Biology 12 NAME:

Chapter 16.3

**Everything you Need to Know about the Colour of Urine**

**Part 1: Salt and Water Balance:**

1. What organ maintains the blood pressure and blood volume?
2. Describe hypertonic urine?
3. What are the 3 steps of water reabsorption?
4. Which hormone regulates sodium reabsorption and where does it act?
5. Where is aldosterone secreted from and what does it cause?
6. What is the juxtaglomerular apparatus?
7. When would the juxtaglomerular apparatus secrete renin?
8. What does renin do?
9. What are two function of angiotensin II?
10. When sodium ions are reabsorbed, what follows?
11. What is ANH? Where it secreted from and what stimulates it?
12. Where is the concentration of salt the greatest in the kidney?
13. Where is the filtrate isotonic to the cells of the renal cortex?
14. Where is ADH released from and what part of the nephron does it act upon?
15. Describe urine and blood volume/pressure when ADH is present
16. Describe urine and blood volume/pressure when ADH is absent.
17. What are diuretics and give some examples.

**Part 2: ACID-BASE Balance:**

1. What is the pH of blood?
2. What is the pH of a person with alkalosis?
3. What is the pH of a person with acidosis?
4. What are the 3 mechanisms that maintain blood pH?
5. What is a buffer?
6. Describe how carbonic acid and bicarbonate ions buffer the blood and write chemical equations for these reactions.
7. How does an increase in breathing rate reduce the hydrogen ion concentration in the blood? Write a chemical equation.
8. How do the kidneys maintain pH of the blood?