

Review Questions - Chapter 19

Answer the following questions using your OWN WORDS!!!! DO NOT copy right out of the book!!! Please attach this handout with your answers. All answers should be hand-written!!

1. What are risk and probability? Distinguish between risk assessment and risk management.
2. List two (a) cultural hazards, (b) chemical hazards, (c) physical hazards, and (d) biological hazards.
3. What is toxicity? Distinguish between dose and response for a potentially harmful substance. List five factors that determine whether a chemical is harmful. Distinguish between bioaccumulation and biomagnification. List three mechanisms of the human body that can reduce the effects of most harmful chemicals.
4. Explain what is meant by the phrase, "The dose makes the poison." Explain how modern toxicologists have modified this principle.
5. How much should we be concerned about exposure to trace amounts of toxic chemicals?
6. What is the median lethal dose of a poison or toxin?
7. What is a dose-response curve? Distinguish between a linear dose-response curve and a threshold dose-response curve.
8. Why do scientists usually set allowed exposure levels to various toxins 100 to 1,000 times lower than their estimated toxicities?
9. Distinguish between toxic chemicals and hazardous chemicals. Distinguish among mutagens, teratogens, and carcinogens.
11. About what percentage of the at least 80,000 chemicals in commercial use in the United States have been screened (a) to assess toxicity, (b) to determine whether they are carcinogens, teratogens, or mutagens, and (c) to determine whether they damage the nervous, endocrine, or immune systems?
11. List three reasons for the lack of information about the potentially harmful effects of most chemicals in commercial use. Distinguish between the regulation strategy and the pollution prevention (or precautionary) strategy for protecting the public from potentially harmful chemicals. What is the precautionary principle? Why is it rarely used?
13. Distinguish between non-transmissible and transmissible diseases, and give two examples of each type. Distinguish between a bacterium and a virus, and explain how a virus replicates itself.
13. Give some good news and bad news about our efforts to reduce the incidence of infectious diseases.
14. What are the seven deadliest infectious diseases in order of the number of deaths they cause each year?
15. Describe two ways that infectious bacteria become resistant to antibiotics. List four factors that promote such bacterial resistance.
16. List five pieces of good news and two pieces of bad news about efforts to reduce the incidence of infectious disease in developing countries. List eleven ways to prevent or reduce the incidence of infectious diseases throughout the world.
17. What is risk analysis? What are its major limitations? What is comparative risk analysis? How can we estimate the risks from technological systems?