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3 (Sem-4/CBCS) ZOO HC 2

2024

**ZOOLOGY**

(Honours Core)

Paper : ZOO-HC-4026

**(Animal Physiology : Life Sustaining  
Systems)**

Full Marks : 60

Time : Three hours

**The figures in the margin indicate  
full marks for the questions.**

1. Fill in the blanks :  $1 \times 7 = 7$

(a) The capillary network supplying the Loop of Henle is \_\_\_\_\_.

(b) The amount of air moving in and out of lungs during each breath is called \_\_\_\_\_.

(c) Major portion of  $\text{CO}_2$  is transported as \_\_\_\_\_ in human body.

Contd.

- (d) Pacemaker of the heart is \_\_\_\_\_.
- (e) The Plasma protein responsible for blood clotting is \_\_\_\_\_.
- (f) Carrier protein SGLT has two binding sites. One is for glucose and another is for \_\_\_\_\_.
- (g) Zymogen cells are found in \_\_\_\_\_.

2. Answer very briefly :  $2 \times 4 = 8$

- (a) What is erythropoiesis?
- (b) What is ECG?
- (c) Define vital capacity.
- (d) What are uricotelic and ureotelic animals?

3. Answer the following : **(any three)**  $5 \times 3 = 15$

- (a) Write a note on respiratory pigments.
- (b) Write the role of ADH in urine formation.
- (c) Write about regulation of heart beat.

(d) Write on ABO blood grouping.

(e) Describe in brief about the regulation of acid-base balance.

4. (a) What is heart beat? Discuss the process of conduction of heart beat with a labelled sketch.  $2+8=10$

**Or**

(b) What do you mean by absorption? Describe the process of absorption of carbohydrates and proteins.  $2+4+4=10$

5. (a) What is glomerular filtrate? Write about the mechanism of urine formation in detail.  $2+8=10$

**Or**

(b) Describe the structure and functions of a nephron with a labelled sketch. What is Renin-Angiotensin system?  $7+3=10$

6. (a) What is blood? Describe the structure and functions of various components of blood. Add a note on fibrinolytic system. 2+6+2=10

**Or**

- (b) What is clotting of blood? Write about the process of clotting of blood. 2+8=10