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_2 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

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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_2 dissociation curve
   (c) ABO blood group
   (d) Counter-current mechanism.
