



Practice Midterm Exam

**Raven, Berg, Hassenzahl: Environment, 7th Edition**  
**Chapter 24: Solid and Hazardous Wastes**

1. Responsibility for disposing of or reusing a product after it becomes obsolete is known as:
  - a) cradle-to-cradle accounting
  - b) incineration
  - c) composting
  - d) recycling
  - e) phytoremediation

Ans: a

Difficulty: Easy

**Response:**

Chapter Opener; 24.0

2. Which of the following would not be recycled?
  - a) personal computers
  - b) food scraps
  - c) televisions
  - d) cell phones
  - e) all of these can be recycled

Ans: b

Difficulty: Easy

**Response:**

Chapter Opener; 24.0

3. The country with the highest solid waste production per capita is:
  - a) China
  - b) Canada
  - c) Japan
  - d) Sweden
  - e) United States

Ans: e

Difficulty: Easy

**Response:**

Solid Waste; 24.1

4. The largest single component of municipal solid waste in the United States is:
  - a) food wastes
  - b) glass
  - c) paper products
  - d) plastic
  - e) yard waste

Ans: c

Difficulty: Easy

**Response:**

Types of Solid Waste; 24.1.1



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5. The three largest producers of solid waste in the United States are:
- a) agriculture, industry, and municipal solid waste
  - b) agriculture, industry, and mining
  - c) industry, mining, and commercial office buildings
  - d) industry, mining, and municipal solid waste
  - e) agriculture, mining, and municipal solid waste

Ans: b

Difficulty: Easy

**Response:**

Types of Solid Waste; 24.1.1

6. Which of the following does not contribute to municipal solid waste production?
- a) hospitals
  - b) retail stores
  - c) agriculture
  - d) office buildings
  - e) restaurants

Ans: c

Difficulty: Easy

**Response:**

Solid Waste; 24.1

7. Over half of the municipal solid waste produced in the United States is disposed of:
- a) by composting
  - b) in sanitary landfills
  - c) by incineration
  - d) in open air dumps
  - e) by recycling

Ans: b

Difficulty: Easy

**Response:**

Sanitary Landfills; 24.1.3

8. A benefit of sanitary landfills over “open dumps” is that:
- a) clay liners at the bottom of the landfill help prevent groundwater pollution
  - b) a soil cover minimizes the escape and dispersal of offensive odors
  - c) they have systems designed to collect leachate
  - d) they tend to have fewer rodents than open dumps
  - e) all of these

Ans: e

Difficulty: Easy

**Response:**

Sanitary Landfills; 24.1.3



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9. What factors should be considered to make an "ideal" sanitary landfill?
- a) geology
  - b) proximity to nearby surface and ground water
  - c) proximity to population centers but far enough to not be offensive
  - d) does not require high transportation costs to deliver solid waste
  - e) all of these

Ans: e

Difficulty: Easy

**Response:**

Sanitary Landfills; 24.1.3

10. Plastics are the fastest growing component of solid waste, largely due to the contribution of:
- a) obsolete computers
  - b) disposable diapers
  - c) packaging
  - d) discarded automobiles
  - e) clothing

Ans: c

Difficulty: Easy

**Response:**

Solid Waste; Sanitary Landfills; 24.1.3

11. The materials in municipal solid waste that are best for incineration are:
- a) food wastes, glass, and paper
  - b) food wastes, paper, and rubber
  - c) glass, plastics, and paper
  - d) paper, plastics, and rubber
  - e) yard wastes, rubber, and plastics

Ans: d

Difficulty: Easy

**Response:**

Incineration; 24.1.4

12. Organic waste can be converted into valuable soil conditioners through the process of:
- a) composting
  - b) mulching
  - c) dematerialization
  - d) incineration
  - e) reduction

Ans: a

Difficulty: Easy

**Response:**

Composting; 24.1.5



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13. Which of the following represent potential markets for compost from municipal solid waste composting programs?
- a) landscapers
  - b) greenhouses
  - c) golf courses
  - d) farmers
  - e) all of these

Ans: e

Difficulty: Easy

**Response:**

Composting; 24.1.5

14. Which of the following acts contains provisions that attempt to reduce the amount of pollution at the point of origin, rather than mitigating the damage caused by the production and release of pollutants into the environment?
- a) Resource Conservation and Recovery Act (RCRA)
  - b) Superfund Act
  - c) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
  - d) Clean Water Act
  - e) Pollution Prevention Act

Ans: e

Difficulty: Easy

**Response:**

Reducing the Amount of Waste: Source Reduction; 24.2.1

15. The country with the highest percentage of recycled municipal waste is:
- a) Canada
  - b) Japan
  - c) Sweden
  - d) Ecuador
  - e) United States

