Urinary System

Answer Key



1. Answer: B

Explanation: Most aquatic animals dispose of their nitrogenous waste as **ammonia** (NH_3). It is too toxic to be stored in the body, but it is very soluble and diffuses rapidly across cell membranes. If an animal is surrounded by water, ammonia readily diffuses out of its cells and body. Small soft-bodied invertebrates like jellyfish excrete ammonia while fishes excrete it through thin membranes on their gills.

2. Answer: C

Explanation: Functional units called **nephrons** compose the kidney. These nephrons work by extracting a tiny amount of filtrate from the blood and processing it into a smaller quantity of urine.

3. Answer: C

Explanation: A person can survive with one functioning kidney but if both fail, the buildup of toxic wastes and lack of osmoregulation can be fatal. Fortunately, some functions of the kidneys can be performed artificially through a medical treatment called **dialysis**.

4. Answer: B

Explanation: The nephron has three major sections: (1) the proximal tubule; (2) the loop of Henle, a hairpin loop with a network of capillaries; and (3) the **distal tubule** which drains it into a collecting duct and so on until it exits the body.

5. Answer: D

Explanation: Diuresis is increased urination (because ADH acts against it, it is called the antidiuretic hormone) and diuretics, such as alcohol, are substances that inhibit the release of



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ADH, resulting in excessive urinary water loss. This effect contributes to dehydration and symptoms of a hangover when drinking alcohol. **Coffee is also a diuretic, and so are tea and cola.**



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