Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. What is the advantage of using plants in the landscape that are native to the area or plants that are derived from native species
   a. Native plants and selected varieties of native plants are less expensive
   b. Native plants are selected varieties are smaller at maturity and require less pruning
   c. Native plants and selected varieties will grow in all soil conditions in the area
   d. Native plants and selected varieties are usually more resistant to pests and are better adapted to the environment of the area

2. A pesticide that enters the plant system and moves throughout the plant to control plant pests as they feed on the plant tissues is the best defined as which of the following?
   a. Systemic
   b. Internal Poison
   c. Fumigant
   d. Contact Poison

3. Which nutrient is most readily lost from the soil and is applied according to general recommendations for plant needs rather than soil test results?
   a. Nitrogen
   b. Phosphorus
   c. Calcium
   d. Magnesium

4. Generally, solid wooden fences should be about _____ feet high to provide privacy, some wind protection, and reduce noise.
   a. 4
   b. 6
   c. 8
   d. 10

5. Which of the following is the best definition of “massing plants” in the landscape design?
   a. many plants that grow at different heights so that a vertical wall is formed.
   b. one half deciduous and one half evergreen plants in a bed.
   c. one-third each of deciduous plants, blooming plants, and evergreen plants.
   d. many plants of one or a few species in a group to fill large amounts of landscape space.

6. An example of items commonly found in the service area of the home landscape include:
   a. bird baths, statuary, and fountains
   b. specimen trees, fruiting shrubs, and fountains
   c. miniature putting greens, vegetable gardens, and sitting areas
   d. tool sheds, garbage cans, and storage

7. The walkway leading to the front door of a home should be at least ________ feet wide.
   a. 2
   b. 4
   c. 6
   d. 8

8. Hydroseeding, which is the process of _______, is often used to establish grass on steep slopes.
   a. applying a mixture of seed, water, fertilizer, and mulch in a spray slurry
   b. infusing hydrogen into seed for quick germination
   c. planting seeds by air pressure
   d. soaking seeds in water and a mild paste before application
9. Turf that is to be maintained at 2 inches high should be moved when it is about ________ inches tall
   a. 3  
   b. 5  
   c. 7  
   d. 9

10. Grasses that are to be maintained at a low height, such as bentgrass on golf greens, are best cut with a ________ mower
    a. reel  
    b. rotary  
    c. flail  
    d. riding

11. Which federal agency is responsible for inspection businesses to ensure that employers provide employees with a workplace that is free from recognized hazards that are likely to cause harm to the employees?
    a. American Community and Workplace  
    b. Cooperative Extension Service  
    c. Occupational Safety and Health Administration  
    d. Hazard Prevention Administration

12. In the process of obtaining bids on large landscape projects, a _______ bond is often required to assure that the contractor who is selected as the winning bidder for the job will actually sign the contract and follow through to complete the landscape job he/she bid.
    a. bail  
    b. bid  
    c. loss  
    d. materials

13. Upright trees generally have a center, main branch called a ________ and side branches often called ________ branches.
    a. top, terminal  
    b. sucker, scaffold  
    c. main, terminal  
    d. leader, lateral

14. A Federal government agency which, among other responsibilities, protects plant health by inspection for plant diseases that may be brought into the U.S. by international travelers at airports, ports, etc., is:
    a. PLANET  
    b. APHIS  
    c. NCLA  
    d. OSHA

15. Carrying adequate liability insurance on the business helps reduce ________ for the business.
    a. inventory  
    b. gross sales  
    c. risk  
    d. costs

16. A simple plant leaf is made up of which of the following?
    a. lenticels, internodes, and serrations  
    b. petiole and lenticels  
    c. internode, node, petiole, and leaf blade  
    d. petiole and leaf blade

17. In the analysis of a landscape business the following data for the year were collected. Which single item is most accurate in indicating the profitability of the business?
    a. Gross sales = $68,000  
    b. Payroll = $185,000  
    c. Inventory = $213,000  
    d. Payroll = $350,000

18. A customer tells you that a large limb about 5 inches in diameter was broken off of their tree recently is a storm leaving a frayed stub about 15 inches from the tree trunk. What is the best advice for this customer?
    a. Spray the frayed stub with wound spray  
    b. Cut the frayed stub back about 5 inches from the trunk and seal with wound dressing.  
    c. Do nothing. Research has shown that treating wounds of this nature is not beneficial.  
    d. Make a clean cut next to the trunk, avoiding the collar area. Apply wound spray if desired.
19. Which of the following is a Federal tax that is deducted from the pay checks of full time employees?
   a. property tax       c. Social Security
   b. Medicaid          d. state income tax

20. A call to _________ is always advisable if you think you may be digging anywhere near underground utility lines.
   a. 411          c. 888
   b. 811          d. 977

21. Patented plants cannot legally be propagated without ______________ being paid to the patent holder.
   a. development taxes       c. hybrid taxes
   b. patent rentals          d. royalties

22. Which of the following would be the most likely to survive being planted into the landscape during the hot summer months?
   a. bare root deciduous plants c. bare root evergreens
   b. containerized plants      d. balled and burlapped trees

23. The gap on a spark plug must be specified width in order to:
   a. provide for the proper flow of gasoline into the cylinder
   b. allow air flow into the cylinder, which vaporized the gasoline
   c. regulate the mixture of air and gasoline
   d. allow electricity to jump the gap, creating a spark to ignite the fuel

24. In most landscape plants, pruning stimulates:
   a. regrowth of shoots near the cut
   b. development of V- shaped crotches
   c. root growth
   d. internode growth near the cut

25. USDA Plant Hardiness Zones are based on the __________ for an area.
   a. lowest expected temperatures
   b. highest expected temperatures
   c. rainfall and soil characteristics
   d. all the above

26. Which of the statements below is TRUE concerning the turfgrass species specified?
   a. Annual Ryegrass is sometimes used as a nurse grass to hold soil in place until a permanent turfgrass is established
   b. Bermudagrass is always grown from seed and is one of the most shade tolerant turfgrasses
   c. Bentgrass is noxious weed that invades lawns and golf greens in USDA Hardiness Zones 7 to 12
   d. Annual Bluegrass is often used on putting greens due to its cold hardiness and fine texture

27. Astilbe, Purple Coneflower, Shasta Daisy, and Day Lily are all classified which of the following?
   a. bulbous
   b. annuals
   c. perennials
   d. biennials

28. In pruning shrubs, heading back cuts should be made:
   a. just below a bud, and as close to the bud being removed as possible
   b. just above the bud in the middle of the internode
   c. diagonally across the center of a node
   d. just above a node, about one fourth of an inch above the bud

29. Plants that are unusually colorful or have striking growth habits, as well as fountains and statuary, are often used in the landscape as which of the following?
   a. focalization points
   b. silhouettes for balance
b. convex balance points
d. mass materials for rhythm

30. Which of the following is the recommended type of turf aeration that allows for maximum penetration of air and water into the soil?
   a. core
   b. triangular
   c. spike
   d. square

31. In general, when pruning trees which of the following should be removed?
   a. crossing branches
   b. branches that grow toward the center of the plant
   c. water sprouts
   d. all the above

32. Which of the following should NOT generally be added to a potting mix for azaleas?
   a. perlite
   b. lime
   c. peat moss
   d. sand

33. The single word “caution” on a pesticide label indicates:
   a. the lowest level of toxicity
   b. the highest level of toxicity
   c. extreme danger to vertebrates
   d. a highly restrictive pesticide

