

2017

ZOOLOGY

(Major)

(Animal Physiology)

Paper : 5.1

Full Marks : 60

Time : 3 hours

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

1. Answer the following/Choose the correct answer : 1×7=7
- (a) What is hematopoiesis?
 - (b) State the function of vitamin A.
 - (c) What do you mean by the partial pressure of gas?
 - (d) Which of the following has the greatest effect on the ability of blood to transport oxygen?
 - (i) Amount of haemoglobin in the blood
 - (ii) pH of plasma
 - (iii) Temperature of the blood
 - (iv) Capacity of blood to dissolve O₂

- (e) Which of the following plays a crucial role in fat absorption?
- (i) Pancreatic juice
 - (ii) Bile
 - (iii) GI hormone
 - (iv) Intestinal juice
- (f) Which of the synaptic transmitters is not a peptide or protein?
- (i) Dynorphin
 - (ii) Serotonin
 - (iii) β -endorphin
 - (iv) Met-enkephalin
- (g) Which of the following cell types is responsible for skeletal muscle regeneration?
- (i) Myoepithelial cell
 - (ii) Myofibril
 - (iii) Satellite cell
 - (iv) Fibroblast

2. Answer the following : $2 \times 4 = 8$

- (a) What are clotting factors?
- (b) Differentiate between Euryhaline and Stenohaline animals.
- (c) Differentiate between S-A node and A-V node.
- (d) Differentiate between Direct respiration and Indirect respiration.

3. Answer any *three* questions from the following : $5 \times 3 = 15$

- (a) What are the different types of Leucocytes and how are they classified into granulocyte and agranulocyte? 5
- (b) Justify—blood serves as a buffer. 5
- (c) What is Rh factor? In which animal was it first discovered? How is the foetus with Rh-positive blood affected if the mother is Rh-negative? $1+1+3=5$
- (d) Describe the mechanism of water and electrolyte absorption. 5
- (e) Briefly describe the oxygen-haemoglobin dissociation curve. 5

4. Define nutrition. Briefly describe its role in the process of digestion. $2+8=10$

Or

Describe the functions of respiratory pigment. Briefly describe the CO_2 transport mechanism in human body. $2+8=10$

5. What elements make up blood? Briefly describe the extrinsic and intrinsic clotting mechanism of blood. $2+8=10$

Or

How many types of nitrogenous waste are there? Describe the hormonal control of kidney function. $3+7=10$

6. What is osmoregulation? Briefly describe the hormonal control of osmoregulation. $3+7=10$

Or

Describe the molecular mechanism of muscle contraction with suitable diagram. 10

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