

2018

ZOOLOGY

(Major)

Paper : 5.1

(Animal Physiology)

Full Marks : 60

Time : 3 hours

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

1. Fill in the blanks/Choose the correct answer :

1×7=7

- (a) Kupffer cells occur in ____.
- (b) Vitamin ____ is essential for the process of blood coagulation.
- (c) Muscles get fatigue due to accumulation of ____.
- (d) Enteropeptidase enzyme is present in
 - (i) saliva
 - (ii) gastric juice
 - (iii) intestinal juice
 - (iv) pancreatic juice

(2)

(e) Volume of air breathed in and out during effortless respiration is referred as

(i) vital volume

(ii) tidal volume

(iii) vital capacity

(iv) ideal volume

(f) The matrix of blood is known as

(i) plasma

(ii) serum

(iii) RBC and WBC

(iv) WBC and platelets

(g) Which of the following is the important function of spinal cord?

(i) Pumping blood

(ii) Transferring substances

(iii) Control of respiration

(iv) Control of reflex action

2. Answer the following :

2×4=8

(a) Differentiate between myogenic heart and neurogenic heart.

(b) Differentiate between osmoconformer and osmoregulator.

(3)

(c) Differentiate between systolic pressure and diastolic pressure.

(d) Write the role of ADH in water retention.

3. Answer any *three* questions from the following : 5×3=15

(a) Describe the renin-angiotensin mechanism.

(b) Describe briefly the initiation, conduction and regulation of heartbeat.

(c) Differentiate between Haldane and Bohr effects.

(d) What are the importances of plasma protein? Briefly discuss.

(e) What is meant by the double circulation? What is its significance?

4. What are villi? What are their location and function? Discuss briefly the mechanism of absorption. 1+2+7=10

Or

Describe the process of protein digestion. Briefly discuss the function of pancreas in protein digestion. 7+3=10

(4)

5. Define cardiac cycle and cardiac output.
Draw a standard ECG and explain the
different segments in it. $3+7=10$

Or

Discuss the mechanism and regulation of
urine formation. $6+4=10$

6. Write the names of respiratory pigments.
Describe the regulatory mechanism of
respiration with suitable illustration. $2+8=10$

Or

What is nerve impulse? Describe briefly the
saltatory propagation of nerve impulse. Write
the significance of acetylcholine in synaptic
transmission. $2+4+4=10$

★ ★ ★