

Louisiana Horticulture Practice Test (Sample)

Study Guide



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SAMPLE

Questions

- 1. Insects possess which feature that is not found in most other animal classes?**
 - A. Hard exoskeleton**
 - B. Jointed appendages**
 - C. Three segments to their body**
 - D. Ability to fly**
- 2. What encourages the development of roots and shoots in plants?**
 - A. Watering**
 - B. Tree fertilization**
 - C. Mulching**
 - D. Pruning**
- 3. In a humid atmosphere, what is typically the desired soil temperature for most cuttings?**
 - A. Cool**
 - B. Average**
 - C. Warm**
 - D. Hot**
- 4. Which of the following is NOT an important factor in planting design for bedding plants?**
 - A. Color coordination**
 - B. Height arrangement**
 - C. Type of fertilizer**
 - D. Plant spacing**
- 5. Bermudagrass and Zoysiagrass prefer to be mowed at what height or less?**
 - A. 3 inches**
 - B. 2 inches**
 - C. 1 inch**
 - D. 1.5 inches**

- 6. If transpiration is more rapid than absorption in a plant, what will the plant show signs of?**
- A. Leaf discoloration**
 - B. Wilting**
 - C. Growth enhancement**
 - D. Root decay**
- 7. Which pesticide is effective against organisms like caterpillars, beetles, and aphids?**
- A. Insecticide**
 - B. Acaricide**
 - C. Molluscicide**
 - D. Herbicide**
- 8. What type of plants contribute significantly to garden sales?**
- A. Herbaceous plants**
 - B. Trees**
 - C. Bedding plants**
 - D. Perennial shrubs**
- 9. Biological and chemical insect controls are closely related to what factors?**
- A. Cost effectiveness**
 - B. Where, when, and how insects develop**
 - C. Soil health**
 - D. Weather patterns**
- 10. Which tissue is very important from the health standpoint of trees?**
- A. Branch**
 - B. Foliage**
 - C. Trunk**
 - D. Root**

Answers

SAMPLE

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

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Explanations

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1. Insects possess which feature that is not found in most other animal classes?

- A. Hard exoskeleton**
- B. Jointed appendages**
- C. Three segments to their body**
- D. Ability to fly**

Insects possess a unique body organization featuring three distinct segments: the head, thorax, and abdomen. This segmentation is significant because it plays a crucial role in their overall physiology and function. The head comprises sensory organs and mouthparts essential for feeding and interaction with the environment. The thorax is responsible for locomotion and typically contains three pairs of legs, which allows for various modes of movement. The abdomen contains vital systems for digestion, reproduction, and respiration. While other animal classes may have hard exoskeletons or jointed appendages, these features do not uniquely identify insects, as many other arthropods and even some non-arthropod animals may share them. The ability to fly also does not apply to all insects, as not all insects possess wings. Thus, the three-segment body structure is a defining characteristic that sets insects apart from most other animal classes, making it a key aspect of their classification and evolutionary adaptation.

2. What encourages the development of roots and shoots in plants?

- A. Watering**
- B. Tree fertilization**
- C. Mulching**
- D. Pruning**

The development of roots and shoots in plants is significantly influenced by tree fertilization because it provides essential nutrients that are crucial for growth. Fertilizers contain macronutrients like nitrogen, phosphorus, and potassium, as well as micronutrients that directly support various physiological processes in plants. Nitrogen plays a key role in promoting vegetative growth, which includes the development of shoots and leaves. Phosphorus is particularly important for root development as it helps in the establishment of a strong root system, which in turn facilitates better water and nutrient uptake. Potassium aids in overall plant health and enhances the efficiency of photosynthesis, which supports growth. While watering maintains the moisture necessary for root function, and mulching can help retain soil moisture and regulate temperature, tree fertilization directly addresses the nutrient needs that are vital for promoting active growth and the establishment of roots and shoots. Pruning, on the other hand, is primarily used to shape plants and remove dead or diseased parts rather than directly encouraging new growth.

3. In a humid atmosphere, what is typically the desired soil temperature for most cuttings?

- A. Cool**
- B. Average**
- C. Warm**
- D. Hot**

In a humid atmosphere, a warm soil temperature is typically desired for most cuttings because it enhances root development and encourages growth. Warm soil temperatures promote microbial activity and nutrient availability, making it easier for the cuttings to establish themselves. This is particularly important in propagation, as cuttings rely on optimal conditions to root efficiently and thrive. In contrast, cooler soil temperatures can slow down the metabolism of the plant tissues and hinder root formation, while hot soil temperatures may lead to stress or even damage to the cuttings. Average temperatures might not provide the boost necessary for vigorous growth either, making warm soil the ideal choice in humid conditions for successful propagation of cuttings.

4. Which of the following is NOT an important factor in planting design for bedding plants?

- A. Color coordination**
- B. Height arrangement**
- C. Type of fertilizer**
- D. Plant spacing**

In planting design for bedding plants, the type of fertilizer is not a fundamental element of the visual and structural arrangement of the plants in a bed. Instead, the emphasis in planting design primarily revolves around aesthetics and functionality, which are shaped by color coordination, height arrangement, and plant spacing. Color coordination plays a vital role in creating visual harmony among the plants and ensuring that the display is attractive. Height arrangement is important for layering and creating interest in the landscape, as taller plants can provide a backdrop while shorter ones create a foreground. Plant spacing is essential to ensure that each plant has enough room to grow without overcrowding, which can lead to issues with airflow, light penetration, and competition for nutrients. While the type of fertilizer is crucial for ensuring plant health and promoting growth, it pertains more to plant care after installation rather than the initial design principles of planting. Therefore, in the context of designing a bedding plant layout, it is appropriate to conclude that the type of fertilizer does not factor into the physical and aesthetic considerations that define the layout and appearance of the planting design.