34. To help prevent plants from growing too close to a building at maturity, most shrubs in the foundation planting should be planted:
   a. about 6 to 12 feet from the foundation
   b. between 1 to 2 feet from the foundation
   c. no closer than 3 feet from the foundation
   d. no closer than 6 feet from the foundation

35. An organism capable of causing a disease is called a(n):
   a. enzyme
   b. systemic
   c. pathogen
   d. carcinogen

36. Which of these grasses cannot generally be established from seed and is most successfully established by plugs, sod, or sprigs?
   a. Hybrid Bermudagrass
   b. Kentucky Bluegrass
   c. Kentucky 31 Fescue
   d. Annual Ryegrass

37. Which of the following is one strategy that small retail nurseries often use to successfully compete with big box stores and chain garden centers?
   a. selling products at a lower price
   b. providing better service
   c. advertising negatively against big box stores and chain garden centers
   d. advertising on TV

38. On which area of a golf course is the care of turfgrass most intense and most important?
   a. green
   b. fairway
   c. rough
   d. fringe

39. Which tree does NOT provide food fall color?
   a. Red Maple
   b. Sugar Maple
   c. Ginkgo
   d. Norway Spruce

40. Changing the color of blooms on certain Hydrangea macrophylla varieties from pink to blue or from blue to pink is controlled by the availability of __________ in the soil
   a. nitrogen
   b. aluminum
   c. phosphorus
   d. iron

41. Which of these is NOT a common type of night lighting for the landscape?
42. Which of these plants has the finest leaf texture?
   a. Chinese Holly  
   b. Japanese Holly  
   c. Oregon Grape Mohania  
   d. Red Maple

43. Extra fuel for easier starting of a small engine is often supplied by pressing the _________.
   a. primer bulb  
   b. flywheel  
   c. fuel cell  
   d. float valve

44. When is the optimum time to prune Azaleas?
   a. shortly before bud break in the spring  
   b. shortly before blooming in the spring  
   c. in the late fall  
   d. between January 1 and March 1

45. A fuel/oil mix ranging from 16:1 and 50:1, depending on the manufacturers’ recommendation, is required in:
   a. two-cycle engines  
   b. three-cycle engines  
   c. four-cycle engines  
   d. diesel engines

46. Which of these ornamental trees is commonly solid in either white or pink blooming varieties?
   a. Ginkgo  
   b. Japanese Maple  
   c. European Beech  
   d. Dogwood

47. Which plant disease organism is the most difficult to control with chemicals once the plant is infected?
   a. bacteria  
   b. fungus  
   c. virus  
   d. mildew

48. IPM is an acronym for which of the following?
   a. interrelated pest management  
   b. integrated pest management  
   c. intensive pest management  
   d. intensive pest material

49. During a recession, businesses often have to cut costs to stay in business as sales decline. If sales fall for a production nursery, which cost can be reduced most effectively in the short run to help preserve the business?
   a. overhead costs  
   b. variable costs  
   c. fixed assets  
   d. property taxes

50. Which of the following is false statement?
   a. Generally, shrubs in the landscape should be within bed lines  
   b. Shrubs of the same species that are grouped together should generally be used in odd numbers  
   c. Tall growing trees should be planted on the sides of the home with short trees in the back and medium sized trees in the front  
   d. Cornus florida prefers partial shade

51. An agriculture teacher was teaching plant parts and trying to give her students a good way to remember the definition of each part. One student wrote the definitions down but got one wrong. Which of these is wrong?
   a. endosperm: the male portion of the flower  
   b. stolon: a creeping horizontal plant stem or runner that grows on the ground  
   c. rhizome: an underground stem that can rise up to form a new plant  
   d. internode: the section of stemin between two nodes

52. If the temperature dips below freezing for several days, which of these plants would most likely NOT survive in the landscape without protection?
53. Hedges, a common feature in many landscapes, are commonly used to do all of the following EXCEPT:
   a. define property lines and buffer noises
   b. provide privacy and block strong winds
   c. block the view of unpleasing objects
   d. define legally binding property boundaries

54. Which of these best defines simplicity in landscape beds?
   a. use several plant species; separate plants so they will not touch at maturity; use sharp-curved bed lines
   b. use only a few plant types; use gently curving bed lines; mass like plants together
   c. use only two of each of six or more plant species; do not mass plants; do not put like plants together
   d. use many curves in the bed lines; use several species of plants; avoid massing plants together

55. An example of items commonly used as a focal point in the non-public area of the home landscape are:
   a. specimen plants, birdbaths, statuary, and fountains.
   b. large trees, the front door, concrete walls, and windows.
   c. tall single-trunk trees, walkways, and vegetable gardens.
   d. turf pads, tall plants, and hedges.

56. The slope of the home landscape should be graded so that the:
   a. lot slope toward the home between .5 and 1 percent so that rainwater is directed to the foundation
   b. slope is as near level as possible
   c. lot has a gentle slope away from the foundation
   d. lot slopes toward the house 1 percent or more so that the foundation plants serve as a catch basin

57. When heat is used to pasteurize potting soil, the soil should be heated to about:
   a. 100 degrees for 30 minutes
   b. 115 degrees for 1 hour
   c. 180 degrees for 30 minutes
   d. 190 degrees for 4 hours

58. The practice of _____ is often used to quickly stabilize steep embankments.
   a. plugging
   b. stolonizing
   c. hydroseeding
   d. enviro-seeding

59. Subcontractors on large landscape installations may be used to:
   a. install a fountain
   b. install an irrigation system
   c. grade the site
   d. all of the above

60. All of the following are landscape lighting types used for various lighting effects EXCEPT:
   a. up lighting
   b. down lighting
   c. silhouette lighting
   d. sketch lighting

61. If the architecture of the structure being landscaped is symmetrical, then a ___________ landscape would probably fit best.
   a. asymmetrical
   b. symmetrical
   c. bilateral
   d. vertical

62. Generally, ________ focal point(s) should be seen by the viewer from any one point in the landscape.
   a. no more than one
   b. all landscape
   c. only two to five
   d. only two
63. The planting season of ________ is generally restricted to the late fall through early spring.
   a. bare-root shrubs and trees  
   b. containerized shrubs and trees over 5 gallons  
   c. containerized shrubs and trees less than 5 gallons  
   d. herbaceous plants

64. Which of the following is the LEAST important question to ask while interviewing the client about a total home landscape plan?
   a. How many cars are in the family?  
   b. What are the hobbies or special interest of the family members?  
   c. Tell me about your pets?  
   d. Where does the family like to go on vacation?

65. Material safety data sheets (MSDS) are best obtained from:
   a. the USDA  
   b. wholesale nurseries.  
   c. the manufacturer of the product.  
   d. the State Department of Agriculture.

