

Class Work

Questions (to be solved)

Topic- Plant Transportation and excretion (Both plant and Human)

Date: 1st May 2020

Instruction:

- Questions you need to copy in your c/w Biology copy and then write down the answers. Try sincerely, then if any problem contact me.
- 'Notes' part you can write or you can take print out and paste in your copy but make sure everything must be in one copy.
- 10 questions are given.. solve those.

1. The Bowman's capsules are found in
 - a. Cortex b. Medulla c. convoluted tubule d. Loop of Henle
2. The major waste produced by human body are
 - A. Carbon dioxide B. Urea C. Both A and B D. Only B

Choose any one option (for Q. 3)

- 1) Both A and R are true and R is the correct explanation of A.
- 2) Both A and R are true but R is not the correct explanation of A.
- 3) A is true but R is false.
- 4) A is false but R is true.
- 5) Both A and R are false.

3. **A: The epithelial cells of Bowman's capsule are arranged in an intricate manner so as to leave some minute space for filtration.**
R: Ultrafiltration is the first step of urine formation.

4. The rate of transpiration will _____ if the atmospheric pressure is low
 - a. Increase
 - b. Decrease
 - c. Stay unchanged
 - d. Can't be determined

5. Draw and label

a. the structure nephron b. Excretory system in human being

6) Mention the main three activities of a nephron.

7) Explain the role of translocation in plants.

8) How do plants perform excretion- narrate briefly with 2 examples.

9) What is transpiratory pull ?

10) a. Explain how water amount is controlled in urine formation?

b. Name some components reabsorbed during urine formation in human body.

Notes

Excretion:

The process of eliminating or expelling metabolic waste matter in living organisms and cells are known as excretion.

Excretion in human beings

- c. A pair of kidneys, a pair of ureters, a urinary bladder and a urethra constitutes the human excretory system.
- d. Kidneys are present on either side of the backbone in the abdomen.
- e. Kidneys produce urine and urine from kidney passes through the ureters into the urinary bladder and remains stored there until it is released through the urethra.

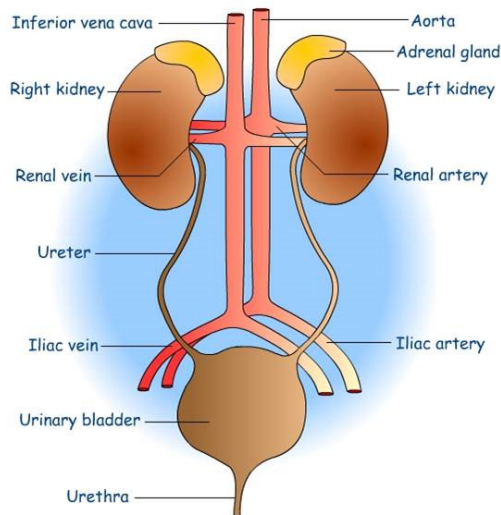


Fig. Human excretory system

- Urine is produced to filter out waste products from the blood.
- Nephrons are basic structural and functional unit of kidney.

Nephron:

- Nephrons are the basic filtering units of kidneys.
- Each kidney possesses large number of nephrons, approximately 1-1.5 million.
- The main components of the nephron are glomerulus, Bowman's capsule, and a long renal tubule.

- Cluster of thin walled blood capillaries called **glomerulus** in the nephron filtrate the urine and each cluster is associated with cup shaped end of a tube called **Bowman's capsule**.

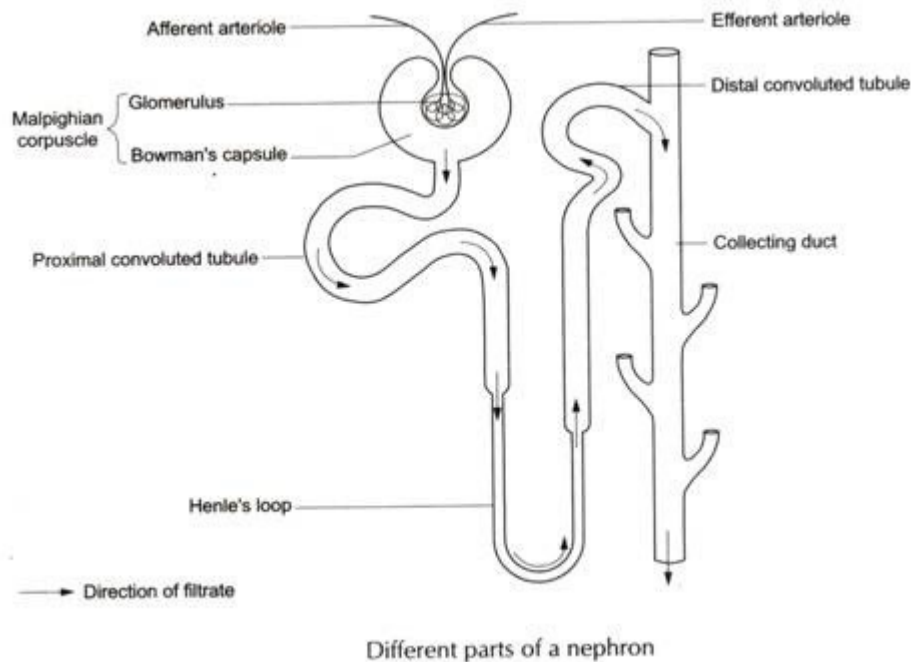


Fig. structure of nephron

- Substances like glucose, amino acids, salts and a major amount of water is selectively reabsorbed from the initial filtrate as the urine flows along the tube.
- Reabsorption depends on the amount of excess water in the body and dissolved waste to be excreted.
- Henle's loop and convoluted tubules control the water content how much to be excreted outside.
- The urine from kidney enters the long tube called ureter.
- Ureter connects the kidney with the urinary bladder and urine from the kidney is passed to urinary bladder and stored in the bladder.
- When the pressure in the expanded bladder leads to the urge to urinate, the urine is passed out through urethra.

Functioning of nephron:

- The blood enters the kidney through the renal artery, which branches into many capillaries associated with glomerulus.
- The water and solute are transferred to the nephron at Bowman's capsule.
- In the proximal tubule, some substances such as amino acids, glucose, and salts are selectively reabsorbed and unwanted molecules are added in the urine.
- The filtrate then moves down into the loop of Henle, where more water is absorbed.
- From here, the filtrate moves upwards into the distal tubule and finally to the collecting duct. Collecting duct collects urine from many nephrons.
- The urine formed in each kidney enters a long tube called ureter. From ureter, it gets transported to the urinary bladder and then into the urethra.

Excretion in plants (Go through the slides given in video class)

- Oxygen, a waste product of photosynthesis is released.
- Carbon dioxide is the waste product of respiration.
- Excess water is removed by transpiration.
- Some waste products may get stored in the leaves which fall off.
- Many waste products are stored in vacuoles.
- Some waste products are stored as resins and gums in old xylem.
- Plants excrete some waste materials into the soil around them.