

2024(Backlog)

Time : 3 hours

Full Marks : 60

Pass Marks : 24

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

The figures in the margin indicate full marks.

Answer from both the Groups as directed.

Group – A

(Compulsory)

1. Choose the correct answer of the following :

1×10 = 10

- (a) The organ of Corti is associated with :

- (i) Vision (ii) Hearing
(iii) Taste (iv) Pressure

- (b) The receptor of Insulin is :

- (i) Receptor tyrosine kinase
(ii) G-protein coupled receptor

- (iii) Ion-channel receptor
- (iv) Nuclear receptor
- (c) The bone forming cells are :
 - (i) Osteocytes (ii) Osteoblasts
 - (iii) Osteoclasts (iv) All of these
- (d) The basal metabolic rate of body is maintained by :
 - (i) Thyroid stimulating hormone
 - (ii) Insulin
 - (iii) Thyroxine
 - (iv) Cortisol
- (e) Which of the following muscle shows rhythmic contraction and relaxation ?
 - (i) Skeletal muscle (ii) Cardiac muscle
 - (iii) Smooth muscle (iv) All of these
- (f) Estrogen is secreted from :
 - (i) Primary follicle (ii) Secondary follicle
 - (iii) Adrenal gland (iv) Anterior pituitary
- (g) Fibroblast cells are part of :
 - (i) Connective tissue (ii) Muscular tissue
 - (iii) Epithelial tissue (iv) Nervous tissue

MO - 80/3

(2)

Contd.

- (h) Exophthalmic goiter is caused due to :
 - (i) Hypersecretion of Growth hormone
 - (ii) Hyposecretion of thyroxine
 - (iii) Deficiency of iodine in thyroxine
 - (iv) Hypersecretion of cortisol
- (i) Which of the following organs is not related to the female reproductive system ?
 - (i) Uterus (ii) Ovary
 - (iii) Leydig cells (iv) Graffian follicles
- (j) The myelin sheath of the neuron is :
 - (i) Conjugate fat (ii) Protein
 - (iii) Glycocalyx (iv) Glycolipid

2. Select True or False of the following statements :

1×5 = 5

- (a) Blood is a connective tissue.
- (b) Stapes is the smallest bone of the human body.
- (c) Glucocorticoids are steroid hormones secreted from the adrenal cortex.
- (d) The seminiferous tubules are the site of spermatogenesis.
- (e) The tip of the human nose is made up of elastic cartilage.

MO - 80/3

(3)

(Turn over)

Group – B

Answer any **three** questions of the following :

3. Discuss the molecular and chemical basis of skeletal muscle contraction. 15
4. Discuss the Pituitary gland's structure, chemistry and physiology. 15
5. Discuss the structure of the human eye and its physiology of vision. 15
6. Describe the structure and physiology of the Islet of Langerhans. 15
7. Write short notes on any **two** of the following :

$$7\frac{1}{2} \times 2 = 15$$

- (a) Neurotransmitters
- (b) Contraception in female humans
- (c) Thyroxine
- (d) Types of muscles
- (e) Bone and cartilage