66. Which of these is used to record the slope of different areas of the property?
   a. genome map  
   b. contour map  
   c. eco-map  
   d. enviro-map

67. Generally, which of the following is true about the foliage texture of landscape plants?
   a. small leaved plants give a fine textured appearance  
   b. large leaved plants provide a pubescence textured appearance  
   c. coarse textured plants should not be used near fine textured plants  
   d. fine textured plants should not be used in the foundation

68. If landscape plants need severe pruning generally it is best done in the:
   a. Summer when the plants are actively growing  
   b. Winter when the plants are dormant  
   c. Spring just as the buds begin to break  
   d. Spring just after the plants are in full leaf

69. A very large tree next to a one story home would make the house appear _____ to the viewer and violates the principle of proportion
   a. longer  
   b. wider  
   c. larger  
   d. smaller

70. Which of these is true of cloned plants
   a. Meiosis is a part of the cloning process that produces the plant  
   b. Cloned plants are genetically superior to the parent plant  
   c. Cloned plants are genetic duplicates of the parent plants  
   d. Cloned plants are genetically superior to the plants propagated from seed

71. Which of these is a governmental agency with duties that include preventing the importation of plant diseases, insects, and non native invasive species
   a. PLANET  
   b. APHIS  
   c. NLCA  
   d. OSHA

72. A fertilizer with the analysis of 5-10-15 contains ____ % magnesium
   a. 5  
   b. 10  
   c. 15  
   d. the % magnesium cannot be determined from the information given

73. The total value of goods and services sold over a given period of time is determined as:
74. The three most distinct areas of a residence to be landscaped are known as
   a. Public, private, service
   b. front, back and extended
   c. commercial residential and private
   d. Commercial service and public

75. When planting seeds the most important factor to consider when determining how deep to plant the seed is the:
   a. Size of the seeds
   b. Viability of the seeds
   c. Soil temperature
   d. Depth of the top soil

76. Which of these plants can best survive freezing temperatures in the landscape
   a. Marigold
   b. Zinnia
   c. Impatiens
   d. Pansy

77. To help assure that granular fertilizer is spread evenly over the lawn it is best
   a. broadcast fertilizer by hand
   b. Spread one half of the fertilizer in one direction and one half at right angles to the first direction
   c. Use a drop spreader with a setting of 7 to 9
   d. Use a drop spreader with a setting of 9 to 10

78. Other than a 3dimensional model of a proposed landscape project nothing allows a better visualization of the proposed design than a
   a. Basemap drawing
   b. Perspective drawing
   c. Contour display
   d. Plot plan drawing

79. Which of these are not traditional drawing tools used in drawing landscapes plans
   a. Protractor, compass, scale
   b. T-square, triangle, lettering template
   c. French curve, erasers, flexible curves
   d. bow arch, twist curve, inch meter

80. Maintaining the proper soil pH is a must for the efficient use of other crop inputs. Understanding that soil pH controls the _______ is important for plant producers.
   a. availability of most nutrients
   b. amount of moisture available to the plant
   c. germination of most crop seeds
   d. effectiveness of herbicides

81. A plant transplanted into the landscape or potted into a larger pot should be planted:
   a. about 2-3 inches deeper than it was originally growing
   b. about 2-3 inches higher than it was originally growing
   c. at the same depth it was originally growing
   d. so that at least one inch of the main stem is still covered

82. The following size trees were advertised in a wholesale catalog. which tree is the largest?
   a. 6 inch caliper
   b. 18-24 inch whip
   c. 5-6 feet
   d. it is impossible to determine by the information provided

83. A soil that contains nearly equal amounts of sand, silt, and clay is called a(n) ______
   a. sandy, silty, clay soil
   b. loam
   c. silty clay
   d. equilaterally textured soil

84. Which of these are NOT terms used for irrigation materials and equipment, or in irrigation calculations?
   a. velocity, pressure rated pipe, rotary head
   b. precipitation rate, drip tubing, pop-up
   c. precipitation rate, drip tubing, pop- up
85. A common choice for producing plants in poorly drained sites is to:
   a. use raised beds
   b. incorporate clay into the site
   c. install drying tubes
   d. establish moisture zones

86. Which of the following is a hybrid cross between a red maple and silver maple?
   a. Acer x freemanii
   b. Acer palmatum
   c. Acer rubrum ‘October glory’
   d. Acer platanoides

87. Which of the following would need the most protection from hot and dry locations in the landscape, especially the hot afternoon sun?
   a. Gardenia
   b. Red Maple
   c. Sweet Gum
   d. Bermudagrass

88. A good growing medium for potted crops contains solids, air, and water. The medium, by volume, should be ___ percent solids with balance made up of air and water.
   a. 30 to 50
   b. 75 to 90
   c. 85 to 95
   d. 95-99

89. Which of these in a home compost pile serves as an inoculant by adding beneficial microorganisms to the compost pile?
   a. plant parts killed by disease
   b. topsoil
   c. leaves
   d. limbs

90. It is important to keep the air filter on a lawn mower clean and free of debris to:
   a. prevent crankcase fatigue
   b. keep the spark plug clean and in operating condition
   c. prevent oil reservoir contamination
   d. prevent dust and debris from entering the carburetor

91. Which of the following statements is true about applying fertilizer to a lawn?
   a. lawn fertilizer should be applied as a dry, granular product
   b. it is best to apply fertilizer in the morning when the grass is wet from the morning dew
   c. modern lawn fertilizer should always be applied as a liquid
   d. it is a good practice to water-in fertilizer that is applied to the lawn in granular form

92. The USDA Plant Hardiness Zone Map is based on the _____ for an area.
   a. minimum expected temperatures
   b. maximum expected temperatures
   c. weather and soil characteristics
   d. all of the above

93. A Slow Moving Vehicle sign is required on the back of any farm vehicle or implement that travels on the road at less than 25 miles per hour. Which of these best describes a Slow Moving Vehicle sign?
   a. a sign with a yellow border and black center
   b. a green and white sign with the words ‘Slow Moving Vehicle’ in black lettering
   c. a fluorescent yellow-orange triangle with a dark red reflective border
   d. a red sign with the reflective letters ‘SMV’ in the center

94. The success of a compost pile in the process of decomposition can be estimated to some degree by the:
   a. amount of heat given off
   b. type of odor given off
   c. color of the exterior surface
   d. moisture generated in outer-most layers

95. Auxin is:
a. a growth inhibitor used in the production of dwarf landscape plants
c. a hormone produced in the Terminal bud; it accounts for apical dominance and is used in rooting cuttings
b. the capital of Texas and an area known for landscape plant production
d. a pesticide used to control white flies and certain other insects or ornamentals

96. A ________ is a material added to a liquid spray solution to reduce surface tension between the liquid and the leaf surface.
a. pheromone
c. surfactant
b. condensate
d. flocculent

97. Which of these is a reason to recommend the selection of a grass seed blend of two or more grass species rather than the seed of a single species?
a. the client has a combination of sunny and shady locations in the area to be planted
c. a blend of grass species helps reduce grass allergies
b. the slight color contrast of different grass species adds interest to the landscape
d. grass blends are easier to irrigate and fertilize

98. Which of these is sometimes planted to hold the soil in place until a permanent turfgrass can be established?
a. Annual Ryegrass
c. Bentgrass
b. Bermudagrass
d. Annual Bluegrass

99. For maximum benefits and cost effectiveness, mulch is generally applied about _____ inch(es) deep.
a. 1
c. 10
b. 3-4
d. 10-16

100. Soil sample cores from the lawn should be taken about ____ inch(es) deep.
a. 1
c. 6
b. 3
d. 14

101. Locally owned, independent garden centers have found it difficult to compete with chain stores on price. In many cases, they have been able to remain competitive by providing:
a. longer hours of operation
c. cleaner and brighter stores
b. better guarantees
d. better service

102. Which of these plants is most likely to survive in the landscape if temperatures go below freezing for extended periods?
a. Wax Begonia
c. Striped Dracena
b. Pansy
d. Benjamin Fig

103. Which of the following hardiness zones is warmer than Zone 3?
a. Zone 1
c. Zone B-2
b. Zone A
d. Zone 6

104. Which LD-50 rating listed is most toxic to humans?
a. 17
c. 905
b. 84
d. 1000

105. Watering plants ____________ will to help reduce disease in nursery crops.
a. late in the afternoon
c. in the late evening
b. in the morning
d. in the early evening

