

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

**Please Turn Over**

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
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