Ohio Certified Nursery Technician Practice Exam (Sample)

Study Guide

Everything you need from our exam experts!

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Questions

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1. What benefit do cover crops provide in nursery operations?

A. They decrease labor costs.

B. They enhance soil quality and reduce erosion.

C. They provide shade for other plants.

D. They attract more pollinators.

2. What effect does high humidity typically have on plant transpiration rates?

A. It increases transpiration rates.

B. It reduces transpiration rates.

C. It has no effect on transpiration rates.

D. It varies depending on the plant species.

3. What is the primary purpose of labeling seedlings in a nursery?

A. To decorate the nursery

B. To track growth and care needs

C. To identify pest problems

D. To enhance soil drainage

4. Which of the following terms describes good soil characteristics?

A. Moisture, warmth, and draftiness

B. Biological, chemical, and physical

C. Mineral, organic, and synthetic

D. Isolation, dryness, and composition

5. What growth condition is necessary for systemic herbicides to be effective?

A. Low temperatures

B. Active growth of the plant

C. Dormancy of the plant

D. High moisture in the soil

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6. Which type of plant remains green throughout the year?

A. Deciduous plant

B. Annual plant

C. Perennial plant

D. Evergreen plant

7. What type of light is recommended for indoor nursery plants?

A. Low, dim light

B. Bright, direct sunlight

C. Bright, indirect light

D. Artificial fluorescent light only

8. What is the term used to describe a plant's ability to tolerate drought?

A. Water dependency.

B. Climate resilience.

C. Drought resistance.

D. Soil adaptation.

9. What is the term for placing a plant in the landscape after removing it from its container?

A. Sowing

B. Transplanting

C. Grafting

D. Repotting

10. What fundamental aspect should guide landscape design in nursery management?

A. Maximizing visual impact only

B. Ensuring ecological balance and sustainability

C. Minimizing maintenance efforts

D. Focusing solely on cost efficiency

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Answers

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

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Explanations

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1. What benefit do cover crops provide in nursery operations?

A. They decrease labor costs.

B. They enhance soil quality and reduce erosion.

C. They provide shade for other plants.

D. They attract more pollinators.

Cover crops play a crucial role in improving soil health and sustainability within nursery operations. When planted, they contribute to a variety of benefits that are particularly significant for maintaining a productive growing environment. The primary advantage is their ability to enhance soil quality. Cover crops add organic matter to the soil, which improves its structure and aeration. They also promote microbial activity, which is essential for nutrient cycling and overall soil fertility. Additionally, cover crops can help to suppress weeds, further reducing competition for essential resources. Reducing soil erosion is another essential function of cover crops. Their root systems bind the soil together, preventing it from being washed away during heavy rains or blown away during strong winds. This not only protects the soil from erosion but also helps to maintain the nutrient store within the topsoil, which is vital for the growth of nursery plants. While benefits such as labor cost reductions, shading for other plants, and pollinator attraction can be associated with various agricultural practices, they are not the primary roles of cover crops in the context of nursery operations. Instead, the focus is predominantly on improving soil quality and preventing erosion, making this the most accurate choice in regards to the benefits provided by cover crops in this specific context.

2. What effect does high humidity typically have on plant transpiration rates?

A. It increases transpiration rates.

B. It reduces transpiration rates.

C. It has no effect on transpiration rates.

D. It varies depending on the plant species.

High humidity typically reduces transpiration rates in plants. Transpiration is the process through which water vapor is lost from the plant's leaves into the atmosphere. When the air is saturated with moisture, there is less of a gradient for water vapor to move from the inside of the leaf, where the moisture concentration is higher, to the outside air, where the concentration is lower. This decrease in the vapor pressure difference slows down the rate of transpiration. In high humidity conditions, the ambient air already holds a significant amount of water vapor, making it less likely for additional water vapor to escape from the leaf surfaces. Consequently, when humidity levels rise, the plant's ability to transpire efficiently diminishes, thus leading to reduced transpiration rates. Understanding this relationship is crucial for nursery technicians as it affects water management, plant health, and growth.

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3. What is the primary purpose of labeling seedlings in a nursery?

