

Total No. of Printed Pages—3

**5 SEM TDC ZOO M 3**

**2 0 1 3**

( November )

**ZOOLOGY**

( Major )

Course : 503

**( Animal Physiology )**

Full Marks : 48

Pass Marks : 19

Time : 3 hours

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

Answer Question No. 1 and *any three* from the rest

1. (a) Fill in the blanks : 1×4=4

- (i) The contractile protein of skeletal muscle involving ATPase activity is —.
- (ii) Ptyalin is a —, digesting enzyme.
- (iii) — prevents the process of clotting of blood.
- (iv) Reabsorption of water from distal tubule is facilitated by — hormone.

( 2 )

(b) Choose the correct answer :  $1 \times 5 = 5$

(i) The end product of digestion of food by proteases is maltose / small peptides / glycerol.

(ii) The amount of  $O_2$  transported by hemoglobin is 60-70% / 85-90% / 95-98%.

(iii) The pacemaker in human heart is AV node / SA node / AV bundles.

(iv) Urea is produced as an excretory substance in human body in kidney / urinary bladder / liver.

(v) Node of Ranvier is found in dendrite / brain / axon.

(c) Explain with suitable diagram/graph (any two) :  $4\frac{1}{2} \times 2 = 9$

(i) Oxygen dissociation curve

(ii) Urine formation in nephron

(iii) Tracheal system in insect

2. Describe the mechanism of  $O_2$  and  $CO_2$  transport by blood. Discuss the regulatory factors of respiration.  $6+4=10$



( 3 )

3. Write short notes on the following : 5+5=10

(a) Dialysis

(b) Neurotransmitters

4. Describe the structure of neuron with neat labelled diagram. Explain how the nerve impulse is transmitted across a synapse.

5+5=10

5. Differentiate between the following : 5+5=10

(a) Isometric and Isotonic contraction

(b) Simple and Conditioned reflex

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