[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1165 **I**

Unique Paper Code : 2232012303

Name of the Paper : Human Physiology: Life Sustaining Systems: DSC-9

Name of the Course : **B.Sc. (H) Zoology, Theory Examination Nov-Dec, 2024**

Semester : III, NEP-UGCF

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **FOUR** questions in all.
3. Question No. **1** is compulsory.
4. Draw diagrams where ever required.

1. (a) Define any **four** of the following terms : (4)

(i) Plasminolysis

(ii) Portal Triad

(iii) Haustral Churning

(iv) Lung compliance

(v) Herring Breuer Reflex

(b) Give the location and function of the following : (4)

(i) Bundle of His

(ii) Chief cells

(iii) Surfactant

(iv) Macula densa

(c) Differentiate between the following (Any **two**) : (4)

(i) Afferent arteriole and Efferent arteriole

(ii) External and Internal respiration

(iii) Bicuspid and Tricuspid valves

(d) Expand the following : (1)

(i) CCK

(ii) GFR

(e) Give reason for the following :

(i) Oxygen is more available to tissue cells when you have a fever.

(ii) Clot retraction requires an adequate number of platelets. (2)

2. (a) Elaborate the mechanism of oxygen transport in blood. (9)

(b) Describe the components of the Cardiac Conduction System. (6)

3. (a) Discuss the hormonal regulation of tubular reabsorption and secretion. (9)

(b) Draw the histological structure of detailed structure of renal corpuscle. (6)

4. (a) Describe the extrinsic and intrinsic pathway of blood clotting. (9)

(b) Draw die detailed structure of haemoglobin and describe the different types of haemoglobin. (6)

5. (a) Give a detailed account of phases of digestion. (9)

(b) Briefly explain absorption of fats in small intestine. (6)

6. (a) Explain the pressure and volume changes that occur during the cardiac cycle. (9)

(b) Describe the hormonal regulation of gastric secretion. (6)

7. Write short notes on any **three** of the following : (3×5=15)

(a) Regulation of respiration

(b) Renal blood supply

(c) Coronary circulation

(d) Formation of Platelet plug