BIOS 256 FINAL EXAM STUDY Q&A | Comprehensive ATI LATEST UPDATE 2023 QUESTION AND AND ANSWERS ALREADY GRADED A GRADE.

1 The urinary system does all of the following, ***EXCEPT*** it A **secretes excess glucose molecules**
- B regulates blood volume
- C contributes to stabilizing blood pH
- D eliminates organic waste products
- E regulates plasma concentrations of electrolytes

2 Conical structures that are located in the renal medulla are called
- A **pyramids**
- B renal columns
- C renal pelvises
- D nephrons
- E calyces

3 The region known as the macula densa is part of
- A the proximal convoluted tubule
- B the distal convoluted tubule
- C the collecting duct
- D **the ascending loop of Henle**
- E Bowman's capsule

4 The cells of the macula densa and the juxtaglomerular cells form the
- A renal corpuscle
- B filtration membrane
- C loop of Henle
- D **juxtaglomerular apparatus**
- E afferent arteriole

5 A glomerulus is
- A the expanded end of a nephron
- B **a knot of capillaries that lies within the renal corpuscle**
- C the portion of the nephron closest to the renal corpuscle
- D the portion of the nephron that attaches to the collecting duct E the horseshoe-shaped segment of the nephron

6 The following is a list of the blood vessels that carry blood to the kidney.
1. afferent arteriole
2. arcuate artery
3. interlobar artery
4. renal artery
5. glomerulus

6. interlobular artery
7. efferent arteriole
8. peritubular capillary

The proper order in which blood passes through these vessels is

A 4, 6, 2, 3, 1, 5, 7, 8
B **4, 3, 2, 6, 1, 5, 7, 8**
C 4, 3, 2, 6, 7, 5, 1, 8
D 4, 6, 2, 3, 7, 5, 1, 8
E 4, 3, 6, 2, 1, 5, 7, 8

7 The process of filtration is driven by

A active transport
B blood osmotic pressure
C **blood hydrostatic pressure**
D renal pumping

8 The mechanisms for maintaining the solute concentration gradient in the renal medulla require A **active transport of sodium and chloride ions from the ascending limb of the loop of Henle**
B active transport of sodium and chloride ions from the ascending limb of the vasa recta
C the ascending limb of the loop of Henle to be permeable to water
D the vasa recta to be impermeable to water E both A and B

9 Which of the following is **greater**?

A the concentration of solute in the filtrate at the beginning of the loop of Henle
B **the concentration of solute in the filtrate at the bottom of the descending limb of the loop of Henle**

1 0 The antidiuretic hormone

A **increases the permeability of the collecting ducts to water**
B is secreted in response to low concentrations of potassium ions in the extracellular fluid.
C causes the kidneys to produce a larger volume of relatively solute-free urine
D helps regulate the concentration of potasium ion in the interstitial space
E is sensitive to changes in the blood concentrations of both sodium and potassium

1 1 In the loop of Henle

A water is secreted into the descending limb
B **sodium and chloride ions are actively transported out of the ascending limb**
C the ascending limb is very permeable to water
D the filtrate in the descending limb becomes more and more hypotonic E filtrate is produced

1 2 Which hormone stimulates the thirst mechanism most?

A **ADH**
B aldosterone
C ANP
D BNP

E natriuretic peptide

1 All of the following are components of ECF, **except**
3

A cerebral spinal fluid
B peritoneal fluid
C lymph
D **aqueous humor**
E plasma

1 Which hormone plays a role in determining the rate of sodium absorption and potassium loss?
4

A ADH
B **aldosterone**
C ANP
D BNP
E natriuretic peptide

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1 5 You are caring for a patient who has been vomiting and having diarrhea for the past five days. You suspect that his electrolyte levels are

A normal
B elevated
C the same as upon admission
D **decreased**
E noncritical

1 6 Which hormone affects the osmotic concentration of urine without affecting any ion levels?

A **ADH**
B aldosterone
C ANP
D BNP
E natriuretic peptide

1 7 The most common problems with electrolyte balance are caused by an imbalance between gains and losses of

A calcium ions
B chlorine ions
C potassium ions
D **sodium ions**
E magnesium ions

1 8 The higher the plasma concentration of aldosterone, the more efficiently the kidney will

A **conserve sodium ions**
B retain potassium ions
C stimulate urinary water loss
D secrete greater amounts of ADH
E all of the above

1 9 Angiotensin II produces a coordinated elevation in the ECF volume by

A stimulating thirst
B causing the release of ADH
C triggering the production and secretion of aldosterone
D A and B
E **A, B, and C**

2 0 Renal failure can result in

A decreased urea
B hyponatremia **C** **hyperkalemia** D hypokalemia
E none of the above