

**2020**

**ZOOLOGY — HONOURS**

**Paper : CC-6**

**Full Marks : 50**

*The figures in the margin indicate full marks.*

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

Answer **Question No. 1** and **any four** from the rest.

1. Answer **any fifteen** from the following :

2×15

- (a) Mention the location and function of transitional epithelium.
- (b) Write two important differences between collagen fibre and elastic fibre.
- (c) Mention the location and function of Parafollicular cells.
- (d) What are Catecholamines? — Give example.
- (e) Why propagation of action potential through a neuron is unidirectional?
- (f) State the feature and location of hyaline cartilage.
- (g) Name any two glial cells with their functions.
- (h) What do you mean by resting membrane potential?
- (i) State two functions of thyroid hormone.
- (j) Distinguish between myelinated and non-myelinated neuron.
- (k) Mention any two features of areolar connective tissue.
- (l) Write any two important functions of prolactin in vertebrates.
- (m) What is Osteoclast? Mention its function.
- (n) Why CAMP is known as second messenger?
- (o) State two structural differences between bone and cartilage.
- (p) Name the types of Troponin involved in muscle contraction and mention their functions.
- (q) State the changes in gonadotropins during ovulatory phase of menstrual cycle.
- (r) Name the different zones of adrenal cortex and the hormones secreted from each zone.
- (s) What is primary ossification centre?
- (t) Mention the location and function of Leydig cells.
- (u) Write any four characteristic features of cardiac muscle.

**Please Turn Over**

- (v) What is meant by neuroendocrine gland? Give an example from vertebrate.
- (w) Distinguish between chemical and electrical synapse.
- (x) What is atretic follicle?
- (y) What is meant by sensory epithelium? — Give example.
2. Draw and describe the ultrastructure of skeletal muscle. 2+3
3. Name the cell types and mention one key function of each cell type present in endocrine pancreas. 2+3
4. Name any two placental hormones and state their functions. 2+1½+1½
5. Classify hormones according to their chemical nature with examples. 2½+2½
6. Describe the signal transduction pathway for any steroid hormone. 5
7. Describe the histological features of Graafian follicle with diagram. 3+2
8. Mention the hormonal profile and vaginal changes during metestrus and estrous stages of estrous cycle. 2½+2½
9. With diagram explain transmission of nerve impulse at neuromuscular junction. 2+3
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