106. An advantage of using a landscape fabric around plantings rather than black polyethylene film is that landscape fabric:
107. Sand used in potting mixes for horticultural crops should generally be ________ textured.
   a. smooth       c. fine to medium
   b. very fine    d. coarse

108. In the commercial nursery trade, additions are often made to the binomial name of the plant, such as, ‘Crimson King’ to the name Acer platanoides. In this case, ‘Crimson King’ is the ___________ name.
   a. species       c. genus
   b. cultivar     d. order

109. Ginkgo biloba is a tree known for its:
   a. excellent fall color       c. ease of transplanting
   b. fragrant spring flowers    d. colorful, edible fruit

110. The soil should be firmed around newly transplanted plants to prevent:
   a. drying of plant roots       c. disease
   b. soil heaving in winter      d. insects from invading the soft soil

111. A plant pathologist studies:
   a. diseases and insects of plants       c. plant diseases
   b. plant propagation methods           d. adaptation of plants to the landscape

112. Which of the following landscape materials is derived from a naturally occurring organic source?
   a. perlite                       c. pea gravel
   b. peat moss                    d. vermiculite

113. The most commonly used propagation method for shrubs such as Japanese and Chinese hollies is:
   a. layering                     c. cleft grafting
   b. stem cutting                d. root cutting

114. In the most asymmetrical landscape designs when using fewer than 10 shrubs, they should be planted in:
   a. groups of two               c. groups of four
   b. even number groups         d. odd number groups

115. What are the major advantages of adding mulch around landscape plantings?
   a. conserve nutrients, prevent runoff, reduce disease, and prevent carbon dioxide loss
   b. retain moisture, cool plant trunks, control disease, and store nutrients
   c. control insects, improve aeration, control weeds, and provided air exchange
   d. retain moisture, cool plant trunks, control disease, and store nutrients

116. Field-grown trees are root pruned to:
   a. force more of the tree’s energy into top growth       c. encourage tap root growth
   b. encourage a more compact root system               d. prevent entanglement of roots with the roots of nearby plants

117. A __________ plant that produces male flowers on one plant and female flower parts on another plant.
   a. staminate               c. diecious
   b. monoeious               d. gymnosperm

118. Which of the following is correct about scalping lawns?
119. This nutrient is generally not tested for in soil tests. Instead, standard recommendations are given for its rate of application, depending on the plants or crop to be grown.
   a. nitrogen                  c. potassium
   b. phosphorus               d. magnesium

120. To assure a soil test covers most of the root zone, soil core samples should be taken to a depth about _____ inches.
   a. 2                        c. 6
   b. 3                        d. 14

121. In what position should a deciduous tree be planted to shade a building from the hot afternoon sun during the summer and allow the warming sun rays to reach the building in winter?
   a. East                      c. Northwest
   b. North                    d. Southwest

122. Iron deficiency in plants is exhibited by:
   a. yellowing between the leaf veins while the veins remain green.
   b. browning leaf margins
   c. pathogenic materials forming in the leaves
   d. leaves with a scorched appearance.

123. The _____ of the front of the home is usually the front door, with plantings leading the viewers’ eye toward the door.
   a. attractive focus           c. focal point
   b. social area               d. attention focus

124. About _____ elements are considered essential nutrients for plant growth and development.
   a. 7                        c. 16
   b. 9                        d. 32

125. Suppose a home, when viewed from the front, has the same architectural features on each side of the front door. A(n) _____ balanced landscape would fit this home best.
   a. symmetrically             c. asymmetrically
   b. informally                d. rhythmically

126. An unthrifty potted plant that has dead roots at the bottom of the container but healthier roots near the top of the pot may indicate:
   a. that the pot has been overwatered for an extended period of time
   b. the drain holes in the pot are too large
   c. that the pot is too small for the plant
   d. under-fertilization over an extended period of time

127. Plants to be used in interiorscapes are produced in conditions for best plant growth. Before being placed in interiorscapes, where the growing conditions will be less desirable, the plants should be _____ to the new environment.
   a. acclimated                c. scaled
   b. softened                 d. espaliered
128. Most plants do not grow well in wet, poorly drained soils because of:
   a. low oxygen content  
   b. high pH  
   c. excess nitrogen  
   d. low soil temperature

129. The process of converting food energy into energy for plant growth is called:
   a. respiration  
   b. photosynthesis  
   c. acclimatization  
   d. transpiration

130. Providing ________ is one technique often used to help speed up the rooting of cuttings.
   a. soil cooling  
   b. bottom heat  
   c. leaf heating  
   d. extra fertilizer

131. Plant clones may be produced in several ways, including:
   a. stem cuttings  
   b. sexual and asexual reproduction  
   c. sexual propagation  
   d. seeds

132. Herbicides may be classified as ________ based on the time of their application
   a. pre-selective or post-selective  
   b. pre-emergence or post-emergence  
   c. utility or general purpose  
   d. selective or nonselective

133. Most plants grow best in soil with a pH range of ________.
   a. 3.5 to 5  
   b. 4 to 5  
   c. 6 to 6.5  
   d. 7 to 8

134. When using a riding lawn mower on slopes, it is safer to mow:
   a. in a circular pattern on the slope  
   b. across the slope  
   c. diagonally across the slope  
   d. up and down the slope

135. The best time of day to take stem cuttings of landscape plants for propagation is:
   a. mid-day  
   b. early morning  
   c. early evening  
   d. mid-afternoon

136. To help assure grass seeds are distributed evenly during planting:
   a. use a drop spreader with a setting of seven  
   b. use a rotary spreader with a setting of nine  
   c. sow one-half of the seed by hang and one-half of the seed with a spreader  
   d. sow one-half the seed in one direction and sow one-half at right angles to the first direction of seeding

137. As general rule, when applying liquid pesticides:
   a. spray just until the solution begins to drip slightly from the leaves  
   b. spray until approximately 1/3 of the solution applied has dripped from the plant.  
   c. apple two short blasts of spray to each area of the plant  
   d. apple three short blasts of spray to each area of the plant

138. In landscape terms, which of the following best defines an invasive species?
   a. a native plant that grows rapidly, over-taking cultivated landscape plants  
   b. a non-native aggressive plant species that crowds-out native plants and other cultivated species  
   c. a plant species with an aggressive and extensive root system that clogs septic and water lines  
   d. any desirable plant
139. The rooting medium for cuttings of most landscape plants should be:
   a. high in fertility  
   b. low in fertility  
   c. very fine textured  
   d. inorganic only

140. Which of the following would be found on a four-cycle engine but not on a two-cycle engine?
   a. carburetor  
   b. oil tank  
   c. spark plug  
   d. fuel tank

141. The term organic means:
   a. a material derived from plant or animal materials  
   b. better than non-organic products  
   c. safer than non-organic products  
   d. all of these

142. Plants that are very tolerant of dry conditions are called:
   a. conifers  
   b. xerophytes  
   c. monocotyledonous  
   d. dicotyledonous

143. When grafting, special attention is given to:
   a. matching the cambium layer of the rootstock with the cambium layer of the scion  
   b. making sure that the scion is smaller than the rootstock  
   c. selecting a scion that is at least two times larger than the rootstock  
   d. selecting scion wood from the same tree as the rootstock

144. Should employees become injured or ill due to work-related causes, they can receive financial assistance through their state’s ______________ program.
   a. OSHA Reimbursement  
   b. Workers’ Compensation  
   c. FEMA Assistance  
   d. APHIS Worker Assistance

145. Which of the following are all fixed assets?
   a. land, buildings, cash-on-hand  
   b. buildings, inventory, bank balance  
   c. cash-on-hand, inventory, tractors  
   d. land, buildings, irrigation pond

