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**COLUMBUS STATE COMMUNITY COLLEGE**  
ESSH 1101 - Introduction to Environmental Science, Safety & Health

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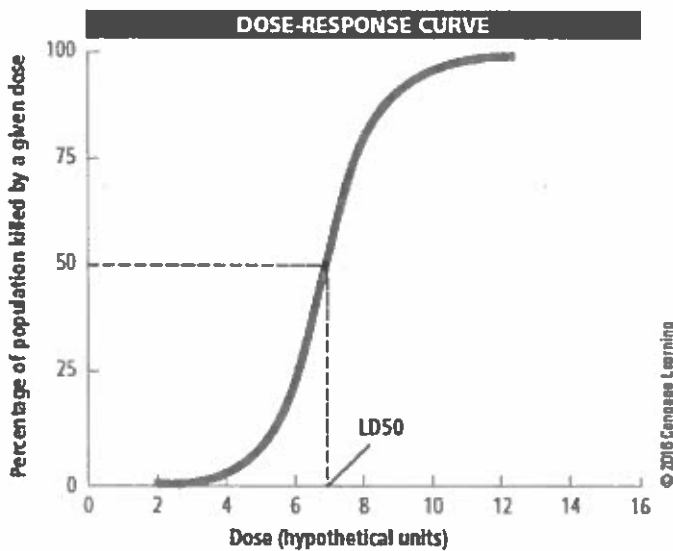
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Quiz 4 – Units 7 & 8 (60 points)

1. A basic principle of toxicology is that any synthetic or natural chemical can be harmful if ingested or inhaled in a large enough quantity. (2 points)
  - a. True
  - b. False
  
2. In the United States, the leading cause of preventable death is tobacco use.
  - a. True
  - b. False
  
3. Synthetic chemicals are always more harmful compared to natural chemicals.
  - a. True
  - b. False
  
4. It is difficult to study all of the possible harmful effects caused by interactions of industrial chemicals. Such a study would be too expensive to be realistic even for a subset of several hundred chemicals.
  - a. True
  - b. False
  
5. 20. Unless people work in chemical industries, they generally are exposed to relatively few chemicals that could be harmful.
  - a. True
  - b. False
  
6. What do we call the probability of suffering harm from a hazard?
  - a. Disease
  - b. Economic Loss
  - c. Death
  - d. Injury
  - e. Risk
  
7. Which of the following is a type of chemical hazard?
  - a. Unsafe working Conditions
  - b. Parasites
  - c. Pollution
  - d. Bacteria
  - e. Fungi

13. Explain the following statement made by the German scientist Paracelsus: "The dose makes the poison." (3 points)

Paracelsus is likely referring to the dose response curve where scientists estimate the toxicity of a chemical by determining the effects of various doses of the chemical on test organisms (subjects).



14. On the accompanying graph, explain what the designation LD50 means.

LD50 refers to a chemical's median lethal dose which is the dose amount that can kill 50% of the animal subjects in a test population.

15. Discuss the specific hazards we face from infectious diseases and exposure from chemicals and make a general statement about how we can reduce these major risks. (3 points)

Infectious diseases are a serious issue because of the way they can be spread via a wide variety of means. A simple cough can spread lower respiratory infections and tuberculosis. Unprotected sex can give you HIV/AIDS and a whole host of sexually transmitted diseases. A large number of these diseases can be avoided through education and simple inexpensive means like face masks and condoms. Exposure to chemicals is more difficult because most are unseen. Avoiding these hazards is difficult but can be managed by avoiding cities on smog days and reducing exposure to plants (industrial).

