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Excretory system

1) The chemical …….. which occur within an organism are called metabolic reactions.

Eg – Food digestion which occur in the …….. tract,
Photosynthesis which occur in ……,
Cellular respiration which occur in ……,
Protein synthesis which occur in ……,
Bile produced in the ……..

2) During some metabolic ……, large particles are broken down into small particles.

3) These reactions are called catabolic ……

Eg – During cellular ……., glucose is broken down into CO_2 & H_2O

4) During some metabolic ……., small particles together and synthesis large particles.

5) These reactions are called anabolic …….

Eg – During …….. CO_2 and H_2O get together and synthesis glucose ($C_6H_{12}O_6$) & O_2.

During protein synthesis, amino acids get together and produce ……..

Glucose get together and synthesis ……..

6) The products produced during metabolic …… are called metabolic products.

Eg – Glucose & O_2 produced during ……..

CO_2 produced during cellular ……..

7) Some …….. products are useful. Eg. Glucose.

8) Some …….. products are harmful. – Eg. Urea, CO_2.

9) The harmful …… products are called excretory products.

10) Removal of excretory ……. is called excretion.

11) The organs used to remove excretory …….. are called excretory organs.

Eg. Skin (the largest organ), lungs, kidney - the main excretory organ.

12) Water, urea, salt, uric acid & creatinine are excreted by …… as urine.

13) CO_2 and H_2O vapour are excreted by ……as expiratory air.

14) Water, salt and urea are excreted by ……as sweat.

15) Feaces (stools, excreta) is NOT produced during metabolic ……..

16) It contains undigested food. Eg – Fibres.

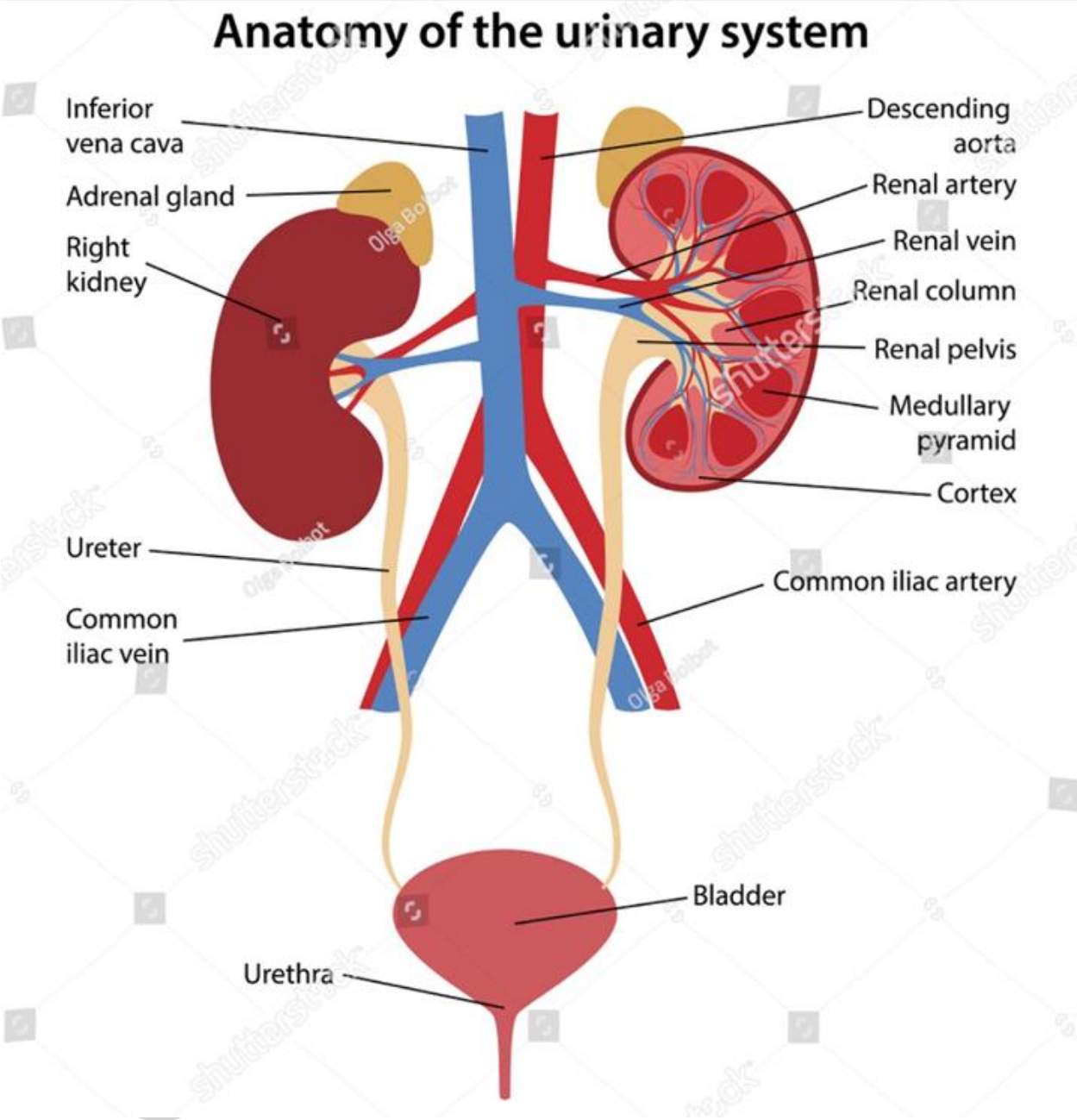
17) Therefore feaces (stools, excreta) is NOT a metabolic…….