146. To prevent destroying good soil structure, do not till the soil:
   a. when it is humid  
   b. when it is very wet  
   c. when the moon is full  
   d. when the air temperature is below 30 F degrees or above 90 F degrees

147. The depth seeds should be planted is determined mainly by:
   a. the size of the seeds  
   b. the depth of the flat  
   c. the viability of the seeds  
   d. all the above

148. Xeriscapint is best defined as:
   a. the use of techniques to minimize landscape plants and maximize hardscape materials  
   b. the absence of landscaping  
   c. a type landscaping that utilizes techniques to conserve water  
   d. a landscape using mostly hardscape materials with no in-ground plants, and limited containerized plants

149. When “orientalis” is used in the botanical name of a plant, it means that the plant:
   a. is native to, or originated in, eastern Asia  
   b. should be planted with a specific  
   c. is closely related to ocidentalis plants  
   d. is a ‘shade loving’ plant
150. Which federal agency was established to make the workplace safer?
   a. OSHA  
   b. EPA  
   c. USDA  
   d. APHIS

151. A flower that has a stamen but is lacking a pistil is called a ________ flower.
   a. male  
   b. female  
   c. complete  
   d. radical

152. Which of the following is NOT a guideline to used in planning and implementing an integrated pest management program (PM)?
   a. Use control that will cause the least amount of injury to the pest’s natural enemies.
   b. Use the control that has the least potential to cause harm to humans.
   c. Use the control that is the safest no matter the cost or effectiveness.
   d. Use the control that will cause the least damage to the environment.

153. Which type of propagation would generally result in the greatest genetic variation?
   a. tip cuttings  
   b. seeds  
   c. root cuttings  
   d. air layering

154. A ________ soil has the largest pore spaces, drains the quickest, and has the poorest nutrient holding ability.
   a. clay  
   b. sandy  
   c. clay loam  
   d. silt loam

155. Which of these is the most difficult to control in an individual plant once the plant is infected?
   a. mildew  
   b. bacteria  
   c. fungi  
   d. virus

156. The metabolic rate of most seed would be expected to slow down significantly when:
   a. stored in a cool, dry place  
   b. planted in moist soil  
   c. stored in humid and warm conditions  
   d. exposed to indirect sunlight

157. Life in a good landscape topsoil contains all the following EXCEPT:
   a. worms  
   b. bacteria  
   c. aphids  
   d. fungi

158. Lichens growing on a landscape plant are a sign that the plant is:
   a. declining in health or vigor.  
   b. under attack by the lichen organism.  
   c. is a slow growth modewhile preparing for winter  
   d. in a vigorous stage of growth.

159. Plants such as ginkgo and holly that have only male or female flowers on a single plant are called
   a. imperfect  
   b. perfect  
   c. monoeccious  
   d. dioecious

160. Water standing on a lawn for long periods of time is a sign of poor internal soil drainage, also known as:
   a. effective depth capacity.  
   b. continuity  
   c. soil tilth  
   d. permeability

161. Slope of the land is an important factor in planning a landscape. Lawns with a slope over about _____ are a challenge to mow safely.
   a. 6 inches of fall in 100 feet  
   b. 2 percent
b. a foot of fall in 100 feet    d. 5 percent

162. The type of ________ an insect has is most important to know in the selection of a control method.
   a. eye sight       c. mouthparts
   b. eggs           d. wings

163. A nurseryman who has purchased scion stock of a popular plant variety probably will use the stock for:
   a. grafting.       c. rooting.
   b. sexual reproduction. d. micro-propagation.

164. Two of the most common tests performed on potting soil are to determine pH and _____ levels.
   a. soluble salts    c. oxygen
   b. nitrogen         d. silt

165. Disease-producing agents such as bacteria and fungi are known as:
   a. mosaic vectors.   c. pathogens.
   b. mutant organisms. d. biogenes.

166. A ________ is something useful in an area to prevent the growth of any plants.
   a. direct emergent herbicide    c. growth regulator
   b. selective herbicide          d. soil sterilant

167. A _________ soil is one that contains a combination of sand, silt, and clay particles in relatively equal amounts. Is is a soil ideal for most garden plants because it holds plenty of moisture but also drains well so that sufficient air can reach the roots.
   a. platy               c. prismatic
   b. loamy               d. horizon

168. Plant hardiness zone maps are based on:
   a. temperature        c. frost date
   b. sunlight           d. elevation

169. Where would you find the following warning? “For retail sale to and application only by certified applicators or persons under their direct supervisors.”
   a. On a pesticide container used as a wettable powder.  c. On a pesticide container with the word “Caution” on the label.
   b. On a restricted-use pesticide container.           d. On all pesticides for which an MSDS has been issued.

170. An emitter, blackflow prevention valve, and solenoid valve are items used in:
   a. control of soluble salts.  c. irrigation.
   b. fumigation.                  d. toxicity analysis.

171. A biological control that could be used to control an insect might be:
   a. Captan with less than 25% active insecticide    c. daconil with 25% Captan
   b. the insect’s natural enemy such as a wasp. d. any of the cultural control methods

172. The configuration of the surface of the land, including hills, valleys, and flat areas, is referred to as:
   a. aesthetic declination    c. topography
   b. surface declination    d. permeability

173. The hardscape includes items such as:
   a. ornamental grasses    c. fruits, nuts, and vegetables
b. ornamental vegetable plants
d. fences and patios

174. Plants that have a life cycle of more than two growing seasons are known as:
a. annuals
c. hardy annuals
b. perennials
d. succulent plants

175. What time is generally best to prune most deciduous trees?
a. early fall
c. late winter
b. late summer
d. early winter

176. A bag of fertilizer with an analysis of 5-10-15 consist of:
a. 5% nitrogen, 10% potash and 15% phosphorus.
b. 5% potash, 10% nitrogen, and 15% phosphorus.
c. 5 pounds of nitrogen, 10 pounds of phosphorus, and 15 pounds of potash.
d. 5% nitrogen, 10% phosphorus, and 15% potash.

177. This pest control method may be used to kill weed seeds, insects, and underground plant parts. It may also be used to kill nematodes and disease organisms in potting soil or in an outdoor plot that will be planted in a high-value crop.
a. soil fumigants
c. nematocides
b. systemics
d. emulsifiable concentrates

178. When a pollen grain lands on a stigma, _______ has taken place.
a. fertilization
c. pollephytic stimulation
b. pollination
d. germination

179. Which of the following is true?
a. Inorganic fertilizers have been proven to be much better than organic fertilizers.
b. organic fertilizers have been proven to be much better than inorganic fertilizers.
c. Inorganic fertilizers have been proven to be safer than organic fertilizers.
d. Inorganic fertilizers generally release their nutrients quicker than organic fertilizers.