Ans: e

Difficulty: Easy

**Response:**

Recycling Materials; 24.2.3

16. Every ton of recycled paper saves approximately:
- a) 17 trees
  - b) 7000 gal of water
  - c) 4100 kilowatt-hours of energy
  - d) 3 cubic yards of landfill space
  - e) all of these

Ans: e

Difficulty: Easy

**Response:**

Recycling Materials; 24.2.3



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17. The term for crushed glass containers, which can then be melted and used by manufactures to make new products, is:
- a) leachate
  - b) slag
  - c) cullet
  - d) polymers
  - e) glassphalt

Ans: c

Difficulty: Easy

**Response:**

Recycling Materials; 24.2.3

18. The most successful recycling program in the United States involves:
- a) aluminum cans
  - b) old computers
  - c) glass
  - d) old automobiles
  - e) paper

Ans: a

Difficulty: Easy

**Response:**

Recycling Materials; 24.2.3

19. Integrated waste management refers to:
- a) the principle of dilute and disperse
  - b) national programs of source reduction
  - c) proper disposal of household hazardous wastes
  - d) handling problems of household, industrial, and sewage wastes all together
  - e) waste management techniques that involve reusing, recycling, and reducing

Ans: e

Difficulty: Easy

**Response:**

Integrated Waste Management; 24.2.4

20. Hazardous waste accounts for approximately what percent of the U.S. waste stream?
- a) 1%
  - b) 10%
  - c) 25%
  - d) 50%
  - e) 75%

Ans: a

Difficulty: Easy

**Response:**

Hazardous Waste; 24.3



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21. The area in the United States that had the distinction of being the first ever declared a national emergency area because of toxic waste is:
- a) Hanford, WA
  - b) Times Beach, MO
  - c) Love Canal, NY
  - d) Three-Mile Island, PA
  - e) Gary, IN

Ans: c

Difficulty: Easy

**Response:**

Hazardous Waste; 24.3

22. All of the following are major categories of hazardous waste except:
- a) acids
  - b) heavy metals
  - c) organic solvents
  - d) radioactive waste
  - e) sewage

Ans: e

Difficulty: Easy

**Response:**

Types of Hazardous Waste; 24.3.1

23. The largest dioxin polluters in the United States are probably:
- a) gas stations
  - b) hospital waste incinerators
  - c) nuclear power plants
  - d) automobiles
  - e) cigarettes

Ans: b

Difficulty: Easy

**Response:**

Types of Hazardous Waste; 24.3.1

24. The Hanford Nuclear Reservation is located along which U.S. river?
- a) Colorado River, Arizona
  - b) Columbia River, Washington
  - c) Mississippi River, Louisiana
  - d) Ohio River, Ohio
  - e) Potomac River, Maryland

Ans: b

Difficulty: Easy

**Response:**

Case in Point; Hanford Nuclear Reservation; 24.3.2



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25. Who pays for the cleanup of toxic sites on the Superfund National Priorities List?
- a) those who transported wastes to the site
  - b) those who dumped wastes on the site
  - c) prior owners of the site
  - d) current owners of the site
  - e) all of these

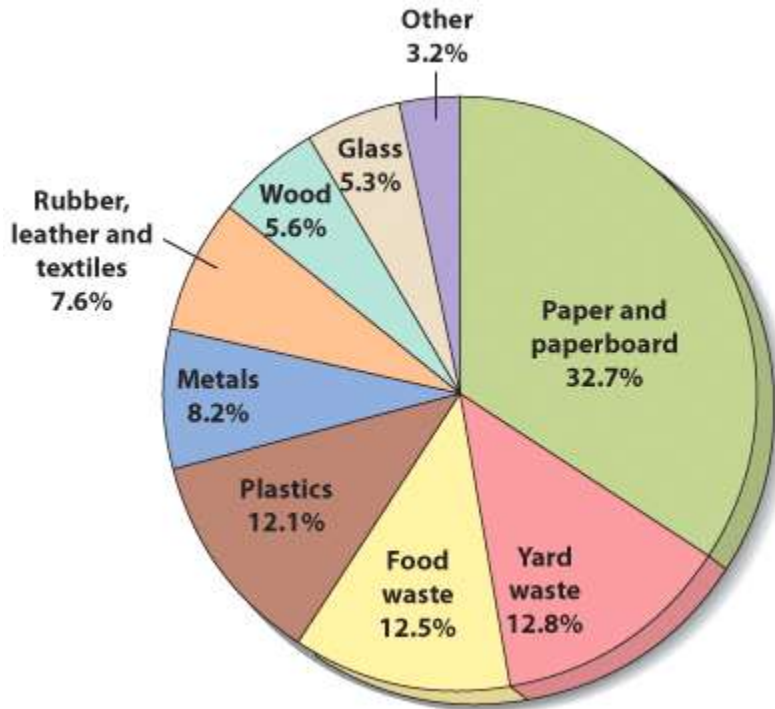
Ans: e

Difficulty: Easy

**Response:**

Management of Hazardous Waste; 24.3.3

26. Based on the data provided in the associated figure, glass, metals, and plastics represent what percentage of municipal solid waste?



