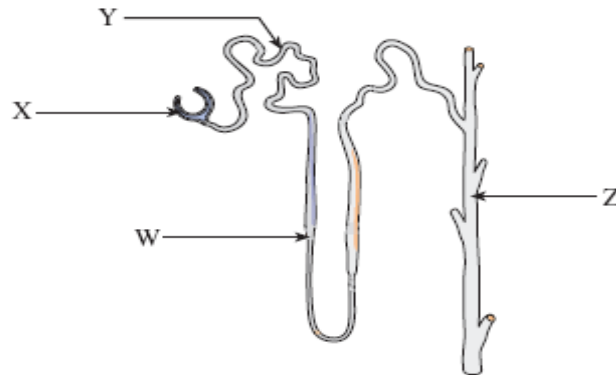


**CH. 16 - URINARY SYSTEM**  
**PRACTICE QUESTIONS**

55. To what part of the kidney is the ureter attached?
- A. the nephron
  - B. the renal pelvis
  - C. the renal cortex
  - D. the renal medulla

Use the following diagram to answer question 57.



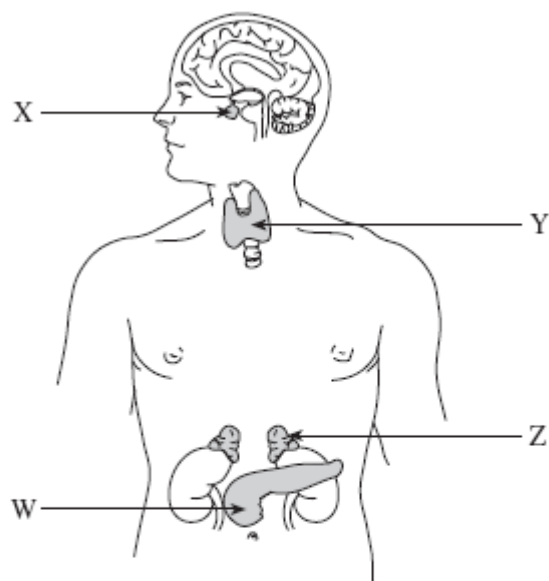
57. How many of the labelled structures allow water reabsorption?
- A. 1
  - B. 2
  - C. 3
  - D. 4
58. In what part of the nephron does glucose move from the filtrate to the surrounding blood vessels?
- A. the loop of Henle
  - B. the Bowman's capsule
  - C. the distal convoluted tubule
  - D. the proximal convoluted tubule

Use the following list to answer question 59.

- |          |               |
|----------|---------------|
| • ions   | • protein     |
| • water  | • blood cells |
| • lipids | • amino acids |

59. How many of the above items pass from the bloodstream into Bowman's capsule?
- A. 2
  - B. 3
  - C. 4
  - D. 5

Use the following diagram to answer question 60.



60. Which gland releases a hormone that causes the reabsorption of sodium ions?
- A. W
  - B. X
  - C. Y
  - D. Z
40. The loop of Henle is found in the
- A. ureter.
  - B. urethra.
  - C. renal pelvis.
  - D. renal medulla.
41. Identify the correct order of structures through which urine passes on its way out of the body.
- A. renal pelvis → collecting duct → ureter → bladder → urethra
  - B. collecting duct → renal pelvis → ureter → bladder → urethra
  - C. bladder → collecting duct → urethra → renal pelvis → ureter
  - D. urethra → ureter → bladder → renal pelvis → collecting duct
42. Which of the following will cause the kidneys to reabsorb more sodium ions?
- A. a decrease in blood pressure
  - B. an increase in the volume of blood
  - C. constriction of the afferent arterioles
  - D. a decrease in the amount of ADH secreted
43. If a drop in the pH of the blood occurs, the kidneys will
- A. increase the absorption of urea.
  - B. decrease the absorption of sodium ions.
  - C. decrease the secretion of hydrogen ions.
  - D. increase the reabsorption of bicarbonate ions.

41. When proteins are broken down, urea is produced and enters the blood plasma. Which of the following processes would account for the presence of urea in the nephron?

- A. pressure filtration at the glomerulus
- B. tubular excretion in the distal tubule
- C. active transport in the collecting duct
- D. facilitated transport in the proximal tubule

42. Which of the following structures would have cells with the greatest concentration of mitochondria in their cytoplasm?

- A. glomerulus
- B. collecting duct
- C. Bowman's capsule
- D. proximal convoluted tubule

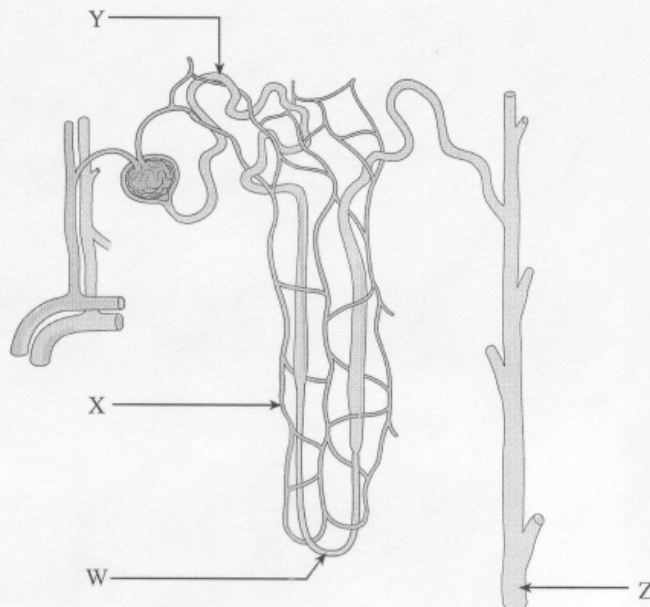
43. Low levels of sodium ions ( $\text{Na}^+$ ) in the body result in the secretion of

- A. adrenalin.
- B. aldosterone.
- C. insulin.
- D. thyroxin.