180. Most of the damaging white grubs found in lawns are the larvae of:
a. crickets.
c. moths.
b. wasps.
d. beetles.

181. Which of the following is true about slopes in the landscape?
a. Slopes less than 2% do not drain well.
b. Drive up and down the slopes when mowing with a rider mower on slopes over about 4%.
c. Mow across any slope when operating a riding mower.
d. Mow up and down slopes when mowing with a walk-behind

182. A well-designed landscape becomes an extension of the:
a. indoor living space
c. public area
b. garage area
d. service area

183. The process of removing a portion of the seed coat to allow water to enter the seed for germination is known as:
a. propagation
c. scarification
b. mastication
d. stratification

184. Heavy equipment used to grade landscape sites, especially if work is done when the soil is wet, may:
a. improve air movement during the soil
c. damage the soil structure
layers
b. reduce the soil organic content
d. improve the organic content of the soil

185. At what point on the cutting will roots normally develop first?
a. close to a node
c. at the very base of the cutting
b. just above the soil line
d. along the internode

186. Most hollies are prized for their:
a. flowers
c. fall leaf color
b. berries
d. fragrance

187. One method of seeding grass is by mixing a mulch-like material, seed, fertilizer, and water into a slurry and spraying it onto the ground with a pump sprayer. This process is referred to as:
a. hydromulching
c. hydroseeding
b. hydrozoning
d. mulchseeding

188. Plant ________ is the science of describing, identifying, categorizing, and naming plants.
a. anatomy
c. taxonomy
b. delineation
d. protocol

189. Which of these soil mix ingredients is made up or partially decomposed aquatic plants that have been preserved under water and improves the water holding capacity of growing media?
a. peat moss
c. mineral matter
b. perlite
d. vermiculite

190. To kill existing crabgrass in a lawn, a __________ should be applied.
a. post-emergence herbicide
c. nonselective herbicide
b. selective fungicide
d. pre-emergence fungicide

191. When practical, the best time of the day to water a lawn is:
a. early evening
c. early morning
b. noon
d. mid-afternoon

192. Cuttings made from the new growth of woody plants, just as they begin to harden (mature), are called __________ cuttings.
a. softwood
c. new season
b. succulent
d. summer

193. Which of these treatments would likely stimulate the greatest growth of lateral buds in woody plants?
a. spraying with an antidessicant
c. fertilization just before dormancy
b. heavy watering in the fall
d. pruning of the terminals

194. Plants store reserve energy in the form of __________.
a. fats
c. carbohydrates
b. carbon dioxide
d. carbon credits

195. A good soil pH range for most nursery plants would be:
a. 7.0 to 8.5
c. 5.5 to 6.5
b. 4.5 to 5.5
d. 6.5 to 7.0

196. For better and faster rooting, bottom heat is sometimes applied to cuttings in rooting beds to keep the soil temperature _____.
a. 75 to 80 degrees F
c. 55 to 60 degrees F
b. 60 to 65 degrees F
d. 45 to 55 degrees F
197. The application of efficient, water-wise practices in the landscape to minimize water use is known as:
   a. zeroscaping  
   b. xeriscaping  
   c. microclimatizing  
   d. arboriculture

198. In the landscape of a very large industrial building, the landscape designer placed trees in the front of the building in a “V” shape with the point of the V at the main entrance to the building. In this design she was using the straight lines of the V to:
   a. distract the viewer from the size of the building  
   b. lead the viewer’s eye to the entry  
   c. lead the viewer’s eye away from the entry to emphasize the size of the building  
   d. establish textural differences in the landscape

199. The law dealing with the requirement to educate workers on chemical safety and to make workers aware of the chemical hazards in their work environment is known as the __________ law.
   a. MSDS  
   b. Right to Know  
   c. Workplace Hazards  
   d. Comprehensive Chemical Safety

200. Which of the following best describes an attractive and easily maintained design for landscape beds and lawn areas?
   a. acute angles of less than 30 degrees with sloping lines  
   b. long, curved, sweeping bed lines with distinct edges  
   c. obtuse angles, straight bed lines  
   d. parallel lines with wide angles and narrow edging

201. The purpose of a primer bulb or choke on a 4-cycle engine is to:
   a. supply extra fuel for starting  
   b. free the flywheel during maintenance  
   c. lubricate the fuel cell  
   d. prepare the engine for winterizing

202. A landscaper should call 811 before beginning certain landscape projects to:
   a. obtain a permit before digging  
   b. request a check of proper zoning  
   c. request assistance in locating underground utilities  
   d. submit their environment impact license number and request EPA approval

203. A common method of estimating potting soil moisture is to squeeze it in the palm of the hand. Which of the following best describes the proper moisture condition of soil for potting nursery crops?
   a. the soil appears very damp and drips water when squeezed lightly into a ball  
   b. the soil forms a ball easily and drips a few droplets of water when squeezed  
   c. the soil forms a ball when squeezed but does not drip water; the ball falls apart easily when patted  
   d. the soil will not form a ball when squeezed, does not drip water, and does not appear to be damp

204. Which of the following is NOT a term used in turf irrigation system installations?
   a. rain sensor  
   b. backflow prevention valve  
   c. pop-up sprinkler  
   d. vertical valve

205. Which type of plant packaging provides the widest range of time that the plant can be transplanted?
   a. bare-root plants in plastic wrapped retail containers filled with peat moss  
   b. bare-root plants in peat moss with burlap wrapping  
   c. plants grown in nursery containers  
   d. balled and burlapped plants
206. One of the best landscape plants for early spring color is:
   a. Hosta
   b. Gaillardia
   c. Crepe Myrtle
   d. Azalea

207. Which type of mower is generally used on golf greens for regular mowing?
   a. vertical mower
   b. rotary mower
   c. reel mower
   d. flail mower

208. Spark plugs are best removed from a mower engine with:
   a. a spark plug socket
   b. a spark plug gap gage
   c. spark plug pliers
   d. a boxed-end wrench

209. When planting a balled and burlapped tree, care should be given to unwrap or untie any materials tied around the trunk to prevent:
   a. guying
   b. freezing damage
   c. warping
   d. girdling

210. One way to make a tall house to appear lower is to:
   a. plant low shrubs close to the house
   b. use very short shrubs in the foundation planting
   c. frame the house with small trees
   d. plant large rounded trees near the house

211. When taking soil samples, take:
   a. samples from all areas of the plot and mix them together
   b. one sample from each corner of the plot and mix them together
   c. one sample from the center of the plot
   d. samples 1-2 inches deep from the four corners and the center of the plot and mix them together

212. Soils used for starting seeds and rooting cuttings in the nursery should be:
   a. sterilized
   b. pasteurized
   c. stratified
   d. pressurized

213. Which of the following is the most important factor in selecting foundation shrubs and other plants for the landscape?
   a. fall color
   b. winter hardiness
   c. fruit size
   d. price

214. Deciduous bare root plants obtained in the dormant season that cannot be planted immediately should be ______ to preserve them until they can be planted.
   a. layered
   b. hardened-off
   c. heeled-in
   d. kapt at a minimum of 65 degrees F

215. Landscape plants, especially during harvest and shipment, are often sprayed with antidesiccants to:
   a. encourage root development
   b. reduce moisture loss from the leaves
   c. increase nitrogen absorption
   d. reduce water uptake

216. The signal words ______________ are used on chemical containers to indicate relative toxicity.
   a. Caution, Warning, Poison
   b. Poison, Caution, Corrosive
   c. Warning, Caution, Toxic
   d. Caution, Warning, Danger

217. Which of these plants would make the best accent or specimen plant?
   a. Eastern White Pine
   b. an espaliered Pyracantha
   c. Oakleaf Hydrangea
   d. Flowering Dogwood
218. Fertilizers made from animal or plant products or by-products are termed _______ fertilizers.
   a. inorganic  
   b. aggregate-based  
   c. organic  
   d. mineral

219. If a plant catalog lists a plant in Plant Hardiness Zone 6, this means that the plant:
   a. is cold hardy only in the northern-most sections of the U.S.  
   b. does not do well in areas with temperatures above 90 degrees F.  
   c. is invasive and cannot be shipped to postal zones ending in 6.  
   d. does not do well in areas with minimum temperatures below -10 degrees F.

