Iowa FFA
Nursery/Landscape CDE 2007 – General Knowledge Test

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

_____ 1. Which of the following would increase the water requirements of a container-grown plant?
   a. a hot day
   b. a plant in bloom
   c. a broadleaf evergreen
   d. all of the above
   e. only b and c are correct

_____ 2. Sterile planting media, sanitary growing site, and new or sterilized containers are the best way to control which of the following?
   a. insects
   b. growth of the plants
   c. disease
   d. temperature
   e. a and c are correct

_____ 3. Roots of many container-grown woody plants die when the soil drops below what temperature?
   a. 20ºF
   b. 40ºF
   c. 30ºF
   d. 50ºF
   e. none as temperature doesn't impact the roots

_____ 4. Which one of the following is not a popular annual flowering plant?
   a. marigolds
   b. tulips
   c. petunia
   d. zinnia
   e. a and d are correct

_____ 5. Perennials are transplanted in the _____.
   a. winter and summer
   b. fall and spring
   c. winter, spring, summer, and fall
   d. summer
   e. anytime during the year in zones 3 through 5

_____ 6. The leaves of narrowleaf evergreens may be either _____.
   a. simple or compound
   b. needlelike or scalelike
   c. alternate or opposite
   d. all of the above

____ 7. Which of the following is not a narrowleaf evergreen?
   a. yew
   b. juniper
   c. wisteria
   d. red pine
   e. all the above are

____ 8. Bare root trees are planted only when they are ____.
   a. brown
   b. awake
   c. dormant
   d. wet
   e. actively growing

____ 9. After a tree has been planted, to ensure a good supply of water, a ring or ____ should be formed around the base of the tree to hold water.
   a. net
   b. pool
   c. hill
   d. berm
   e. circle

____ 10. The best time to plant bare root deciduous shrubs is when they are ____.
   a. green
   b. brown
   c. awake
   d. dormant
   e. activley growing

____ 11. What time of year are deciduous shrubs generally fertilized?
   a. summer
   b. spring
   c. fall
   d. winter
   e. anytime in zones 4 to 6

____ 12. Most of the diseases that affect deciduous shrubs are caused by ____.
   a. bacteria and fungi
   b. fertilizer
   c. water
   d. ticks and mites
   e. viruses

____ 13. If the proper ground cover plants are selected, ____ should not be necessary after the first year.
   a. berms
   b. watering
   c. fertilizing
   d. pruning
   e. weeding

____ 14. Which ground cover needs moist soil high in organic matter, shade to grow, has a white flower and small, shiny, and green leaves?
    a. Evergreen candytuft
    b. Creeping mahonia
    c. Heath
    d. Wintergreen
    e. a and b are correct

____ 15. Bulbs are more attractive when planted in a ____.
    a. pile
    b. zigzag
    c. line
    d. mass
    e. circular group

____ 16. At what angle should stems be cut for pruning?
    a. 45 degree angle
    b. 90 degree angle
    c. 20 degree angle
    d. 180 degree angle
    e. 360 degree angle

____ 17. Cutting off all the lateral roots of the plant in a circle around the stem is ____.
    a. root pruning
    b. lateral pruning
    c. stem pruning
    d. thinning
    e. hacking

____ 18. With xeriscaping, plants are grouped together in relation to their ____ needs.
    a. fertilizer
    b. soil
    c. sun
    d. water
    e. genus and species

____ 19. By what percentage will mulching reduce evaporation?
    a. 10 percent
    b. 90 percent
    c. 50 percent
    d. 100 percent
    e. none, mulching only helps reduce weed growth

____ 20. For new lawns, how many inches of topsoil should be spread over the rough grade subsoil?
    a. ten
    b. four
    c. six
    d. two
    e. one

____ 21. If the slope of a lawn is greater than ____ percent, then it should be covered with plants that do not require mowing.
   a. 5 percent
   b. 10 percent
   c. 15 percent
   d. 25 percent
   e. greater than 25 percent

____ 22. What is an acceptable/recommended pH level for most grasses?
   a. 7.0 to 7.5
   b. 5.0 to 7.0
   c. 4.5 to 5.0
   d. 6.0 to 6.5
   e. Any of these will work.

