

**NATIONAL FFA NURSERY/LANDSCAPE
CAREER DEVELOPMENT EVENT
GENERAL KNOWLEDGE EXAM**

KEY

2023

Directions: Select the best answer for each item and mark your selection on the answer sheet provided. Using a #2 pencil, completely darken the letter on the answer sheet that corresponds to your answer for each item.

1. What is the primary purpose of a propagation nursery?
 - A. Landscape conservation and plant health
 - B. Plant conservation and preservation
 - * C. Reproduction of landscape plants
 - D. Soil erosion prevention and plant production
2. Which of the following correctly identifies the equation for photosynthesis in the presence of light energy?
 - A. $C_6H_{12}O_6 + O_2 \rightarrow CO_2 + H_2O \rightarrow CO_2$
 - B. $6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2 \rightarrow H_2O \rightarrow \text{Energy}$
 - * C. $6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$
 - D. $CO_2 + H_2O \rightarrow C_9H_{12}O_9 + H_2O + CO_2$
3. Which of the following is a recommended retail sales technique?
 - * A. Place the item in the customers hands as the product is discussed, if practical.
 - B. Create desire by not allowing the customer to hold the item until they appear ready to purchase.
 - C. Create anticipation and desire by talking about the item as you point to it on the shelf.
 - D. Direct the customer to items for add-on sales first, then redirect them to the original item of interest.
4. What is the best definition of landscape renovation?
 - A. The process of establishing a new landscape complete with plants, walks, drives, and other elements.
 - B. The installation of artificial features in a landscape to improve visual appeal.
 - * C. Restoration and improvement of an existing landscape by replacing or renewing plants and other elements.
 - D. Replacing existing plants with new plant cultivars and reorienting them away from prevailing winds.
5. When assisting a customer in a retail store, what is an essential aspect of effective salesmanship?
 - A. Focus on closing the sale quickly and downplaying customer objections to the product.
 - * B. Providing accurate and relevant information about the products or services.
 - C. Avoiding any hint of sales pressure by showing disinterest in the customer's inquiries and concerns.
 - D. Use body language to apply pressure to the customer to make a purchase quickly.
6. Which best describes a pesticide designed to kill weeds before they emerge from the soil?
 - A. Post EM₅₀
 - * B. Preemergence
 - C. LD₅₀ Premerger
 - D. Postemergence
7. The pesticide signal word that indicates the product is moderately toxic is
 - * A. Warning
 - B. Caution
 - C. Danger
 - D. Modicum

8. Which of these is an important business financial record to maintain to help predict income and expenses, especially so that the business can meet financial obligations during specific time periods?
 - A. Net worth statement
 - B. Inventory statement
 - C. Equipment depreciation
 - * D. Cash flow statement

9. Which of the turfgrasses listed are best suited for golf course putting greens?
 - A. Kentucky 31 tall fescue
 - B. Kentucky bluegrass
 - * C. Bermudagrass
 - D. Annual bluegrass

10. A homeowner had a tree removed and the stump ground down to well below the soil surface. They then installed bermudagrass sod in the yard, including where the tree had been located. The grass grew well and looked great except over the area where the tree once grew. In this area the grass grew poorly and was a yellowish color. Which of these best explains what caused this problem?
 - * A. Soil microorganisms feeding on the wood chips left in the soil, are using the available nitrogen in order to digest the chips, leaving the grass a yellowish color.
 - B. Heavy machinery was probably used to grind the stump, compacting the soil in that area and delaying nitrogen and phosphorus uptake by the grass.
 - C. The stump grinding process loosed the soil excessively over the stump, limiting the penetration on grass roots and ultimately limiting nitrogen uptake.
 - D. The stump grinding machinery left a slight fossil fuel residue, contaminating the immediate area around the stump, causing temporary yellowing of the grass.

11. A customer requests a plant that can be grown on or tightly against a wall in his garden. Many plants, including vining plants, can be trained for use in this manner. What garden term of French origin is used to describe a tree or shrub whose branches are trained to grow against a wall or fence?
 - A. Amour
 - B. Arbre
 - * C. Espalier
 - D. Jardin

12. Which of the following best describes depreciation of equipment?
 - A. A method of calculating the long-term value of equipment.
 - B. A method of prorating the cost of labor to operate equipment over a given time period.
 - C. A method of calculating funds that will be received for equipment services.
 - * D. A reduction in the value of a piece of equipment, usually due to age and wear.

