

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 O<sub>2</sub>

(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)  $\beta$ -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 : 2×4=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 : 5×3=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<sub>2</sub> 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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