U4 Study Guide C24 /// Water, Electrolyte, and Acid-Base Balance - “Test Questions” (6/24)

1 How much water is gained and lost each day? (What is water balance?) What is the difference between preformed water and metabolic water? What are the sources of water gain and water loss? What are the two hormones used to regulate water balance?

2 What is a buffer? What are the two types of buffers? What are the two physiologic buffer? What are the three chemical buffers? What is the order of “use”? After a change in blood pH, what buffer system responds to a change in pH first?

3 How much water is in a 75 kilogram (150 lb) person? What percent of fluid is in the intracellular and extracellular spaces?

4 What are the three "inseparable components" that must be controlled by homeostatic mechanisms? What will happen if any one of these are “out of balance”?

5 What is our benchmark for pH? Normal range? What is the difference between acidosis and alkalosis? What is the difference between a strong or weak acid and base?

6 What is thirst? Where is the thirst center located? What is monitored by the thirst center? What two events stimulate thirst?

7 What will happen if the CO_2 concentration in the blood increases? What happens when you hold your breath?

8 What is the major extracellular cation? Intracellular cation?

9 How does the kidney monitor blood pressure? Mechanism? How is the brain made aware?

10 Where are the receptors in the cerebral cortex that produce the conscious sense of thirst?

11 What will compensate for a pH imbalance caused by metabolism? What will compensate for a pH imbalance by respiration?

12 How will elevated blood pressure affect the renin-angiotensin-aldosterone mechanism?

13 What may cause respiratory acidosis? Respiratory alkalosis? Metabolic acidosis? Metabolic alkalosis?

14 How do ions move in a state of acidosis? How do ions move in a state of alkalosis? What do these conditions do the the resting membrane potential? Why?

15. What are the electrolytes' functions?