13. After a few days of heavy rain, a homeowner noticed circles of mushrooms in her yard. This phenomenon is called fairy ring. Which of these is NOT an accurate statement about fairy ring mushrooms?
 - A. This fungi feeds off stumps, roots, and other organic matter left in the ground.
 - B. The mushrooms seen in the ring are the fruiting bodies of fungi that live underground.
 - C. The mushrooms seen above ground produce fungal spores that spread in the wind.
 - * D. The mushrooms should be sprayed with an antibacterial to prevent spread of the fungus.

14. What is the primary purpose of landscape lighting?
 - A. To attract insects to a central location for natural pest control.
 - * B. To create a safe, aesthetic, and inviting environment.
 - C. To increase photosynthesis and water efficiency.
 - D. To create a beautiful landscape while discouraging nighttime wildlife.

15. Azaleas prefers a slightly more acidic soil than many landscape plants. The desirable pH range for azaleas is from:
- A. 2.5 to 4.0
 - * B. 4.5 to 6.0
 - C. 6.5 to 7.5
 - D. 7.5 to 8.0
16. Damping-off of seedlings is caused by several soil-borne fungi and molds including Pythium, Phytophthora, Rhizoctonia, and Fusarium. Conditions under which organisms causing damping-off thrive include:
- * A. Cool and wet conditions.
 - B. High light exposure and warm temperatures.
 - C. Low soil pH and high humidity.
 - D. High pH and low humidity.
17. Nitrogen is one of the most important plant nutrients applied as fertilizer. Which of the following statements regarding nitrogen fertilizer is accurate?
- A. Always apply nitrogen according to the soil pH.
 - * B. Nitrogen is readily lost from the soil, especially with excessive rain or irrigation.
 - C. The rate of nutrient application should be based on a ratio of 10-10-10.
 - D. The recommended application rate of phosphorus in soil test results is used to calculate the nitrogen ratio.
18. Which of these landscape materials is most limited in the time of year that they can be planted? These items are generally restricted to late fall through early spring plantings for the highest success rate.
- * A. Bare-root shrubs and trees.
 - B. Containerized shrubs and trees less than 5 gallons.
 - C. Flowering vines and trees.
 - D. Herbaceous perennial plants.
19. If a fertilizer bag has 5-10-15 printed on the bag, which of these can be determined from those numbers alone?
- A. The bag of fertilizer weighs 30 pounds.
 - B. The bag of fertilizer contains 15 percent nitrogen.
 - * C. The bag of fertilizer contains 10 percent phosphorus.
 - D. All the above are true.
20. Which of the following describes a potential issue associated with soil that has a high sand content?
- A. The small particles of sand pack together tightly and limits the space available for roots to grow.
 - * B. The large particles of sand provides good air space but allows water to drain too quickly.
 - C. The various sizes of sand particles create an uneven water balance throughout the soil profile.
 - D. The large particles of sand may cause surface flooding by inhibiting drainage.
21. What should be the first step when handling pesticides in a nursery or landscape operation to ensure safety?
- A. Obtain and wear 100% cotton gloves and clothing.
 - * B. Read the product label and follow the instruction.
 - C. Mix the pesticide with water to activate it quickly and safely.
 - D. Check the air temperature in the pesticide storage area.
22. Which of the following correctly identifies the three general areas of a home landscape?
- A. Drive, walks, and play areas
 - B. Commercial, residential, and private areas
 - * C. Public, private, and service areas
 - D. Service, communal, and public areas

23. The client requested color beds in the landscape to compliment the color of the building and company logo. The designer selected annual plants with blooms of the same hue, tone, and shades. This type of color scheme is best described as:
- * A. Monochromatic
 - B. Analogous
 - C. Complementary
 - D. Triadic
24. When propagating landscape plants from softwood cuttings, which of the following equipment would be most helpful to support the unrooted cutting until adventitious roots emerge to support the new plant?
- A. A soil aerator
 - B. A fertilizer injector
 - C. A planting dibble
 - * D. A mist propagation system
25. Some plants have the ability to grow on objects such as walls, fences, and around stakes. These climbing plants and vines throw out tendrils, which are a response to a touch stimulus. This is best termed:
- * A. Thigmotropism
 - B. Heliotropism
 - C. Hydrotropism
 - D. Phototropism

End
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