A. To decorate the nursery

B. To track growth and care needs

C. To identify pest problems

D. To enhance soil drainage

Labeling seedlings in a nursery primarily serves the purpose of tracking growth and care needs. Proper identification of each seedling allows nursery staff to manage and monitor plant health effectively. By knowing the specific species and cultivars, employees can tailor watering, fertilization, and pest management practices to the requirements of each plant type. This organized approach ensures that seedlings receive the appropriate care at the right stage of their development, promoting healthy growth and reducing the risk of disease or stress. While decoration can enhance the appearance of the nursery and help consumers find what they are looking for, it is not the primary purpose of labeling. Identifying pest problems typically relies more on visual inspections and monitoring rather than on labeling alone. Similarly, enhancing soil drainage is a growing medium management concern and not directly related to the labeling process. Thus, tracking the growth and care needs of seedlings through effective labeling is essential for successful nursery operations.

4. Which of the following terms describes good soil characteristics?

A. Moisture, warmth, and draftiness

B. Biological, chemical, and physical

C. Mineral, organic, and synthetic

D. Isolation, dryness, and composition

The selection of biological, chemical, and physical to describe good soil characteristics is comprehensive and encompasses key aspects necessary for healthy soil. Biological characteristics refer to the living organisms present in the soil, including bacteria, fungi, and other microorganisms, which play crucial roles in nutrient cycling and organic matter decomposition. Healthy biological activity is essential for maintaining soil fertility and structure. Chemical characteristics involve the soil's mineral content and nutrient availability, including pH levels, cation exchange capacity, and the presence of essential nutrients like nitrogen, phosphorus, and potassium. These chemical properties impact plant growth and overall soil health. Physical characteristics pertain to the soil's texture, structure, porosity, and water retention capabilities. These attributes influence how well the soil can support plant growth, how easily roots can penetrate, and how effectively it can hold and drain water. This holistic view of soil as a system, integrated with its biological, chemical, and physical facets, is essential for understanding soil health and proper management practices in horticulture and agriculture.

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5. What growth condition is necessary for systemic herbicides to be effective?

A. Low temperatures

B. Active growth of the plant

C. Dormancy of the plant

D. High moisture in the soil

Systemic herbicides require active growth of the plant to be effective because they work by being absorbed into the plant's system and then distributed throughout its tissues. During periods of active growth, plants are engaged in vital physiological processes such as photosynthesis and transpiration, which aid in the uptake and transportation of the herbicide throughout the plant. When a plant is actively growing, it is more receptive to the herbicide, allowing it to move through the vascular system efficiently. This movement helps to target various parts of the plant, including roots and leaves, ensuring that the herbicide reaches areas where it can disrupt essential metabolic functions, leading to the plant's demise. In contrast, if the plant is dormant or experiencing low temperatures, these physiological processes slow down, significantly reducing the effectiveness of systemic herbicides. Similarly, while high moisture in the soil can be beneficial, it does not directly correlate to the plant's growth state, making active growth the critical condition for successful herbicide application.

6. Which type of plant remains green throughout the year?

A. Deciduous plant

B. Annual plant

C. Perennial plant

D. Evergreen plant

The type of plant that remains green throughout the year is the evergreen plant. Evergreens are characterized by their ability to retain their foliage across all seasons, providing year-round greenery and visual interest in the landscape. Unlike deciduous plants, which shed their leaves in the fall and grow new ones in the spring, evergreens maintain their needles or leaves, often adapting to various climates by having needle-like leaves that minimize water loss. This persistent greenery makes evergreens particularly valuable in landscape design for providing structure and color during winter months when many other plants are bare. Their ability to photosynthesize during the winter season also allows them to take advantage of sunlight, even in colder months, effectively utilizing resources for growth and health. Understanding the characteristics of evergreens can enhance the planning and maintenance of diverse plantings in a garden or landscape.

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7. What type of light is recommended for indoor nursery plants?

