**Science Notes**

**Class-VII**

**Chapter-10 Transportation of animals and plants**

**Very short answer type question**

Q-1Name the only vein that carries oxygenated blood?

Ans-Pulmonary Vein.

Q-2 Name the thin walled blood vessels that connect arteries to veins?

Ans-Capillaries.

Q-3 What instrument is used to hear heartbeats?

Ans-Stethoscope.

Q-4 Name the tissue that transports food in plants?

Ans-Phloem.

**Short answer type question**

Q-1 What is transpiration?

Ans-Excess water in the plant is given out from the leaves in the form of water vapour.This process is called transpiration. Loss of water from the leaves takes place through the stomata.

Q-2 What are the components of blood?

Ans-The main components of blood are as follows-

1. Red Blood Cells(RBCs)-These cells contain a red colored pigment called hemoglobin, Which gives blood its red colour.Haemoglobin binds with oxygen to form oxyhaemoglobin and transports oxygen to all parts of the body.
2. White blood cells (WBCs)-They are irregular in shape and are colourless,as they do not contain haemoglobin.They are bigger then RBCs ,but are fewer in number. Their main function is to destroy germs and fight infection in the body.
3. Platelets- These are cell fragments that help in the clotting of blood. They release various substances to stop bleeding at the site of the wound.

Q-3 Define Dialysis?

Ans-Dialysis is a process of cleaning the blood of a person by removing toxic substances from it using a dialysis machine, which functions as an artificial kidney. When a kidney fails to function due to injection or injury, the blood needs to be purified from time to time by artificial means. To purify blood artificially a person is put on dialysis.

Q-4What is the importance of sweating?

Ans-The skin removes dissolved salts and excess water from the body in the form of sweat through sweat glands. The production of sweat also helps in regulating body temperature. When the sweat evaporates, it makes the body cool. In summer days, a large amount of water is lost from the body in the form of sweat.

**Long Answer type questions**

Q-1 Explain how blood circulation takes place in humans?

Ans-Blood circulation takes place in humans in the following steps-

1. The pulmonary veins carry the oxygenated blood from the lungs to the left atrium of the heart.
2. When the left auricle contracts, the oxygenated blood goes into the left ventricle.
3. On contraction of the left ventricle, the oxygenated blood is pumped into the main artery called aorta, which branches into many arteries.
4. These arteries supply oxygenated blood to all organs of the body (Except the lungs).Aorta is the largest artery in the human body.
5. Carbon dioxide, which is produced by the cells as waste, enters the blood through capillaries which joins the veins. The veins carry deoxygenated, carbon dioxide rich blood to the heart. this deoxygenated blood enters the right auricle.
6. When the right auricle contracts the deoxygenated, carbon dioxide rich blood to the heart .this deoxygenated blood goes to the lungs through the pulmonary artery.
7. The blood absorbs fresh oxygen from the air we breathe in and becomes oxygenated in the lungs and the cycle repeated .

Q-2 Why is it necessary to excrete waste products from the body?

Ans-When the cells of our body performs their functions ,wastes are produced that are toxic and need to be removed from the body .The process by which wastes are removed from the body is called excretion. Unicellular organisms like Amoeba and Paramecium do not have any special organs for excretion. In these organisms, wastes are removed by the process of diffusion from the body surface .Higher animals have specialized organs for excretion.

Q-3 What are the constituents of urine?

Ans-During circulation when the blood reaches the kidney, the nephrons filter out the waste substances (urea,water,salts)from the blood and the useful substances are absorbed back into the blood .The waste products dissolve in water to form urine that contains 95% water,2.5% urea, and 2.5% other wastes products.

Q-4 List the benefits of transpiration?

Ans-When water evaporates from the leaves ,it produces a suction pull, which helps more water to be pulled upward .It is due to this suction that the water moves upwards from the roots towards the leaves against the gravitational pull .Water is pulled to great heights in tall trees due to transpiration. This pull is similar to the suction pull that is developed by your mouth when you drink a cold drink using a straw.

Advantages of transpiration

1) it helps to transport water and minerals from the soil to the leaves.

2 ) It produces a cooling effect for the plant cells during summers.

Q-5 Define Human excretory system. Draw a well labeled diagram of the human excretory system?

Ans-Wastes produced in the body need to be removed .the process of removal of wastes from the body is called excretion. In humans ,the kidneys ,ureters ,urinary bladder and urethra forms the excretory system.

1. A pair of kidneys is located at about the level of the waist on either side of the vertebral columns. Each kidney contains a large number of coiled tubes called nephrons which are the basic structural and functional unit of kidney.
2. During circulation when the blood reaches the kidney, the nephrons filter out the waste substances (urea, water, salts) from the blood and the useful substances are absorbed back into the blood. The waste products dissolve in water to form urine that contains 95% water,2.5% urea,2.5% other wastes products.
3. The urine passes from the kidney through the two ureters into the sac like urinary bladder and is stored there temporarily.
4. Once the urinary bladder is full, urine passes from the urinary bladder to the urethra and out of the body through an opening at the end of the urethra.

Draw well labeled diagram of human excretory system given in page no-120

Q-6 Draw a flow diagram to shoe blood circulation in the body of humans?

Ans-you have to draw the diagram of page no-119 (Diagrammatic representation of circulation of blood)

**Distinguish between:-**

1.Arteries and veins

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| Arteries | Veins |
| 1. They carry oxygenated blood or pure blood away from the heart | They bring deoxygenated blood or impure blood to the heart from different parts of the body. |
| 1. They are deep seated and have thick elastic walls. | They can be seen lying closure to the surface of the skin, as greenish blue lines |
| 1. Valves are absent in arteries. | They have valves to allow flow of blood in one direction only. |
| 1. Pulmonary artery is the only artery that carries deoxygenated blood from the heart to the lungs. | Pulmonary vein is the only veins that carry oxygenated blood from the lungs to the heart. |

2) Red blood cells and White blood cells

Red blood cells :-

a) They are biconcave cells that contain a red colored pigment called haemoglobin, which gives blood its red color.

b) Hemoglobin binds with oxygen to form oxyhaemoglobin and transports oxygen to all parts of the body.

White blood cells:-

1. They are irregular in shape and are colorless, as they do not contain hemoglobin.
2. They are bigger than RbCs,but are fewer in number.
3. Their main function is to destroy germs and fight infection in the body.

3. Xylem and phloem

Xylem:- Water and minerals move from the roots upward through tube like vessels made of special type of cells ,forming a tissue called xylem. These are vascular tissues that transport water and minerals in the plant .They form a continuous network of channel that connects roots to the leaves through the stem and branches.

Phloem:-The food prepared in the leaves of plants is transported to different parts of the plant through another vascular tissue called phloem. These are vascular tissues that transport food and chemical energy from leaf to different parts of the plant.

EQ-1 Explain the structure of human heart?

Ans-1.The heart is a pumping organ of the body that works non-stop throughout the life and pumps blood to all parts of the body through the blood vessels.

2.The heart is enclosed in a double layered membrane called the pericardium.

3.It is divided into four chambers – the upper two chambers are called auricles and the lower two chambers are called ventricles.

4. The left side of the heart is completely separated from the right side by partition, called septum that prevents the mixing of oxygenated blood with deoxygenated blood.

5. There are valves between the auricles and ventricles on each side the right auricle opens into the right ventricle and the left auricle opens into the left ventricles.

You have to draw the well labeled diagram of page no-117(Internal structure of human heart)

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