____ 23. What is the single most important factor in maintaining a good lawn?
   a. proper fertilizing and pH adjustment
   b. proper watering
   c. right amount of sun
   d. weeding on time
   e. re-seeding each summer

____ 24. Identify the machine that pulls plugs out of the soil and leaves holes in the lawns for air and water to enter.
   a. rigger
   b. mower
   c. plugger
   d. sodder
   e. (MG) mechanical gopher

____ 25. When mowing a lawn, how much of the top should be removed at any one mowing?
   a. one-half
   b. one-third
   c. one inch left
   d. three inches left
   e. none are correct

Nursery/Landscape CDE 2007
Answer Section

MULTIPLE CHOICE

  1. D
  2. C
  3. A
  4. B
  5. B
  6. B
  7. C
  8. C
  9. D
 10. D
 11. B
 12. A
 13. B
 14. D
 15. D
 16. B
 17. A
 18. D
 19. B
 20. C
 21. C
 22. D
 23. A
 24. C
 25. B

2007 Iowa Landscape/Nursery CDE
Assessment and Solutions Practicum

Questions #1:

This mower is not properly working. What is the most likely problem?

a. The blade is missing   b. The blade has nicks in it
c. It is out of gas   d. It is low on oil.
e. The spark plug is fouled

Questions #2:

This hand pruner is not doing an effective/efficient job of pruning. What is the main reason for that?

a. It is dull   b. It is missing a part
c. It has a broken lock   d. If is designed for a left-handed person
e. It has a cracked handle

Questions #3:

The area designated by the enclosed area needs to be paved. Would it be cheaper to use (a) 4 inch by 8 inch pavers at $ .47 each, (b) 12 inch by 12 inch pavers at $2.89 each, (c) 16 inch by 16 inch pavers at $3.89 each, or (d) poured concrete at $5.50 per cubic foot. The thickness would be 4 inches.

a. 4 inch x 8 inch pavers   b. 12 inch x 12 inch pavers
c. 16 inch x 16 inch pavers   d. poured concrete

Question #4

On the displayed plant, evaluate the four positions marked on what would be <u>the most critical point</u> to be pruned?

a. Point A   b. Point B   c. Point C   d. Point D

Question #5

The container shown (laid out) if filled with potting soil, would hold how much soil?

a. < than 1 cubic foot   b. 1 to 2 cubic feet   c. 2 to 3 cubic feet d. > than 1 cubic feet

Question #6

The landscape blocks that you see before you are to be used to eventually construct a wall that would be 2 feet tall and 12 feet long. If the blocks cost $1.29 each, how much would this wall approximately cost for just the blocks?

a. $87   b. $98   c. $139   d. $178

Question #7:

The plant before you will later be asexually propagated by taking cuttings. Of the containers laid out, which would work best for 'sticking' the cuttings?

a. container "A"   b. container "B"
c. container "C"   d. container "D"

Question #8:

This tree needs to be tagged at the nursery. Your task is to use the caliper provided to measure the tree. What is the correct caliper size of this tree?

a. < than 1 inch   b. 1 to 2 inches
c. 2 inch to 3 inches   d. > than 3 inches

Question #9:

The aerator shown (30 inches wide) has a recommended travel speed of 180 feet per minute in order to do an effective job. How long would it take to complete a football field including the end zones **if there were no down time**? (160 feet by 360 feet)

a. < 1 hour   b. 60 to 90 minutes
c. 90 to 120 minutes   d. > than 2 hours

Question #10:

What would you use this tool for?

a. To transplant seedling plants   b. To edge planting beds
c. Root pruning a spirea   d. Spreading mulch under a tree

