (g) Write two point difference between insulin and glucagon.
- (h) What is a neurohormone ?
- (i) What is liquor folliculi ?
- (j) Write two point difference between 'A'-band and 'I' band.

## SECTION – C

3. Answer any *eight* of the following questions within 75 words : 2 × 8

- (a) Differentiate between voluntary and involuntary muscle.
- (b) Write short notes on neuron.
- (c) Differentiate between sensory and motor nerve.
- (d) Write short notes on reflex action.
- (e) Write short notes on chorionic gonadotropin.
- (f) Differentiate between Graafian follicle and Corpus luteum.
- (g) Write short notes on adrenal cortex.
- (h) Briefly describe structure of thyroid gland.
- (i) Write short notes on organ of corti.
- (j) Briefly describe the histology of seminiferous tubules.

## SECTION – D

4. Answer the following questions within 500 words with suitable diagrams wherever necessary : 6 × 4

( 5 )

(a) Describe bone growth and resorption.

*Or*

Write a note on epithelial tissue.

(b) Describe molecular and chemical basis of muscle contraction.

*Or*

Write a note on synaptic transmission.

(c) Describe the role of Hypothalamus-Pituitary and gonadal axis in reproduction.

*Or*

Give an account of method of contraception in male and female.

(d) Describe the mechanism of hormone action with a suitable example.

( 6 )

*Or*

Describe Hypothalamus as the master of master gland in endocrine system.

### **GROUP – B**

**( OLD SYLLABUS )**

### **( CONTROLLING AND COORDINATING SYSTEM )**

#### **SECTION – A**

1. Answer the following : 2 × 6

- (a) Tendon
- (b) Beta-Cells
- (c) Muscle twitch
- (d) Second messengers
- (e) Resting potential
- (f) Reflex arc.

## SECTION – B

Answer **all** questions : 12 × 4

2. Give an account of the structure and function of epithelial tissue. 12

*Or*

Write notes on : 6 × 2

- (i) Areolar tissue  
(ii) Cartilage.
3. What is a synapse ? Discuss the mechanism of synaptic transmission. 12

*Or*

Write notes on : 6 × 2

- (i) Structure of neuron  
(ii) Neuromuscular junction.
4. Give an account of ultrastructure of skeletal muscles. 12

*Or*

Write notes on : 6 × 2

- (i) Cardiac muscle  
(ii) Muscle tetanus.

5. Discuss the structure and function of thyroid gland. 12

*Or*

Write notes on : 6 × 2

- (i) Hypothalamus  
(ii) Pineal gland.

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