



B.Sc./3rd Sem/ZOO/25(NEP)

2025

3rd Semester Examination (CCFUP : NEP)

ZOOLOGY

Paper : MJ 4-T (Single Core Major)

(Animal Physiology)

Full Marks : 40

Time : Two Hours

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 : $2 \times 5 = 10$

1. Name four non-haem respiratory pigments found in invertebrates.
2. What is aestivation?
3. Differentiate between intracellular and extracellular digestion.
4. State the function of acetylcholine at the neuromuscular junction.
5. What are the functions of bile salts in fat digestion?

P.T.O.

(2)

6. What is a SNARE complex?
7. What is the role of ADH in osmoregulation?
8. What is the role of macula densa in RAAS regulation?

Group - B

Answer any *four* questions : 5×4=20

9. Explain the process of absorption of carbohydrates in the small intestine.
10. Explain how an action potential is propagated along a non-myelinated nerve fibre. State why is it slower than in a myelinated fibre. 3+2
11. What is the difference between fibrinolysis and coagulation? 5
12. What do you mean by Troponin complex? Mention the role of actin in muscle contraction. 3+2
13. What is chloride shift? Describe the mechanism of chloride shift. 2+3
14. (a) Explain the oxygen dissociation curve of haemoglobin.
(b) Discuss the effects of pH and temperature on oxygen affinity. 2.5+2.5

(3)

Group - C

Answer any *one* question : $10 \times 1 = 10$

15. Describe the mechanism of urine formation. Briefly discuss the physiological mechanisms involved in thermoregulation and water balance in desert ungulates.

6+4

16. (a) Discuss in detail the mechanisms of gas exchange and transport of oxygen and carbon dioxide in mammals.

- (b) Critically analyze how respiratory pigments are adapted to different environmental conditions.

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