

Gr 11 Excretion

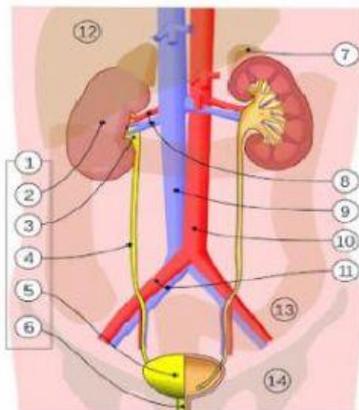
1. What processes are involved in the functioning of a nephron? *

- Glomerular filtration
- Tubular re-absorption
- Tubular secretion
- All of the above

2. Which hormone secreted by the pituitary gland, increases the absorption of water from the distal convoluted and the collecting ducts of the nephron? *

- Anti-diuretic hormone
- Aldosterone
- Insulin
- Serotonin

3. Refer to the diagram of the urinary system below. The correct labels for the structures labelled 4, 5, 6, and 7 respectively, are... *



- Urethra; Bladder; Ureter; Adrenal gland
- Vena cava; Uterus; Urethra; Kidney
- Ureter; Bladder; Urethra; Adrenal gland
- Ureter; Bladder; Urethra; Renal pelvis

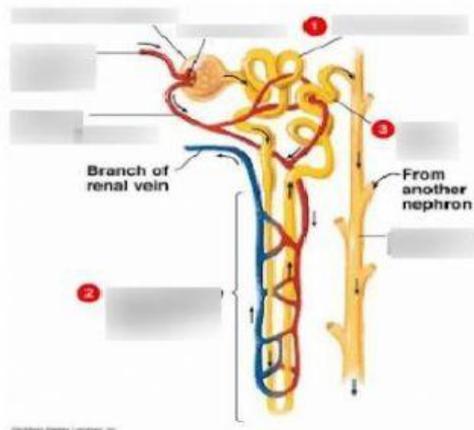
4. In which organ does the process of deamination take place? *

- Kidney
- Bladder
- Liver
- Pancreas

5. Which of the following are functions of the urinary system? *

- Excretion of nitrogenous waste.
- Osmoregulation.
- Homeostasis of body fluid pH and salt content.
- All of the above

6. Refer to the diagram of a nephron below. The correct labels for structures 1, 2 and 3 respectively, are... *



- Efferent arteriole; Renal tubule; Collecting duct
- Proximal convoluted tubule; Loop of Henle; Distal convoluted tubule
- Distal convoluted tubule; Loop of Henle; Collecting duct
- Proximal convoluted tubule; Loop of Henle; Renal artery

7. Which blood vessel enters the Malpighian body of the kidney? *

- Renal vein
- Afferent arteriole
- Efferent arteriole
- Renal artery

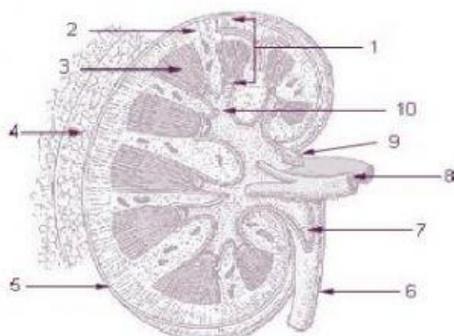
8. The renal corpuscle/ Malpighian body is made up of a double-walled, cup-shaped structure, within which the glomerulus is found. What is this structure called? *

- Bowman's capsule
- Renal tubule
- Podocyte
- Cortex

9. The Loop of Henle is situated in which part of the kidney? *

- Cortex
- Calyx
- Medulla
- Pelvis

10. Refer to the diagram of the macroscopic structure of the kidney below. The correct labels for the parts labelled 2, 3, 5, 7, and 10 respectively are... *



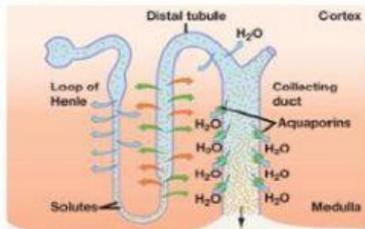
- Cortex; renal papilla; renal capsule; hilum; calyx
- Cortex; renal papilla; pelvis; ureter; medulla
- Medulla; renal pyramid; renal capsule; pelvis; calyx
- Cortex; renal pyramid; renal capsule; pelvis; calyx

11. Sodium ions are actively pumped out of the loop of Henle into the tissue of the medulla. This creates a hypertonic solution in the medulla, making the collecting duct hypotonic. Therefore what happens? *

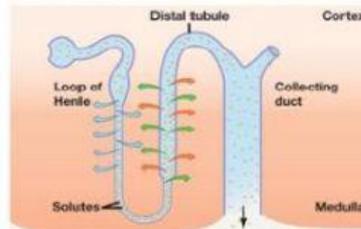
- Water passively leaves the distal convoluted tubule and collecting ducts into the medulla by osmosis.
- Water actively leaves the distal convoluted tubule and collecting ducts into the medulla by osmosis.
- Water cannot leave the distal convoluted tubule and collecting ducts into the medulla by osmosis.
- Water is absorbed into the nephron.

12. The diagrams below illustrate osmoregulation. What would be produced from (a) and (b), respectively? *

(a) ADH present: Collecting duct is highly permeable to water.



(b) No ADH present: Collecting duct is not permeable to water.



- (a) would produce a large volume of concentrated urine and (b) a large volume of dilute urine
- (a) would produce a small volume of concentrated urine and (b) a large volume of dilute urine
- (a) would produce a small volume of concentrated urine and (b) a small volume of dilute urine
- (a) would produce a small volume of dilute urine and (b) a large volume of concentrated urine

13. Which is the correct pathway that urine travels from the kidney to the bladder.

*

- collecting ducts → calyces → pelvis → ducts of Bellini → ureter → bladder
- collecting ducts → calyces → ducts of Bellini → pelvis → urethra → bladder
- collecting ducts → calyces → ducts of Bellini → pelvis → ureter → bladder
- collecting ducts → calyces → ducts of Bellini → ureter → pelvis → bladder

14. If a person's kidneys stopped working due to an infection or disease, what is the best long-term solution? *

- Dialysis
- Transplant
- Medication
- Removal

15. Which of the following is NOT a human excretory organ? *

- Skin
- Lung
- Liver
- Pancreas