56. In which part of the nephron do molecules become part of the filtrate as a result of blood pressure?

- A. the loop of Henle
- B. the collecting duct
- C. the Bowman's capsule
- D. the proximal convoluted tubule

Use the following diagram to answer question 44.

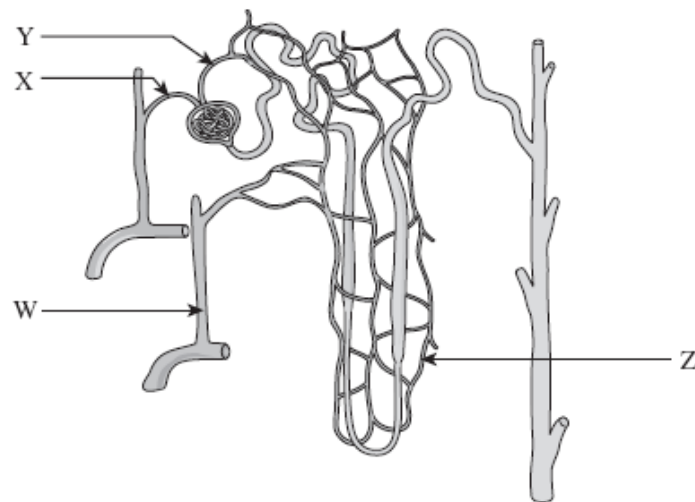


44. Which of the following structures has receptor sites for ADH and aids in the reabsorption of water?

- A. W
- B. X
- C. Y
- D. Z

59. Which of the following molecules in the plasma do not enter the nephron?
- urea
  - salts
  - lipids
  - penicillin
60. Which of the following occurs as a result of ADH secretion in the body?
- increased blood pressure
  - reduced urea concentration in the urine
  - increased sodium ion reabsorption from the nephron
  - reduced sodium bicarbonate ion reabsorption from the nephron
61. How does aldosterone increase blood pressure?
- It causes the excretion of potassium ions.
  - It causes increased reabsorption of sodium ions.
  - It causes the excretion of water at the distal convoluted tubule.
  - It causes increased permeability of the collecting duct to water.

Use the following diagram to answer question 57.



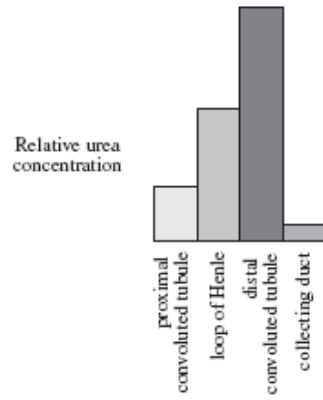
57. The blood in which vessel has the highest protein concentration?
- W
  - X
  - Y
  - Z
42. In a healthy person, Bowman's capsules are found in the renal
- vein.
  - pelvis.
  - cortex.
  - medulla.

43. The composition of the filtrate in the Bowman's capsule is determined by

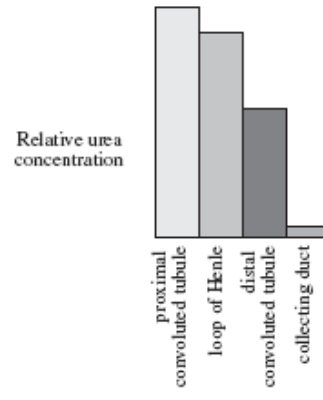
- A. pH.
- B. enzymes.
- C. temperature.
- D. molecular size.

58. Which of the following graphs illustrates the relative concentrations of urea in different parts of a nephron?

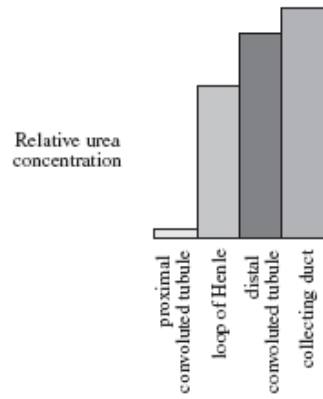
A.



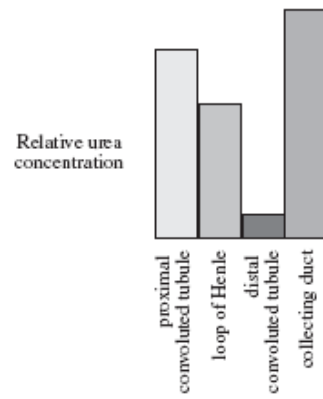
B.



C.



D.



11. Describe the process by which each of the following affects the composition of filtrate in the nephron. **(4 marks: 2 marks each)**

Proximal Tubule:

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Loop of Henle:

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11. Describe how the secretion of each of the following will affect the composition of blood. **(4 marks: 2 marks each)**

aldosterone:

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antidiuretic hormone:

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6. Explain how the conditions in the renal medulla result in the production of urine which is hypertonic to blood. **(3 marks)**

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Use the following table to answer question 9 b).

Filtrate	Urine
95% water	50% water

- b) Provide an explanation that accounts for the difference in the water content as shown in the table above. **(2 marks)**

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