18) Hence faeces (stools, excreta) is NOT an excretory …….

19) Therefore defaecation is NOT an excretion.

20) But bile which contains in faeces is produced inside the ……..

21) Therefore bile is an excretory …….


Anatomy of the urinary system
Inferior vena cava
Adrenal gland
Right kidney
Ureter
Common iliac vein
Descending aorta
Renal artery
Renal vein
Renal column
Renal pelvis
Medullary pyramid
Cortex
Common iliac artery
Bladder
Urethra

Urinary system

1) Amino acids are converted into urea inside the ……..

2) L & R renal arteries bring urea from the ……through the aorta to the L & R kidneys.

3) L & R renal veins take away deoxygenated blood from L & R ……to the inferior vena cava (IVC).

4) L & R …….. produce urine.

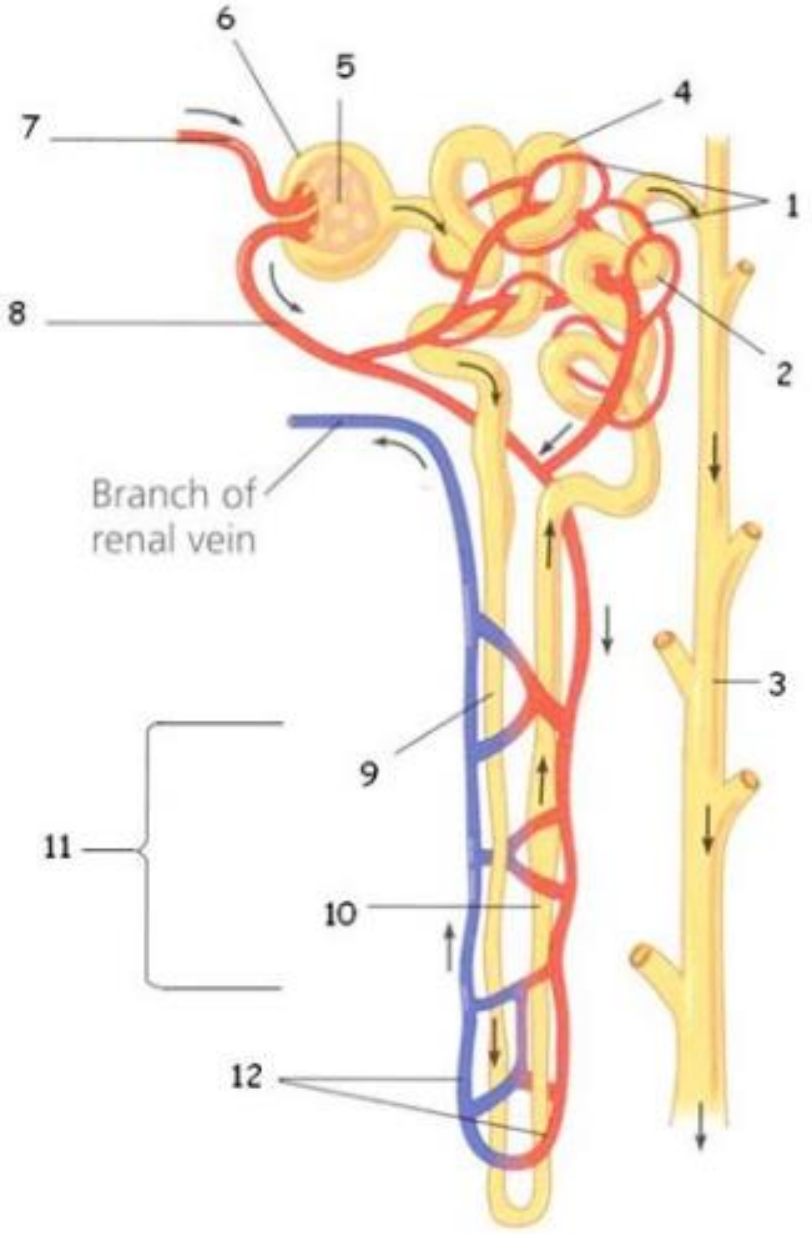
5) L & R ureters take away urine from the L & R …… to the urinary bladder.

