



WEST BENGAL STATE UNIVERSITY  
B.Sc. Honours 4th Semester Examination, 2023

ZOOACOR09T-ZOOLOGY (CC9)

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable.*

1. Answer any **eight** questions from the following: 2×8 = 16
- (a) Why is carbon monoxide said to be a respiratory poison?
  - (b) Give examples of ammonotelic, ureotelic and uricotelic animals.
  - (c) What is macula densa?
  - (d) What does the QRS Complex of ECG denote?
  - (e) State the functions of SA node and bundle of His.
  - (f) Write down the names of a vitamin and an inorganic ion necessary for blood clot formation.
  - (g) What is dead space in respiration?
  - (h) What is regional heterothermy? Give examples.
  - (i) Mention one extrarenal osmoregulatory organ in vertebrates and state its function.
  - (j) Where are crypts of Lieberkühn found? State their function.
  - (k) What is chloride shift?
  - (l) What is the purpose of panting?
2. Answer any **three** questions from the following: 3×3 = 9
- (a) Define vital capacity, tidal volume and total lung capacity.
  - (b) Describe the mechanism of osmoregulation in sharks.
  - (c) Write down the composition and functions of bile. Name two bile salts.

- (d) State the mechanisms by which an endotherm survive in cold environment.
- (e) Describe the intrinsic mechanism of blood clotting.
- (f) State major functions of kidney. What are the factors that may cause increased  $H^+$  secretion by kidney?

3. Answer any *three* questions from the following:

5×3 = 15

- (a) What is GFR? What are the factors that control GFR? Name two hormones and mention their respective roles in urine formation. 1+2+2
- (b) Describe the methods of osmoregulation in migratory fishes. What will happen if a marine teleost is kept in a freshwater pond? 4+1
- (c) Define cardiac output. Describe the events of cardiac cycle. 1+4
- (d) Discuss the process of digestion and absorption of butter consumed during breakfast.
- (e) Which muscles are responsible for inspiration and expiration? State the roles of diaphragm in respiration. What is your normal breathing rate? 2+2+1
- (f) Write short notes on: 2½+2½
  - (i) Bohr Effect
  - (ii) Haldane Effect.