- a) 15.1%.
- b) 22.8%
- c) 25.6%.
- d) 37.4%.
- e) 51.7%.

Ans: c

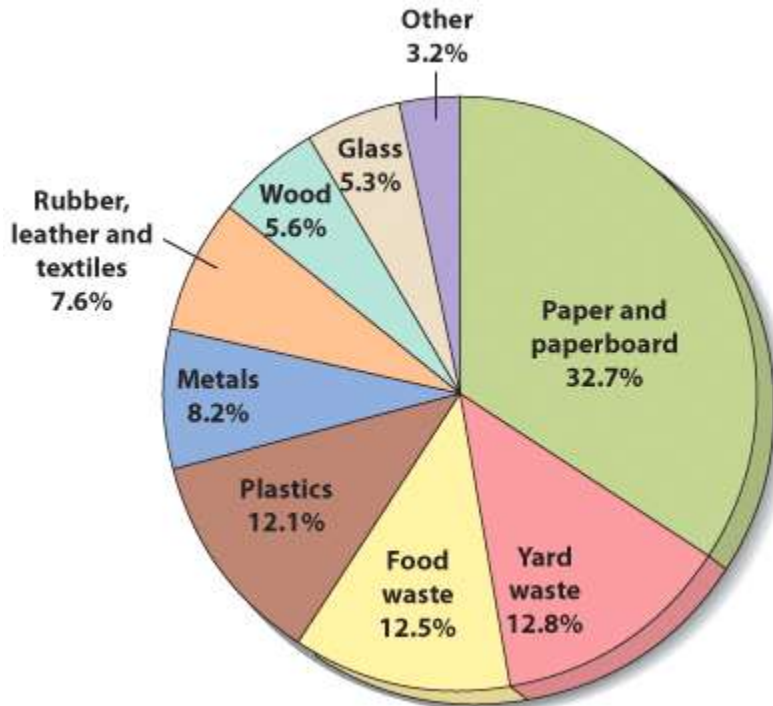
Difficulty: Medium

**Response:**

Types of Solid Waste; 24.1.1

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27. Using the data in the associated figure, what are the three largest components of municipal solid waste?



- a) Paper, metals, and plastics
- b) Yard waste, food waste, and wood
- c) Paper, yard waste, and metals
- d) Paper, yard waste, and food waste
- e) Paper, plastics, and glass

Ans: d

Difficulty: Medium

**Response:**

Types of Solid Waste; 24.1.1

28. One of the problems associated with sanitary landfills is:

- a) the possibility of a methane gas explosion
- b) leakage of radioactive waste
- c) depletion of groundwater
- d) transmission of communicable diseases
- e) none of these

Ans: a

Difficulty: Medium

**Response:**

Sanitary Landfills; 24.1.3





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29. Which of the following statements about landfills is false?
- a) Most sanitary landfills in operation today meet current standards for new landfills.
  - b) Landfills produce methane gas.
  - c) Landfills have the ability to contaminate surface water and groundwater.
  - d) Few new landfills are being opened to replace old ones.
  - e) all of these are true

Ans: a

Difficulty: Medium

**Response:**

Sanitary Landfills; 24.1.3

30. Tires are a problem in sanitary landfills because they:
- a) could be melted and reused for new tires instead
  - b) degrade too quickly, leading to sinking within the landfill
  - c) collect water and provide a good breeding place for mosquitoes
  - d) represent the largest component of municipal solid waste
  - e) all of these

Ans: c

Difficulty: Medium

**Response:**

Sanitary Landfills; 24.1.3

31. Which of the following does not explain why there are fewer sanitary landfills today than 20 years ago?
- a) many landfills closed after they reached capacity
  - b) many landfills closed because they did not comply with environmental standards
  - c) fewer landfills are needed because newer landfills are generally much larger than in the past
  - d) fewer landfills are needed because less municipal solid waste is produced today than in the past
  - e) many desirable sites are already taken, and new sites are often opposed by local residents

Ans: d

Difficulty: Medium

**Response:**

Sanitary Landfills; 24.1.3

32. All of the following are possible problems associated with incineration except:
- a) production of heat to produce electricity
  - b) air pollution containing mercury
  - c) particulate air pollution
  - d) large quantities of toxic ash
  - e) the release of dioxins

Ans: a

Difficulty: Medium

**Response:**

Incinerators; 24.1.4



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33. Which of the following correctly identifies one of the goals of waste prevention?

