लक्ष्यं विलम्बनम्

# 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: $2\frac{1}{2}+2\frac{1}{2}$

(i) Bohr Effect

(ii) Haldane Effect.

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