

2022

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 **questions no. 1** and **any four** from the rest.

1. Answer **any five** questions : 2×5
- (a) Define stroke volume.
  - (b) Distinguish between IRV and ERV.
  - (c) Define Root effect.
  - (d) What is pace-maker of human heart?
  - (e) What is brown fat?
  - (f) Define Goblet cell with function.
  - (g) Distinguish between Cortical and Juxta-medullary nephron.
  - (h) Name four layers constituting stomach.
2. (a) Describe the mechanism of CO<sub>2</sub> transport in blood as bi-carbonate ions and in combination with haemoglobin.
- (b) Mention Haldane effect.
- (c) What are the effects of carbon-monoxide poisoning (*any two*)? 6+2+2
3. (a) Describe the method of osmoregulation in catadromous fish.
- (b) Write two significance of osmoregulation.
- (c) Define Cardiac output and Glomerular Filtration Rate (GFR). 4+2+(2+2)
4. (a) How carbohydrate is digested in small intestine?
- (b) Mention the process of fat emulsification. 6+4

Please Turn Over

5. (a) Distinguish between homeotherm and poikilotherm with example.  
(b) Discuss the process of erythropoiesis.  
(c) Name any two blood clotting factor. 3+5+2
6. (a) Explain the process of mammalian expiration and inspiration with diagram.  
(b) Discuss the major factors affecting vital capacity.  
(c) Define anatomical dead space. (4+2)+2+2
7. (a) Describe the process of temperature regulation in camel.  
(b) Mention the role of ADH in urine formation.  
(c) Add a note on the role of hypothalamus in controlling ADH production. 5+3+2
8. Write short notes on following (*any two*) : 5×2
- (a) Cardiac Cycle
  - (b) O<sub>2</sub> dissociation curve
  - (c) ABO blood group
  - (d) Counter-current mechanism.
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