NEHA Registered Environmental Health Specialist/Registered Sanitarian (REHS/RS) Practice Exam (Sample)

Study Guide

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Questions

1. Which of the following is a common way to control pests in urban environments?

A. Regular sanitation and waste removal

B. Pesticide application only

C. Using repellent plants

D. Encouraging natural predators

2. A vaccinated pet exposed to a rabid animal should be confined for how long or destroyed?

A. 1 month

B. 2 months

C. 4 months

D. 6 months

3. Muriatic acid is a weak solution of:

A. Nitric acid

B. Sulfuric acid

C. Acetic acid

D. Hydrochloric acid

4. The regulatory level for benzene under the RCRA Toxicity Characteristic rule is?

A. 0.50 mg/l

B. 100 mg/kg

C. 0.2 mg/l

D. 25.0 mg/l

5. What disease is caused by an infection with Escherichia coli 0157:H7?

A. Mental stress

B. A virus

C. An infection with Escherichia coli 0157:H7

D. Listeriosis

6. Household hazardous waste is regulated like any other hazardous waste.

A. True

B. False

7. Which of the following sources can produce dioxin?

A. wood preserved with PCPs

B. paper mill bleached pulp and sludge

C. bleached paper products

D. all of the above

8. What type of soil texture typically provides the best drainage for absorption fields?

A. Clay

B. Sand

C. Loam

D. Silt

9. Quantitative risk assessments usually measure human exposure through all of the following except:

A. Computer models

B. Blood or urine analyses

C. Personal surveys

D. Toxicological analyses

10. Comprehensive community planning includes which of the following steps?

A. public information and involvement

B. statement of goals

C. basic studies

D. all of the above

Answers

1. A
2. C
3. D
4. A
5. C
6. B
7. D
8. B
9. A
10. D

Explanations

1. Which of the following is a common way to control pests in urban environments?

A. Regular sanitation and waste removal

B. Pesticide application only

C. Using repellent plants

D. Encouraging natural predators

Regular sanitation and waste removal is a fundamental strategy for controlling pests in urban environments. This method focuses on eliminating the conditions that attract pests, such as food sources and places for breeding. Keeping areas clean and removing wastes disrupts the life cycles of many pests, such as rodents and insects, that thrive in unsanitary conditions. By implementing these sanitation practices, urban areas can significantly reduce the pest population and minimize the risk of pest-related issues. Other pest control methods, while effective, are often used in conjunction with sanitation practices rather than as standalone solutions. Pesticide application is a more reactive approach that may address pest issues after they arise but does not eliminate the underlying problems associated with pest attraction. Repellent plants can provide some benefits but usually only for specific pests and might not address broader infestations. Encouraging natural predators is beneficial in certain contexts but can be limited by the urban environment and may not be practical for all types of pests. Overall, regular sanitation and waste removal form the foundation of an integrated pest management strategy, making it essential for effective pest control in urban settings.

2. A vaccinated pet exposed to a rabid animal should be confined for how long or destroyed?

A. 1 month

B. 2 months

C. 4 months

D. 6 months

The recommended confinement period for a vaccinated pet that has been exposed to a rabid animal is four months. This duration is based on guidelines established by public health authorities. The reasoning behind this period involves the incubation period of rabies, which can vary but typically lasts several weeks to a few months. By keeping the vaccinated pet under observation for four months, it ensures that if the virus were to manifest following the exposure, it would be detected before the pet potentially spreads the disease to humans or other animals. Vaccinated pets have some level of immunity, but monitoring them helps to mitigate the risk significantly. This confinement serves as a precautionary measure rather than an immediate reaction to destroy the pet, allowing for the pet's safety and the safety of others in the community.

