

Gr 11 Excretion

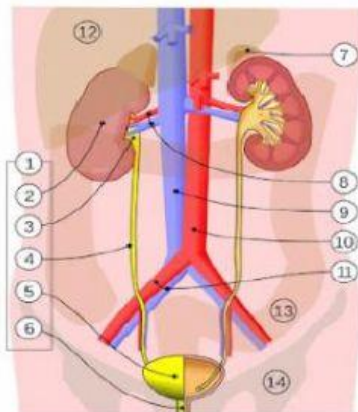
1. What processes are involved in the functioning of a nephron? *

- ☐ 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

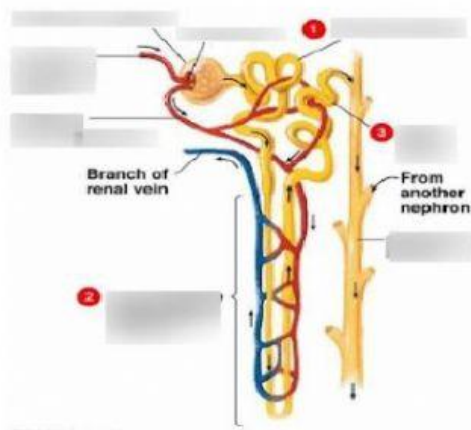
4. In which organ does the process of deamination take place? *

- ☐ 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

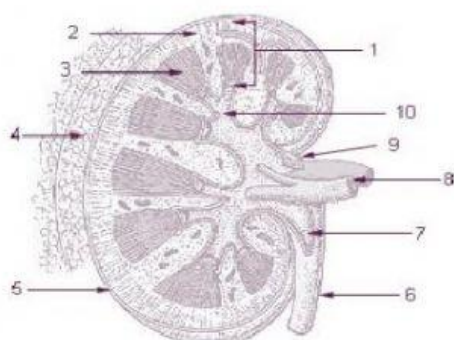
8. The renal corpuscle/ Malpighian body is made up of a double-walled, cup-shaped structure, within which the glomerulus is found. What is this structure called? *

- ☐ 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... *



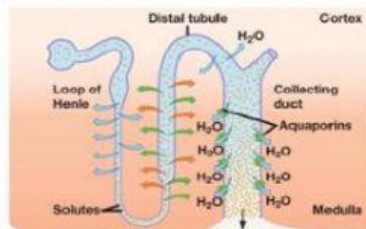
- ☐ Cortex; renal papilla; renal capsule; hilum; calyx
- ☐ Cortex; renal papilla; relvis; ureter; medulla
- ☐ Medulla; renal pyramid; renal capsule; pelvis; calyx
- ☐ Cortex; renal pyramid; renal capsule; pelvis; calyx

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? *

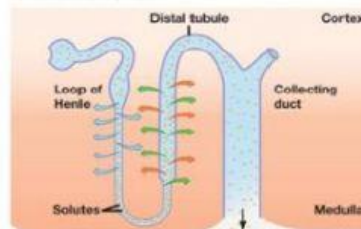
- ☐ Water passively leaves the distal convoluted tubule and collecting ducts into the medulla by osmosis.
- ☐ Water actively leaves the distal convoluted tubule and collecting ducts into the medulla by osmosis.
- ☐ Water cannot leave the distal convoluted tubule and collecting ducts into the medulla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