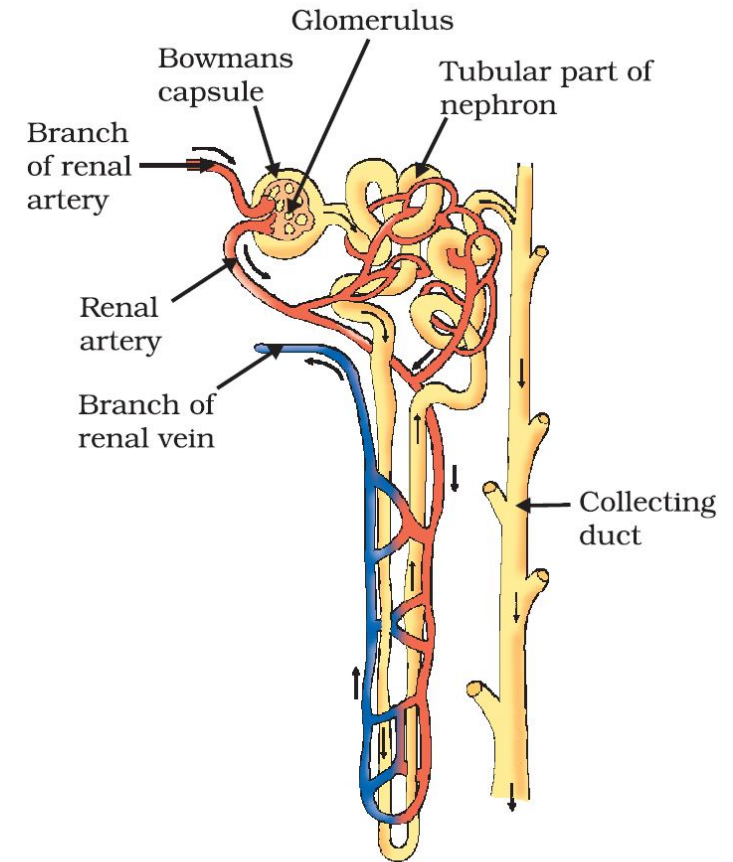


CASE STUDY QUESTION 33

Read the following and answer any four questions from (i) to (v)

Each capillary cluster in the kidney is associated with the cup-shaped end of a tube that collects the filtered urine (see adjoining figure). Each kidney has large numbers of these filtration units called nephrons packed close together. Some substances in the initial filtrate, such as glucose, amino acids, salts and a major amount of water, are selectively re-absorbed as the urine flows along the tube. The amount of water reabsorbed depends on how much excess water there is in the body, and on how much of dissolved waste there is to be excreted. The urine forming in each kidney eventually enters a long tube, the ureter, which connects the kidneys with the urinary bladder. Urine is stored in the urinary bladder until the pressure of the expanded bladder leads to the urge to pass it out through the urethra. The bladder is muscular, so it is under nervous control, as we have discussed elsewhere. As a result, we can usually control the urge to urinate.



Structure of a nephron

(i) Which of the following is the correct path taken by urine in our body ?

(a) kidney → ureter → urethra → bladder

(b) kidney → bladder → urethra → ureter

(c) kidney → ureter → bladder → urethra

(d) bladder → kidney → ureter → urethra

Ans: (c) kidney → ureter → bladder → urethra

(ii) The excretory unit in the human excretory system is called :

(a) nephron (b) neuron (c) nephridia (d) kidneyon

Ans: (a) nephron

(iii) The substance which is not reabsorbed into the blood capillaries surrounding the tubule of a nephron is mainly :

(a) glucose (b) amino acid (c) urea (d) water

Ans: (c) urea

(iv) The procedure of cleaning the blood of a person by using a kidney machine is known as :

(a) ketolysis (b) hydrolysis (c) dialysis (d) photolysis

Ans: (c) dialysis

(v) The kidneys in human beings are a part of the system for
(a) nutrition. (b) respiration. (c) excretion. (d) transportation.

Ans: (c) excretion.