6) The urinary bladder temporary stores ……..

7) The urethra takes out urine from the urinary ……..

Nephron

1 – blood capillaries
2 – distal convoluted tubule
3 – collecting duct
4 – proximal convoluted tubule
5 – glomerulus
6 – Bowman's capsule
7 – afferent arteriole
8 – efferent arteriole
9 – descending limb
10 – ascending limb
11 – loop of Henley
12 – capillary network


6
5
4
7
1
8
2
Branch of
renal vein
3
9
11
10
12

1) …….. is the structural unit and the functional unit of a kidney.

2) There are about 1 million nephrons in one ……..

3) A …… has a tubular structure.

4) There is a cup shaped Bowman's capsule at one end of a ……..

5) The tubular part after the Bowman's ……. has become convoluted.

6) This part is called the proximal convoluted tubule.

7) The part after the proximal convoluted ……. has formed a loop.

8) It is called the Henley loop. (Loop of Henley)

9) The tubule after the loop of …… has become convoluted again.

10) It is called the distal convoluted ……..

11) The end of nephron open into a collecting duct.

12) There is a capillary network at the Bowman's …….

13) It is called the glomerulus.

14) The walls of the glomerulus is made up of thin flat single layer of cells called squamous epithelium.

15) Renal arteries break into arterioles.

16) The …….. which brings blood to the glomerulus is called the afferent arteriole.

17) The …….. which takes blood away from the glomerulus is called the efferent arteriole.

18) The efferent arteriole will divide into a capillary net work near the loop of ……..

19) These capillaries will get together and form the renal vein.

20) The diameter of the efferent ..... is less than the diameter of the afferent arteriole.

21) Therefore, there is high pressure in the glomerulus.

22) Therefore everything in blood except …… cells (RBC, WBC and platelets) and plasma proteins (albumin, globulin and fibrinogen) get filtered through the walls of glomerulus into the Bowman's …….

23) This process is called ultra filtration.

24) The fluid which got filtered from the glomerulus into the Bowman's ……. is called the glomerular filtrate.

25) This glomerular ..... flows from the Bowman's capsule
→ proximal convoluted tubule → descending loop of Henley
→ ascending loop of Henley → distal convoluted tubule
→ collecting duct.

26) 100% of glucose, 90% of water, part of amino acids, salt, vitamins, urea and uric acid in the glomerular filtrate is reabsorbed into the blood capillaries around the Henley's …….

27) This reabsorption is called the is called selective reabsorption.

28) Some substances such H^+, K^+, NH_4^+, creatinine, medicine and vitamin B are added to the glomerular filtrate from the blood capillaries around the Henley's ……

29) This is called the secretion.

30) The glomerular filtrate becomes urine after the selective absorption and secretion.