

This question paper contains 3 printed pages]

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S. No. of Question Paper : 2354

Unique Paper Code : 2231401

F-4

Name of the Paper : Physiology-Life Sustaining Systems

Name of the Course : B.Sc. (Hons.) Zoology

Semester : IV

Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Answer five questions in all including Question No. 1, which is compulsory.

Attempt all the parts of the same question in continuation.

Draw suitable diagrams wherever necessary.

1. (a) Define the following terms :

5

(i) Broncho-Pulmonary Segment

(ii) Deglutition

(iii) Thrombus

(iv) Pericardium

(v) Cystic Duct.

(b) Differentiate between the following :

8

(i) EDV and ESV

(ii) HbA and HbS

(iii) Vital capacity and Total lung capacity

(iv) Atrioventricular valves and semilunar valves.

P.T.O.

- (c) Expand the following : 3
- (i) PDGF
 - (ii) GBHP
 - (iii) TmG
 - (iv) ANP
 - (v) VIP
 - (vi) MALT.
- (d) Fill in the blanks : 5
- (i) Heart beat is regulated by nervous system.
 - (ii) Gastrin stimulates the secretion of
 - (iii) Aldosterone helps in reabsorption of Na^+ in of nephron.
 - (iv) Respiratory pigment present in muscle is known as
 - (v) Intravascular clots are dissolved by
- (e) Give Reason/s : 6
- (i) A delay in the conduction of impulses occurs in the AV node.
 - (ii) Excess of glucose in glomerular filtrate leads to polyuria.
 - (iii) Digested lipids are absorbed mainly in lacteals.
 - (iv) Venous blood returning from the stomach is more alkaline.
2. (a) Describe in detail the different phases of digestion. 8
- (b) Give the composition and function of bile juice. 4
3. (a) Explain the factors that affect the O_2 dissociation curve. 6
- (b) What is pulmonary ventilation ? Describe the factors affecting it. 6

4. (a) Describe the counter current multiplier mechanism and discuss its importance in osmoregulation. 8
- (b) Explain the renin angiotensin aldosterone system in maintaining glomerular filtration rate. 4
5. What is cardiac output ? Discuss the various factors affecting it. 12
6. (a) Explain in detail the intrinsic and extrinsic pathways of blood clotting. 8
- (b) Describe the formed elements of blood. 4
7. Write short notes on any *three* of the following : 4,4,4
- (i) Composition and function of saliva
- (ii) Neural control of respiration
- (iii) Chloride shift
- (iv) Components of normal ECG.