3. Muriatic acid is a weak solution of:

A. Nitric acid

B. Sulfuric acid

C. Acetic acid

D. Hydrochloric acid

Muriatic acid is indeed a term commonly used to refer to hydrochloric acid, which is a strong acid. However, it is typically sold as a diluted solution for various applications, making it accessible and safer to handle for specific tasks such as cleaning and pH adjustment in swimming pools. Hydrochloric acid is a clear, colorless solution of hydrogen chloride gas in water, and while it is classified as a strong acid, the term "muriatic acid" specifically refers to the concentrated form or less pure version that is sold for various uses. This can be somewhat misleading as the term implies a weaker solution, but in practice, it is still a strong acid. This choice reinforces the understanding that muriatic acid is essentially still a form of hydrochloric acid but is often used in a diluted state for practical purposes. The other acids mentioned are different compounds entirely and do not relate to the common usage or characteristics of muriatic acid.

4. The regulatory level for benzene under the RCRA Toxicity Characteristic rule is?

A. 0.50 mg/l

B. 100 mg/kg

C. 0.2 mg/l

D. 25.0 mg/l

The regulatory level for benzene under the Resource Conservation and Recovery Act (RCRA) Toxicity Characteristic rule is established at 0.5 mg/L. This means that if the concentration of benzene in a waste sample is at or above this level, the waste is considered hazardous under RCRA regulations. This standard is based on benzene's known toxic properties and potential to pose significant health risks, including carcinogenic effects. The Toxicity Characteristic rule is designed to ensure that hazardous wastes do not pose a risk to human health and the environment when they are disposed of. The other concentrations listed do not meet the established regulatory level for benzene according to the RCRA standards, as they either fall below the threshold or represent different types of measurements. Understanding these regulatory levels is crucial for environmental health specialists and sanitarians when assessing waste management practices and ensuring compliance with environmental regulations.

5. What disease is caused by an infection with Escherichia coli 0157:H7?

A. Mental stress

B. A virus

C. An infection with Escherichia coli 0157:H7

D. Listeriosis

Escherichia coli O157:H7 is a specific strain of E. coli bacteria that is known to cause foodborne illness. The correct identification of the disease as stemming from an infection with this strain highlights the association between the pathogen and its effects on human health. E. coli O157:H7 can lead to severe gastrointestinal distress, including symptoms such as bloody diarrhea, abdominal cramps, and in some cases, more severe complications like hemolytic uremic syndrome, which can lead to kidney failure. Understanding how this bacterium operates can help public health professionals manage outbreaks and educate the public about safe food practices, which is essential in preventing infections caused by this harmful strain. This knowledge is crucial for anyone in the environmental health field, as they may be involved in preventing, tracking, or managing such outbreaks. The other options do not relate directly to the bacterial infection caused by E. coli O157:H7. By framing the correct answer within the context of infectious disease, it underscores the importance of recognizing specific pathogenic organisms and their associated health risks.

6. Household hazardous waste is regulated like any other hazardous waste.

A. True

B. False

Household hazardous waste (HHW) is typically regulated differently than other types of hazardous waste. While both categories involve materials that can be harmful to human health and the environment, household hazardous waste is often exempt from many of the stringent regulations that apply to commercial hazardous waste. One key reason for this difference in regulation is the nature and volume of HHW. Households generate smaller quantities of waste compared to industrial sources, leading regulatory agencies to establish specific guidelines for managing HHW to encourage safe disposal without the burden of more complex regulations meant for larger producers of hazardous waste. Additionally, many local governments have specialized programs for collecting and disposing of HHW, allowing residents to dispose of materials like paints, batteries, and cleaners safely and responsibly. This recognition of the unique situation of homeowners helps to promote public participation in waste management while still ensuring environmental protection. Therefore, since household hazardous waste is not regulated like other hazardous waste materials, choosing "False" accurately represents the different regulatory framework that applies to HHW.

