2021

ZOOLOGY — HONOURS

Paper : CC-9

(Animal Physiology : Life Sustaining Systems)

Full Marks : 50

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer ***any ten*** questions.

1. Discuss briefly the digestion of protein in stomach. Mention the function of Oxyntic/Chief cells and parietal cells of stomach. 3+1+1

2. Mention the characteristic features of coronary circulation. What is called "The pacemaker of heart" and why? 2+1+2

3. Describe the structure of haemoglobin with a diagram. Write one point of difference between 'R form' and 'T form' of haemoglobin. (2+1)+2

4. What is osmoregulation? Describe the methods of osmoregulation in marine fishes. 1+4

5. Describe briefly the significance of oxygen dissociation curve with diagram. 3+2

6. Describe the mechanism of blood clotting with a flowchart. 5

7. What is ultrafiltration? Name the factors that regulate glomerular ultrafiltration. 3+2

8. Discuss the role of brown fat and countercurrent heat exchanger system in thermoregulation of polar bear. 2½+2½

9. What is a counter current multiplier system? State the role of vasa recta in counter current mechanism. 2+3

10. Briefly describe the genetic and biochemical basis of ABO blood group system in Human. 3+2

11. Write short notes on (a) Carbon monoxide poisoning, (b) JGA. 2½+2½

12. What is haematopoiesis? Describe the stages involved in formation of neutrophil. 2+3

13. Mention the role of bile in digestion of food substances. Write the mechanism of fat absorption in the intestine. 2½+2½

14. What is cardiac output? State the factors that regulate cardiac output. Explain 'Iso-volumetric contraction period'. 1+2+2

15. Name two respiratory pigments and where do you find them. Explain 'Chloride Shift'. (½+½+½+½)+3