220. Cuttings of plants that are difficult to root are often _______ to increase the surface area for rooting and applying rooting hormone.
   a. scarified  
   b. wounded  
   c. disbudded  
   d. girdled

221. When possible, the best time to mow turf grasses is:
   a. when the grass is wet from dew, rain or irrigation.  
   b. when the grass is dry.  
   c. when the grass is 4-8 inches high.  
   d. between 10am and 3pm.

222. A fertilizer with an analysis of 0-5-10 contains______ percent potassium.
   a. 0  
   b. 5  
   c. 10  
   d. 15

223. If a plant does not “breed true” from seeds, you would expect:
   a. genetic variation in the offspring.  
   b. most of the offspring to exhibit hybrid vigor.  
   c. the offspring to be sterile.  
   d. most of the offspring to be of average quality.

224. Why do most instructions for constructing a compost pile include applying a thin layer of topsoil?
   a. to supply microorganisms  
   b. to weigh down the layers of organic matter and supply moisture  
   c. to assure consistency of the finished product  
   d. to provide a crust layer to maintain heat

225. Coloring is often added to liquid horticultural fertilizers to indicate:
   a. inorganic content  
   b. relative concentration  
   c. nitrogen content  
   d. organic content

226. One of the big advantages of using compost as a fertilizer is that it also ___________ of the soil.
   a. improves the structure  
   b. decreases the temperature  
   c. increases the mineral content  
   d. raises the water table

227. Insects are categorized into two major feeding types for control purposes. These are:
   a. leaf and xylem feeders  
   b. chewing and sucking feeders  
   c. abrasion and epidermis feeders  
   d. shredding and thatching feeders

228. Soil pH refers to the _______ of the soil
   a. acidity or alkalinity  
   b. permeability  
   c. clay content  
   d. phosphorus content

229. It is generally best to prune deciduous trees during:
   a. late summer after leaves are mature  
   b. late winter before bud break
230. Golf course turf areas that must be maintained differently to some degree include the greens, and:
   a. roughs and fringes    c. fringes and banks
   b. levels and banks       d. flies and slopes

231. The landscape should be designed to draw the viewer’s eye to the ________ as the focal point of the public section of a home landscape:
   a. front lawn         c. front entry area
   b. creative commons area    d. front walk

232. Which of the following is a correct statement about a node in plants?
   a. a node is the section of a stem between the leaf attachment area and the terminal bud
   b. a node is a joint or point on a stem where a leaf is attached or has been attached
   c. nodes develop on limbs during the second growing season
   d. alan said he node all the plants on the National FFA CDE exam

233. The description “produces large numbers of new plants, spreads easily, tolerates many soil types, grows rapidly, displaces native and slower growing plants, and spreads rampantly” best describes ________ plants.
   a. oriental
   b. invasive
   c. native
   d. continental

234. The puff balls of dandelions easily blown away by the wind, are actually:
   a. spores
   b. seeds
   c. sepals
   d. anthers

235. The ________ lays its eggs between the surface layers of leaves. The eggs hatch and the larvae feed on the leaf tissues as they tunnel their way between the leaf surfaces.
   a. fire fly
   b. bagworm
   c. aphid
   d. leaf miner

236. Which of these is true about glyphosate(Roundup)?
   a. concentrations of Roundup to be used vary bases on the type of plant to be controlled
   b. Roundup kills only broadleaf weeds
   c. Roundup kills only grasses
   d. Roundup should be used only on Roundup-Ready plants

237. Turfgrasses generally need ________ sunlight to perform satisfactorily.
   a. at least 2 hours of
   b. at least 3 hours of
   c. at least 6 hours of
   d. only indirect

238. Which of the following elements are generally NOT needed by plants?
   a. C,H,O
   b. Ni, He, Ti
   c. P, K, Mg
   d. Fe, Ca, N

239. Common arrangements of leaves and stems on plants are described as:
   a. Intermediate, regimented, and irregular
   b. parallel, alternate, and regular
   c. opposite, alternative, adn regimented
   d. whorled, opposite, and alternate

240. While the exact ratio mix of gasoline and oil mix for two-cycle engine fuel varies by manufacturer, the ratio generally falls in the range of:
   a. 20:1 and 50:1, gasoline to oil
   b. 20:1 and 50:1, oil to gasoline
   c. 10:1 and 15:1, gasoline to oil
   d. 10:1 and 15:1, oil to gasoline
241. Which of these is not a common payroll deduction for employees?
   a. social security
   b. state income tax
   c. federal income tax
   d. property tax

242. Nutsedge is difficult to control by hand-pulling, hoeing, or tilling because nutsedge:
   a. constantly produces underground seeds that are difficult to kill
   b. propagates from underground tubers and rhizomes.
   c. propagates by spores that are easily spread in the air when the plant is disturbed
   d. can grow easily from leaf-piece cuttings left after hoeing or tilling.

243. Which of the following is the least desirable material to use as a soil amendment?
   a. composted leaves
   b. composted manure
   c. fresh saw dust
   d. peat moss

244. A common fungal disease infecting newly germinated seeds and seedlings is:
   a. black spot
   b. mosaic virus
   c. damping-off
   d. fire blight

245. Covering newly seeded areas with straw helps:
   a. hold in moisture
   b. control erosion from soil splash
   c. slow water runoff
   d. all the above

246. A desirable soil should contain about:
   a. 25% air, 25% water, 50% solid material
   b. 10% air, 10% water, 80% solid material
   c. 50% air, 25% water, 25% solid material
   d. 5% air, 5% water, 90% solid material

247. The soil pH range in which landscape plants grow best varies by plant type, but most plants grow well in the range of:
   a. 5.5 to 6.5 pH
   b. 3.5 to 4.5 pH
   c. 6.5 to 8.5 pH
   d. 7.5 to 9 pH

248. Most of the feeding roots of a tree can be found between ________ inches deep.
   a. 1 and 12
   b. 10 and 30
   c. 10 and 50
   d. 10 and 60

249. Many insect traps use ________ to trap insects.
   a. water
   b. cool air
   c. nectar
   d. sex attractants

250. The most important benefit of using mulch around landscape plants is to:
   a. add nutrients to the soil
   b. conserve soil moisture
   c. recycle waste material
   d. moderate soil texture
### MULTIPLE CHOICE