A. Low, dim light

B. Bright, direct sunlight

C. Bright, indirect light

D. Artificial fluorescent light only

Bright, indirect light is the ideal choice for indoor nursery plants because it mimics the natural conditions many plants thrive in while minimizing the risks associated with too much direct sunlight. Many indoor plants, especially those used in nursery settings, are native to environments where they receive filtered sunlight, such as through the canopy of larger trees. This light is sufficient for photosynthesis without causing leaf burn or excessive dehydration that can occur with too much direct sunlight. Furthermore, bright, indirect light promotes healthy growth patterns, allowing the plants to develop strong stems and lush foliage. It aids in maintaining an optimal level of moisture in the soil as well, as direct sunlight can quickly dry out the soil, leading to stress on the plants. Other types of light options can be less suitable. Low, dim light may not provide enough energy for the plants to photosynthesize effectively, while bright, direct sunlight can be too harsh for many species, leading to damage. Artificial fluorescent light can be a beneficial supplemental option, but relying solely on it without considering the broader spectrum of natural indirect lighting may result in suboptimal growth conditions. Overall, bright, indirect light is the best practice for cultivating healthy indoor nursery plants.

8. What is the term used to describe a plant's ability to tolerate drought?

A. Water dependency.

B. Climate resilience.

C. Drought resistance.

D. Soil adaptation.

Drought resistance is the term used to describe a plant's ability to withstand periods of water scarcity and effectively manage its water usage during these times. Plants that exhibit drought resistance have developed various physiological and morphological adaptations that allow them to survive with limited moisture. These adaptations may include deeper root systems, which help access water sources below the surface, or specialized leaf structures that reduce water loss through transpiration. Drought resistance encompasses both enduring prolonged dry conditions and recovering after periods of drought. Understanding this term is critical for horticulturists and nursery technicians, as it helps identify suitable plant species for regions prone to low rainfall and informs practices aimed at conserving water in landscaping and gardening. While water dependency highlights a plant's need for consistent moisture, climate resilience refers to the overall capacity of a plant to adapt to varying climate conditions, not specifically drought. Soil adaptation speaks to how plants adjust to different soil types and conditions, but it does not specifically address their tolerance to water scarcity. Thus, drought resistance correctly encapsulates the characteristic being inquired about.

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9. What is the term for placing a plant in the landscape after removing it from its container?

A. Sowing

B. Transplanting

C. Grafting

D. Repotting

The term for placing a plant in the landscape after removing it from its container is transplanting. This process involves taking a plant that has been grown in a pot or container and relocating it to a new site in the ground where it can continue to grow. Transplanting is critical because it allows the plant to establish itself in a more permanent environment, providing the roots with access to soil nutrients and moisture. During transplanting, it's essential to handle the plant gently to minimize root damage and stress. This process also often involves preparing the new planting hole by ensuring it is wide and deep enough to accommodate the root system, as well as amending the soil if necessary to provide a suitable growing environment. Sowing refers to the act of planting seeds rather than established plants, while grafting involves joining two plants together to share growth. Repotting is the process of transferring a plant from one pot to another, usually to provide more space for growth, but does not involve planting it into the ground. Therefore, the correct terminology for moving a potted plant into the landscape is definitely transplanting.

10. What fundamental aspect should guide landscape design in nursery management?

A. Maximizing visual impact only

B. Ensuring ecological balance and sustainability

C. Minimizing maintenance efforts

D. Focusing solely on cost efficiency

The emphasis on ensuring ecological balance and sustainability is a fundamental aspect that should guide landscape design in nursery management because it addresses the long-term health and viability of the environment. This principle incorporates the understanding that landscapes should not only be aesthetically pleasing but also support local ecosystems, biodiversity, and resource conservation. Incorporating sustainable practices such as selecting native plants, using organic materials, and managing water usage effectively leads to designs that are resilient and adaptable to changing environmental conditions. This approach fosters a nurturing relationship between the cultivated landscape and its surrounding natural ecosystems, ultimately contributing to a healthier planet. In contrast, focusing exclusively on visual impact might lead to the use of non-native or invasive species that can disrupt local ecosystems. Minimizing maintenance efforts could neglect necessary practices that support plant health and sustainability. Similarly, prioritizing cost efficiency can result in inadequate investment in quality materials and sustainable practices, which may compromise both the landscape's integrity and its environmental impact. By prioritizing ecological balance and sustainability, nursery management can create landscapes that are not only beautiful but also beneficial to the environment and society.

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