

**3rd Semester Examination, 2020**

*Time : 3 hours*

*Full Marks : 60*

Answer any **one** Group as per your syllabus

Answer 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.

*( Turn Over )*

( 2 )

- (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 :  $1\frac{1}{2} \times 8$

( 3 )

- (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 :  $2 \times 8$

( 4 )

- (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.

( 7 )

**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

( 8 )

*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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