5. Bermudagrass and Zoysiagrass prefer to be mowed at what height or less?

A. 3 inches

B. 2 inches

C. 1 inch

D. 1.5 inches

Bermudagrass and Zoysiagrass are warm-season grasses commonly used in lawns and sports fields due to their resilience and ability to thrive in warmer climates, such as Louisiana. For the best health and appearance of these grasses, they should generally be mowed at a height of 1 inch or less. Mowing at this low height encourages denser growth and promotes a lush, green turf that can effectively compete against weeds. Additionally, maintaining this lower mowing height can enhance sunlight penetration and air circulation, which are critical for the vigorous growth of these grasses. If mowed higher, these grasses may become more susceptible to stress, disease, and shallow rooting, which could hinder their overall health and appearance. In practice, while some might recommend higher mowing heights for specific conditions or to promote certain turf characteristics, the optimal mowing height for Bermudagrass and Zoysiagrass under ideal conditions is indeed around 1 inch or lower.

6. If transpiration is more rapid than absorption in a plant, what will the plant show signs of?

A. Leaf discoloration

B. Wilting

C. Growth enhancement

D. Root decay

When transpiration, the process of water vapor loss from plant surfaces, occurs more quickly than the uptake of water by roots, the result is a water deficit within the plant. This lack of sufficient water affects the plant's turgor pressure, which is critical for maintaining structure and health. As the turgor pressure decreases, cells begin to lose firmness, leading to resulting wilting. Wilting is a direct indicator that the plant is experiencing stress due to insufficient water. The leaves may droop or collapse, and overall plant vigor diminishes. This physiological response is a survival mechanism as the plant attempts to conserve water in response to the rapid loss caused by transpiration. The other options, while potentially related to water stress or plant health, do not directly result from the scenario of transpiration exceeding absorption. For example, leaf discoloration can occur, but it is not the immediate effect of the imbalance between transpiration and absorption. Thus, recognizing wilting as a direct outcome of rapid transpiration without corresponding water absorption is crucial in plant care and management.

7. Which pesticide is effective against organisms like caterpillars, beetles, and aphids?

A. Insecticide

B. Acaricide

C. Molluscicide

D. Herbicide

The correct choice is insecticide because it specifically targets and controls insect pests that can cause damage to plants, such as caterpillars, beetles, and aphids. Insecticides contain active ingredients that disrupt the biological functions of insects, leading to their death or making it difficult for them to feed and reproduce. They are crucial in managing pest populations that threaten crops and ornamental plants, effectively protecting plant health and agricultural yield. In contrast, acaricides are designed to control mites and ticks, which are not the primary concern when dealing with caterpillars, beetles, or aphids. Molluscicides are effective against mollusks like snails and slugs, thus irrelevant to the insects mentioned. Herbicides are formulated to target unwanted plants or weeds, again not applicable to insect pests. Therefore, insecticide is the appropriate choice for addressing the specified organisms.

8. What type of plants contribute significantly to garden sales?

A. Herbaceous plants

B. Trees

C. Bedding plants

D. Perennial shrubs

Bedding plants are a significant contributor to garden sales due to their seasonal popularity and versatile usage in landscaping. These plants, which are typically grown for immediate visual impact, provide homeowners and landscapers with a diverse range of colorful blooms and foliage that can enhance any garden or outdoor space. Bedding plants are often used in various applications, such as flower beds, borders, and container gardens, making them an attractive choice for consumers who want to quickly and easily beautify their yards. Additionally, bedding plants are commonly sold during peak planting seasons, which can lead to substantial sales figures for garden centers and nurseries. Their accessibility and immediate aesthetic appeal make them a key category in the horticulture market, driving both revenue and consumer interest. Understanding the characteristics and selling points of bedding plants can help individuals in the horticulture industry make informed decisions about inventory and marketing strategies.

9. Biological and chemical insect controls are closely related to what factors?

A. Cost effectiveness

B. Where, when, and how insects develop

C. Soil health

D. Weather patterns

Biological and chemical insect controls are closely related to where, when, and how insects develop because understanding the life cycle and behavior of insects is crucial for effective pest management. Knowledge of their developmental stages, habitat preferences, and time of activity allows horticulturists to time their interventions accurately. For instance, identifying the right moment when an insect is most vulnerable or when a particular life stage is present can enhance the effectiveness of both biological controls (like beneficial predators or parasites) and chemical controls (pesticides). By considering these developmental factors, pest control strategies can be optimized to reduce pest populations while minimizing impact on non-target organisms and the environment. In contrast, while cost-effectiveness, soil health, and weather patterns can influence pest management decisions, they do not directly relate to the mechanisms of pest development and behavior as closely as the specified factors do.

10. Which tissue is very important from the health standpoint of trees?

A. Branch

B. Foliage

C. Trunk

D. Root

The trunk of a tree serves as a vital component for its overall health and stability. It acts as the main support structure, facilitating the transportation of nutrients and water between the roots and the foliage through the vascular system, which includes xylem and phloem. The trunk also plays a crucial role in photosynthesis and energy storage, as it contains living tissues that enable these processes. Additionally, the trunk's structural integrity is essential for withstanding environmental stresses such as wind and snow loads, preventing breakage or damage that can compromise a tree's vitality. The health of the trunk can indicate the overall health of the tree; for example, signs of disease or damage in the trunk can lead to secondary issues affecting the foliage and root systems. While foliage is important for photosynthesis and roots are critical for nutrient uptake, the trunk connects both systems and supports the entire structure of the tree, making it central to its health.