2025

M.Sc. 1st Semester Examination

ZOOLOGY

Paper : ZOOC401X1

[Functional Anatomy and Physiological Process]

Full Marks : 35 Time : 1 Hour 30 Minutes

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

Group - A

Answer any *five* questions : 2×5=10

1. Mention the scientific names of two distinct animals that were discovered in the twentyfirst century to strengthen the new world animal diversity and state their zoogeographical distribution.

2. How do you define the punctuated equilibrium in an evolutionary concept?

3. The Cambrian Period was a geological period lasting from about — to — million years ago.

4. Name two biomarkers of oxidative stress.

P.T.O.

5. What causes the oxygen dissociation curve to shift to the left?

6. What are the unique features of ROS?

7. Draw the gradation of blood pressure changes starting from the ventricles to the veins.

8. Where are the baroreceptors located in our body?

Group - B

Answer any ***three*** questions : 4×3=12

9. Why is the Neo-Darwinian concept criticised by modern biologiest?

10. In what way the fundamental forces are used in the aerodynamics of flight in birds?

11. Briefly explain the different events in a cardiac cycle. What is P-wave and QRS-complex? 3+1

12. Cite the physiological properties of the cardiac muscles. Why does action potential in heart exhibit plateau phase? 2+2

13. Write short notes on : 2+2

    (i) Positive and negative feedback loop.

    (ii) Frank-Starling's law.

Group - C

Answer any *one* question : 8×1=8

14. Briefly describe the feeding mechanism of a marine invertebrate animal. Write a note on : Sensory structure of *Trilobite* sp. 6+2

15. (i) Describe the counter-current heating mechanism. Define shivering.

(ii) Write notes on (any *two*) :

(a) Antioxidants.

(b) Myogenic vs Neurogenic heart.

(c) Acclimatization.

(d) Sweating and panting. (3+1)+(2+2)

Internal Assessment : 5 marks