

## ANS 215 Study Aids-Body Water

### Physicochemical Properties of Solutions

1. What parts of a cell membrane (proteins or lipids) account for the diffusion of water soluble substances? What parts are considered to be the pores?
2. How does facilitated diffusion differ from simple diffusion?
3. A membrane separates two NaCl solutions that permits diffusion of water but not NaCl. The NaCl concentration on Side A and Side B is 0.15M and 0.3M, respectively. This means that:
  - a. osmosis occurs from Side A to Side B
  - b. osmosis occurs from Side B to Side A
  - c. there will be no osmosis
4. Solution 1 has an effective osmotic pressure greater than solution 2. Which solution (1 or 2) has the greater tone?
5. What is the fate of erythrocytes placed into a hypotonic solution?

### Distribution of Body Water

1. What percent of the body weight is composed of water?
2. What are two major body water compartments and what percent of the body weight is represented by each?
3. What substance gives interstitial water the characteristics of a gel?

### Water Balance

1. What is the derivation of metabolic water? Why does 5g of fat yield more metabolic water than 5g of protein or carbohydrate?
2. What are examples of insensible water loss?
3. Why are excess water losses (e.g., diarrhea) more critical in young animals than in adults of the same species?

### Dehydration, Thirst, and Water Intake

1. What is the immediate source (compartment) of water lost from the body?
2. Define thirst.
3. What are the two stimuli to thirst?
4. How can thirst be temporarily relieved?