7. Which of the following sources can produce dioxin?

A. wood preserved with PCPs

B. paper mill bleached pulp and sludge

C. bleached paper products

D. all of the above

Dioxins are a group of chemically-related compounds that are persistent environmental pollutants (POPs). They are formed during various industrial processes and can be released into the environment from a variety of sources. Wood preserved with pentachlorophenol (PCPs) can produce dioxins, especially when the wood is burned or decomposed. PCPs are chlorinated compounds, and their breakdown can lead to the formation of dioxins. Paper mills that utilize the bleaching process for pulp can also generate dioxins as some of the chemicals used in the bleaching process can react and form these compounds. The wastewater and sludge from these processes can contain dioxins, which can lead to environmental contamination if not properly managed. Bleached paper products may also contain dioxins as residual contaminants from the production process. The use of chlorine and other bleaching agents can contribute to the formation of dioxins during paper manufacturing, particularly if the process is not managed to prevent such contaminant formation. Given that all these sources—wood treated with chlorinated compounds, paper mill operations, and the bleached paper products they produce—are known to contribute to dioxin emissions, the correct answer encompasses all of them as significant sources of dioxins.

8. What type of soil texture typically provides the best drainage for absorption fields?

A. Clay

B. Sand

C. Loam

D. Silt

Sand is the soil texture that provides the best drainage for absorption fields due to its coarse particles and larger pore spaces. This structure allows water to flow through more easily, reducing the likelihood of waterlogging and ensuring that effluent can be adequately absorbed into the soil. When it comes to absorption fields, which are often used in septic systems, efficient drainage is critical for preventing the pooling of wastewater and ensuring that it is properly filtered by the soil. In contrast, clay has very fine particles that are tightly packed, leading to poor drainage and a slow absorption rate, which can result in surface water issues. Loam, while often considered ideal for many agricultural practices because of its balance between drainage and nutrient retention, does not drain as quickly as sand. Silt has relatively small particles as well, which can lead to compaction and poor drainage, similar to clay but usually to a lesser degree. Hence, sand's properties make it the most effective choice for facilitating drainage in absorption fields.

9. Quantitative risk assessments usually measure human exposure through all of the following except:

A. Computer models

B. Blood or urine analyses

C. Personal surveys

D. Toxicological analyses

Quantitative risk assessments are designed to estimate the likelihood and severity of adverse health effects resulting from exposure to environmental hazards. This process typically involves measuring human exposure through a variety of methods, each offering unique insights into how individuals or populations interact with potential risks. When considering the options, personal surveys, blood or urine analyses, and toxicological analyses serve as direct methods of assessing actual or potential human exposure to substances. Personal surveys can gather data regarding behaviors and environmental interactions, while biological analyses, such as blood and urine tests, provide concrete evidence of exposure by measuring the concentration of substances directly within the human body. Toxicological analyses further assess how these substances may impact health based on their properties and interactions within biological systems. On the other hand, computer models are generally used for simulations and predictions rather than direct measurement of exposure. They help estimate potential exposure levels based on various assumptions and data inputs but do not directly measure actual human exposure. Thus, they serve more as tools for risk assessment rather than direct assessment methods. In summary, the correct choice reflects the fact that while computer models can aid in the risk assessment process, they do not directly measure human exposure in the way that the other methods do.

10. Comprehensive community planning includes which of the following steps?

A. public information and involvement

B. statement of goals

C. basic studies

D. all of the above

Comprehensive community planning involves a holistic approach that includes multiple essential steps to effectively address the needs and aspirations of the community. One of these steps is public information and involvement, which emphasizes the importance of engaging community members throughout the planning process. This engagement helps ensure that the plan reflects the values and needs of the community, fostering a sense of ownership and commitment among residents. Another crucial step is the statement of goals, which provides a clear framework outlining what the community aims to achieve through its planning efforts. This helps guide decision-making and prioritizes initiatives based on the community's vision for future development. Additionally, basic studies are integral to comprehensive planning as they provide the data and analysis needed to understand current conditions, trends, and potential impacts of various interventions. This foundational knowledge supports informed decision-making and creates a realistic basis for the planning process. Therefore, the comprehensive nature of community planning is captured by the inclusion of public engagement, goal-setting, and foundational studies, making "all of the above" the most accurate choice. Each of these components plays a critical role in creating a well-rounded and effective community plan.