1. ANS: D  PTS: 1
2. ANS: A  PTS: 1
3. ANS: A  PTS: 1
4. ANS: B  PTS: 1
5. ANS: D  PTS: 1
6. ANS: D  PTS: 1
7. ANS: B  PTS: 1
8. ANS: A  PTS: 1
9. ANS: A  PTS: 1
10. ANS: A  PTS: 1
11. ANS: C  PTS: 1
12. ANS: B  PTS: 1
13. ANS: D  PTS: 1
14. ANS: B  PTS: 1
15. ANS: C  PTS: 1
16. ANS: D  PTS: 1
17. ANS: B  PTS: 1
18. ANS: D  PTS: 1
19. ANS: C  PTS: 1
20. ANS: B  PTS: 1
21. ANS: D  PTS: 1
22. ANS: B  PTS: 1
23. ANS: D  PTS: 1
24. ANS: A  PTS: 1
25. ANS: A  PTS: 1
26. ANS: A  PTS: 1
27. ANS: C  PTS: 1
28. ANS: D  PTS: 1
29. ANS: A  PTS: 1
30. ANS: A  PTS: 1
31. ANS: D  PTS: 1
32. ANS: B  PTS: 1
33. ANS: A  PTS: 1
34. ANS: C  PTS: 1
35. ANS: C  PTS: 1
36. ANS: A  PTS: 1
37. ANS: B  PTS: 1
38. ANS: A  PTS: 1
39. ANS: D  PTS: 1
40. ANS: B  PTS: 1
41. ANS: D  PTS: 1
42. ANS: B   PTS: 1
43. ANS: A   PTS: 1
44. ANS: B   PTS: 1
45. ANS: A   PTS: 1
46. ANS: D   PTS: 1
47. ANS: C   PTS: 1
48. ANS: B   PTS: 1
49. ANS: B   PTS: 1
50. ANS: C   PTS: 1
51. ANS: A   PTS: 1
52. ANS: A   PTS: 1
53. ANS: D   PTS: 1
54. ANS: B   PTS: 1
55. ANS: A   PTS: 1
56. ANS: C   PTS: 1
57. ANS: C   PTS: 1
58. ANS: C   PTS: 1
59. ANS: D   PTS: 1
60. ANS: D   PTS: 1
61. ANS: B   PTS: 1
62. ANS: A   PTS: 1
63. ANS: A   PTS: 1
64. ANS: D   PTS: 1
65. ANS: C   PTS: 1
66. ANS: B   PTS: 1
67. ANS: A   PTS: 1
68. ANS: B   PTS: 1
69. ANS: D   PTS: 1
70. ANS: C   PTS: 1
71. ANS: B   PTS: 1
72. ANS: D   PTS: 1
73. ANS: C   PTS: 1
74. ANS: A   PTS: 1
75. ANS: A   PTS: 1
76. ANS: D   PTS: 1
77. ANS: B   PTS: 1
78. ANS: B   PTS: 1
79. ANS: D   PTS: 1
80. ANS: A   PTS: 1
81. ANS: C   PTS: 1
82. ANS: A   PTS: 1
83. ANS: B   PTS: 1
84. ANS: D   PTS: 1
85. ANS: A   PTS: 1
86. ANS: A   PTS: 1
87. ANS: A   PTS: 1
88. ANS: A   PTS: 1
89. ANS: B PTS: 1
90. ANS: D PTS: 1
91. ANS: D PTS: 1
92. ANS: A PTS: 1
93. ANS: C PTS: 1
94. ANS: A PTS: 1
95. ANS: C PTS: 1
96. ANS: C PTS: 1
97. ANS: A PTS: 1
98. ANS: A PTS: 1
99. ANS: B PTS: 1
100. ANS: C PTS: 1
101. ANS: D PTS: 1
102. ANS: B PTS: 1
103. ANS: D PTS: 1
104. ANS: A PTS: 1
105. ANS: B PTS: 1
106. ANS: C PTS: 1
107. ANS: D PTS: 1
108. ANS: B PTS: 1
109. ANS: A PTS: 1
110. ANS: A PTS: 1
111. ANS: C PTS: 1
112. ANS: B PTS: 1
113. ANS: B PTS: 1
114. ANS: D PTS: 1
115. ANS: B PTS: 1
116. ANS: B PTS: 1
117. ANS: C PTS: 1
118. ANS: A PTS: 1
119. ANS: A PTS: 1
120. ANS: C PTS: 1
121. ANS: D PTS: 1
122. ANS: A PTS: 1
123. ANS: C PTS: 1
124. ANS: C PTS: 1
125. ANS: A PTS: 1
126. ANS: A PTS: 1
127. ANS: A PTS: 1
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129. ANS: A PTS: 1
130. ANS: B PTS: 1
131. ANS: A PTS: 1
132. ANS: B PTS: 1
133. ANS: C PTS: 1
134. ANS: D PTS: 1
135. ANS: B  PTS: 1
136. ANS: D  PTS: 1
137. ANS: A  PTS: 1
138. ANS: B  PTS: 1
139. ANS: B  PTS: 1
140. ANS: B  PTS: 1
141. ANS: A  PTS: 1
142. ANS: B  PTS: 1
143. ANS: A  PTS: 1
144. ANS: B  PTS: 1
145. ANS: D  PTS: 1
146. ANS: B  PTS: 1
147. ANS: A  PTS: 1
148. ANS: C  PTS: 1
149. ANS: A  PTS: 1
150. ANS: A  PTS: 1
151. ANS: A  PTS: 1
152. ANS: C  PTS: 1
153. ANS: B  PTS: 1
154. ANS: B  PTS: 1
155. ANS: D  PTS: 1
156. ANS: A  PTS: 1
157. ANS: C  PTS: 1
158. ANS: A  PTS: 1
159. ANS: D  PTS: 1
160. ANS: D  PTS: 1
161. ANS: D  PTS: 1
162. ANS: C  PTS: 1
163. ANS: A  PTS: 1
164. ANS: A  PTS: 1
165. ANS: C  PTS: 1
166. ANS: D  PTS: 1
167. ANS: B  PTS: 1
168. ANS: A  PTS: 1
169. ANS: B  PTS: 1
170. ANS: C  PTS: 1
171. ANS: B  PTS: 1
172. ANS: C  PTS: 1
173. ANS: D  PTS: 1
174. ANS: B  PTS: 1
175. ANS: C  PTS: 1
176. ANS: D  PTS: 1
177. ANS: A  PTS: 1
178. ANS: B  PTS: 1
179. ANS: D  PTS: 1
180. ANS: D  PTS: 1
181. ANS: B  PTS: 1
182. ANS: A   PTS: 1
183. ANS: C   PTS: 1
184. ANS: C   PTS: 1
185. ANS: A   PTS: 1
186. ANS: B   PTS: 1
187. ANS: C   PTS: 1
188. ANS: C   PTS: 1
189. ANS: A   PTS: 1
190. ANS: A   PTS: 1
191. ANS: C   PTS: 1
192. ANS: A   PTS: 1
193. ANS: D   PTS: 1
194. ANS: C   PTS: 1
195. ANS: C   PTS: 1
196. ANS: A   PTS: 1
197. ANS: B   PTS: 1
198. ANS: B   PTS: 1
199. ANS: B   PTS: 1
200. ANS: B   PTS: 1
201. ANS: A   PTS: 1
202. ANS: C   PTS: 1
203. ANS: C   PTS: 1
204. ANS: D   PTS: 1
205. ANS: C   PTS: 1
206. ANS: D   PTS: 1
207. ANS: C   PTS: 1
208. ANS: A   PTS: 1
209. ANS: D   PTS: 1
210. ANS: D   PTS: 1
211. ANS: A   PTS: 1
212. ANS: B   PTS: 1
213. ANS: B   PTS: 1
214. ANS: C   PTS: 1
215. ANS: B   PTS: 1
216. ANS: D   PTS: 1
217. ANS: B   PTS: 1
218. ANS: C   PTS: 1
219. ANS: D   PTS: 1
220. ANS: B   PTS: 1
221. ANS: B   PTS: 1
222. ANS: C   PTS: 1
223. ANS: A   PTS: 1
224. ANS: A   PTS: 1
225. ANS: B   PTS: 1
226. ANS: A   PTS: 1
227. ANS: B   PTS: 1
228. ANS: A  PTS:  1
229. ANS: C  PTS:  1
230. ANS: A  PTS:  1
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234. ANS: B  PTS:  1
235. ANS: D  PTS:  1
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239. ANS: D  PTS:  1
240. ANS: A  PTS:  1
241. ANS: D  PTS:  1
242. ANS: B  PTS:  1
243. ANS: C  PTS:  1
244. ANS: C  PTS:  1
245. ANS: D  PTS:  1
246. ANS: A  PTS:  1
247. ANS: A  PTS:  1
248. ANS: A  PTS:  1
249. ANS: D  PTS:  1
250. ANS: B  PTS:  1