63/1 (SEM–4) CC9/ZOOHC4096

2025

ZOOLOGY

Paper : ZOOHC4096

(Physiology : Life Sustaining System)

Full Marks : 60

Pass Marks : 24

Time : Three hours

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

1. Choose the correct answer from the following : ***(any five)*** 1×5=5

   (a) Example of a pro-enzyme is

   (i) Pepsinogen

   (ii) Trypsin

   (iii) Chymotrypsin

   (iv) Lysine

(b) Ribozymes are

(i) RNA acting enzyme

(ii) Ribose sugar

(iii) Coenzyme and Prosthetic group

(iv) Prosthetic group and co-factor

(c) Normal blood pH is

(i) 7.3

(ii) 7.2

(iii) 90 *ml/kg* body weight

(iv) 8.4

(d) Life Span of RBC is

(i) 120 days

(ii) 122 days

(iii) 124 days

(iv) 130 days

(e) Blood cell which is responsible for blood clotting is

(i) lymphocyte

(ii) Platelet

(iii) RBC

(iv) Neutrophil

(f) Combination of haem with O_2 is called

(i) Oxyhaemoglobin

(ii) Oxidation

(iii) Oxygenation

(iv) Oxidised haem

(g) In which part of the respiratory system, gaseous exchange takes place?

(i) Alveoli

(ii) Pharynx

(iii) Larynx

(iv) Trachea

(h) Which of the following is a part of the human respiratory system?

(i) Trachea

(ii) Diaphragm

(iii) The lungs

(iv) All of the above

(i) The chamber that pumps oxygen-rich blood to the body is

(i) Left atrium

(ii) Right atrium

(iii) Left ventricle

(iv) Right ventricle

(j) Identify the thickest layer of the heart wall.

(i) Endocardium

(ii) Epicardium

(iii) Myocardium

(iv) Parietal pericardium

2. Answer the following questions in brief: ***(any five)*** 2×5=10

(a) What is chloride shift?

(b) What is Haemopoiesis?

(c) Define the term 'pericardium'.

(d) What is the composition of saliva?

(e) Define the term 'synapse'?

(f) How does bile juice help in digestion?

(g) What do you mean by blood pressure?

3. Answer the following questions: ***(any five)*** 5×5=25

(a) Write about the ABO blood grouping system.

(b) Write a short note on cardiac cycle.

(c) Explain the structure of kidney and glomerulus filtration.

(d) Write about hormonal control and secretions of enzymes in Gastrointestinal tract.

(e) Describe about chemical digestion of food in stomach and intestine.

(f) Write a note on respiratory volume and respiratory capacities.

(g) Write about the factors influencing the oxygen dissociation curve.

(h) Write a short note on complement system.

(i) Write the differences between myogenic and neurogenic heart.

4. Answer the following questions : ***(any two)*** 10×2=20

(a) What is nerve impulse? How is it transmitted through a nerve fibre? 2+8=10

(b) Define heart rate. Discuss the nervous and chemical regulation of heart rate. 2+(4+4)=10

(c) Explain the structure of mammalian kidney and mechanism of urine formation. 5+5=10

(d) What is blood? Write in detail about the component and structure of blood. 5+5=10