

I Choose the correct answer

9 x 1 = 9

1. Root hairs are

- a) Cortical cell b) projection of epidermal cell
- c) unicellular d) both b and c

2. The wall of human heart is made of

- a) Endocardium b) Epicardium
- c) Myocardium d) All of the above

2. Water which is absorbed by roots is transported to aerial parts of the plant through.

- a) cortex b) epidermis
- c) phloem d) xylem

3. During transpiration there is loss of

- a) carbon di oxide b) oxygen
- c) water d) none of the above

5. Which of the following process requires energy.

- a) active transport b) diffusion
- c) osmosis d) all of them

7. Which is sequence of correct blood below

- a) ventricle - atrium - vein – arteries b) atrium - ventricle - veins - arteries
- c) atrium - ventricle - arteries – vein d) ventricles - vein - atrium – arteries

8. A patient with blood group O was injured in accident and has blood loss. Which blood group the doctor should effectively use for transfusion in this condition?

- a) O group b) AB group
- c) A or B group d) all blood group

9. 'Heart of heart' is called

- a) SA node b) AV node
- c) Purkinje fibres d) Bundle of His

10. Which one of the following regarding blood composition is correct

- a) Plasma - Blood + Lymphocyte
- b) Serum - Blood + Fibrinogen
- c) Lymph - Plasma + RBC + WBC
- d) Blood - Plasma + RBC + WBC + Platelets

II. Fill in the blanks

2 x1=2

- 1. Water enters the root cell through a _____ plasma membrane.
- 2. The normal human heartbeat rate is about _____ time per minute.

III. Match the following

(2)

- 1. Symplastic pathway - Leaf
- 2. Transpiration - Plasmodesmata
- 3. Osmosis - Pressure in xylem
- 4. Root Pressure - Pressure gradient

IV. State whether True or False. If false write the correct statement

2 x 1 =2

- 1. The form of sugar transported through the phloem is glucose.
- 2. The closure of the mitral and tricuspid valves at the start of the ventricular systole produces the first sound 'LUBB'.

V. Answer in a word or sentence

2x1=2

- 1. Why is the colour of the blood red?
- 2. Name the heart valve associated with major arteries leaving the ventricles.

VI. Give reasons for the following statements

2x2=4

- 1. Mature RBC in mammals do not have cell organelles?
- 2. Guard cells are responsible for opening and closing of stomata.

VII. Short answer questions(any 7)

7x2 = 14

1. Why is the circulation in man referred to as double circulation?
2. Why is the Sinoatrial node called the pacemaker of heart?
3. What causes the opening and closing of guard cells of stomata during transpiration?
4. What would happen to the leaves of a plant that transpires more water than its absorption in the roots?
5. Who discovered Rh factor? Why was it named so?
6. What is cohesion?
7. Differentiate between systemic circulation and pulmonary circulation?
8. Differentiate between systole and diastole?

VIII Answer in detail.(any 3)

3 × 5 = 15

1. How do plants absorb water? Explain.
2. What is transpiration? Give the importance of transpiration?
3. Why are leucocytes classified as granulocytes and agranulocytes? Name each cell and mention its functions.
4. Enumerate the functions of blood.