- a) increase use of disposable items
- b) decrease dematerialization
- c) increase consumption
- d) increase reuse of products
- e) decrease recycling of packaging materials

Ans: d

Difficulty: Medium

**Response:**

Waste Prevention; 24.2

34. A good example of source reduction would be:

- a) burning old tires to generate usable energy
- b) finding uses for discarded computers and other high technology equipment
- c) the lighter weight of aluminum cans compared to 30 years ago
- d) installing air pollution control devices in incinerators
- e) increasing the percentage of paper, glass, and aluminum that is recycled in the United States

Ans: c

Difficulty: Medium

**Response:**

Reducing the Amount of Waste: Source Reduction; 24.2.1

35. Which of the following statements about recycling automobiles is false?

- a) Fluids are drained, recycled, or processed for disposal.
- b) About 75% of the weight of the car can be reused for parts.
- c) Recycling the scrap iron and steel actually produces more air pollution than using new materials.
- d) Recycling plastic is difficult.
- e) Catalytic converters are disassembled for the platinum and rhodium.

Ans: c

Difficulty: Medium

**Response:**

Meeting the Challenge: Reusing and Recycling Old Automobiles; 24.2

36. Why are refillable glass beverage bottles rarely used in the United States today?

- a) increased concerns about disease transmission
- b) transportation costs of heavy bottles to and from centralized bottling plants
- c) most consumers prefer to purchase disposable containers
- d) legislation prohibits bottle reuse
- e) all of these

Ans: b

Difficulty: Medium

**Response:**

Reusing Products; 24.2.2



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37. Typically, scrap in China...

- a) is exported to the U.S. for raw materials in paper and steel mills
- b) is incinerated and/or used for fuel
- c) is wasted because of abundance of natural resources
- d) leads a decrease in economic profit
- e) is used to fuel economic growth

Ans: e

Difficulty: Medium

**Response:**

Recycling Materials; 24.2.3

38. One reason that only a small percentage of plastic is recycled is that:

- a) the supply of plastic waste is very limited
- b) few applications using recycled plastics have been developed
- c) it is very expensive to recycle plastics
- d) there is no legislative support for recycling plastic at the local, state, or federal level
- e) there are many different kinds of plastic found in consumer products

Ans: e

Difficulty: Medium

**Response:**

Recycling Materials; 24.2.3

39. Used tires:

- a) are one of the most successfully recycled materials in the U.S
- b) can be recycled into a limited number of products including rubberized asphalt and playground equipment
- c) are difficult to recycle due to their varied compositions
- d) can be recycled into a wide variety of products including carpeting, automobile parts, and even clothing
- e) from the United States are in high demand on the international market

Ans: b

Difficulty: Medium

**Response:**

Recycling Materials; 24.2.3

40. Which of the following forms of hazardous waste is incorrectly paired with a source of the waste?

- a) PCBs – composting
- b) nerve gas – old military installations
- c) mercury – metal refining
- d) CFCs – air conditioners and refrigerators
- e) dioxins – combustion of compounds

Ans: a

Difficulty: Medium

**Response:**

Types of Hazardous Waste; 24.3.1



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41. Which of the following statements about dioxins is correct?
- a) Humans are primarily exposed to dioxins through drinking water.
  - b) Dioxin pollution can be reduced if medical and municipal wastes are incinerated.
  - c) Dioxins are byproducts during the combustion of unleaded automobile fuel.
  - d) Dioxins are known to cause several kinds of cancer in laboratory animals, but data on humans are conflicting.
  - e) Human exposure to dioxins is mostly limited to people living in polar regions.

Ans: d

Difficulty: Medium

**Response:**

Types of Hazardous Waste; 24.3.1

42. Incineration is a particularly effective method to destroy \_\_\_\_\_.
- a) PCBs
  - b) dioxins
  - c) radioactive Wastes
  - d) coal ash
  - e) heavy metals

Ans: a

Difficulty: Medium

**Response:**

Types of Hazardous Waste; 24.3

43. Which of the following statements about the Hanford Nuclear Reservation is true?
- a) Bioremediation has been effective in reducing radioactive pollutants.
  - b) The Hanford site is second only to Yucca Mountain, Nevada, in terms of contamination from radioactive waste.
  - c) The cleanup is being conducted under the direction of the U.S. Fish and Wildlife Service.
  - d) Once cleanup is completed, the site will be used for an extensive public park.
  - e) Once cleanup is completed, the Hanford site will remain hazardous for thousands of years.

Ans: e

Difficulty: Medium

**Response:**

Management of Hazardous Waste; 24.3.3

44. \_\_\_\_\_ is the most significant environmental problem associated with improper disposal of hazardous waste.
- a) air pollution
  - b) groundwater pollution
  - c) forest decline
  - d) infectious disease transmission
  - e) none of these

Ans: b

Difficulty: Medium

**Response:**

Management of Hazardous Waste; 24.3.3