

## U.G. 3rd Semester Examination - 2021

### ZOOLOGY

#### [HONOURS]

Course Code : ZOOL-H-CC-T-06

Full Marks : 40

Time : 2½ Hours

*The figures in the right-hand margin indicate marks.*

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

1. Answer any **five** questions out of the following : 2×5=10
- a) How iodine pump operates in thyroid follicles?
  - b) Write briefly about location and function of desmosomes.
  - c) How acrosomal cap is formed on spermatids?
  - d) What is muscle twitch?
  - e) Mention the functions of adrenalin.
  - f) What are costal cartilages?
  - g) What is the function of paraventricular nucleus of hypothalamus?
  - h) Which protein hormones are released from Islets of Langerhans? State their functions.

2. Answer any **two**: 5×2=10
- a) Compare electrical synapse and chemical synapse with suitable diagrams. 5
  - b) Classify hormones based on their chemical nature. Elaborate an example of negative feedback of hormone action. 2+3
  - c) What are hormonal stimuli and neural stimuli? How insulin regulates blood glucose levels? 2+3
  - d) Compare the structure and function of microvilli, cilia and stereo cilia with proper diagrams. 5
3. Answer any **two**: 10×2=20
- a) Write briefly about columnar, stratified, squamous, transitional and glandular epithelium. 2×5=10
  - b) Describe diagrammatically the brain-testicular axis of spermatogenesis. Mention the functions of epididymis, scrotum, prostate gland and bulb urethral gland. 6+4
  - c) Define sarcomere. Enumerate the molecular structure of toponin and myosin. How power stroke utilizes ATP? 1+5+4
  - d) Draw and describe the structures of osteoblasts, osteoclasts and osteocytes. What are the major stages of bone tissue formation? 5+5