Iowa FFA Nursery/Landscape CDE 2007
Landscape Drawing Practicum

Question 1:

Area "A" is situated between the street and the sidewalk. It was recently renovated and now needs to be sodded. If the sod comes in rolls that are 18 inches wide and 4 feet long, and sell for $4.50 per roll. Approximately how much will it cost to sod area "A" including tax (7%)?

      a. $45.00   b. $ 450.00   **c. $481.50**   d. $40.13   e. none of these

Question 2:

There is a row of burning bushes on the East side of the property. These shrubs when fully mature will have a spread of 8 to 10 feet. How many <u>should be planted</u> in the row indicated knowing that they will have a mature spread of 10 feet?

      a. 6   **b. 7**   c. 8   d. 9   e. 10

Question 3:

There is a patio on the southeast side of the house that leads into and out of the garage. If this patio were to be removed and new 16 inch pavers put in at a cost of $3.69 each, how much would it cost? (this will require a new paver base that is 2 inches deep. Paver base costs $2.69 per 1 cubic foot bag). Be sure to figure in taxes on materials at 7%. (also, you can not purchase partial pavers or bags of paver base)

      a. $520.29   b. $556.71   c. $112.98   **d. $677.60**   e. $633.27

Question 4:

The owners are debating whether or not in Area "B" to have it planted into groundcovers that are spaced every 1 foot on-center apart. If the groundcover costs $1.50 each, how much will it cost to plant area "B"? (tax included at 7%).

      a. $562.50   b. $56.50   c. $60.46   d. $401.25   **e. none of these**

Question 5:

Area "C" needs to be seeded. The seeding rate is 3 pounds per 1000 square feet and the cost of hydroseeding is 8 cents per square foot. Including tax at 7%, how much will it cost to hydroseed area "C"?

      a. $17.12   b. $160.00   c. $80.00   d. $85.60   e. $171.20

Question 6:

Area "D" has a grub problem. The insecticide to be sprayed on recommends an application of 3 ounces of insecticide mixed with 10 gallons of water per 100 square feet. <u>How many ounces of insecticide are required for area "D"?</u>

a. 1.8 gallons   b. 1.8 ounces   **c. 18 ounces**   d. 180 ounces   e. not enough information

Question 7:

What is the approximate spread of the tulip tree in this plan?

a. 10 feet   b. 15 feet   **c. 20 feet**   d. 25 feet   e. none of these

Question 8:

This fall, areas "A", "B", "C", and "D" will need to be fertilized. A bag of fertilizer will cover 2,500 square feet if applied at the correct application rate. How many bags of fertilizer will this lawn need?

a. 1   b. 2   c. 3   d. 4   e. none of these

Question 9:

Mulching will be done in the area of the 'burning bushes', 'upright yews' and the 2 annual beds in front of the house. If mulch is applied at an average of 2 inches deep and sells for $28 per cubic yard, how much will it cost to mulch these areas? Include tax at 7%. (mulch will be sold in bulk and you must order to the next whole number)

a. $8863.16   **b. $329.56**   c. $249.67   d. $277.41   e. none of these

Question 10:

What types of flowers are planted in the annual beds?

a. Dusty Miller   **b. Petunias**   c. Begonia   d. all of these   e. none of these

2007 Iowa Landscape/Nursery CDE
Plant Disorders Practicum

Station #1

1. The plant disorder before you is most likely caused by:
   a. **Fungus.**
   b. Parasites.
   c. Dry, warm weather.
   d. A nutritional deficiency.
   e. Both A and C are the most correct.

Apple scab

2. The best recommendation for the management/correction of this disorder would be:

   a. Use a contact insecticide.
   b. Use recommended rates of application.
   c. Cultural practices.
   d. **Proper sanitation by collection and disposal of fallen leaves in the summer.**
   e. Both C and D are the most correct.

Station #2:

3. The plant disorder before you is most likely caused by:
   a. A bacterial pathogen.
   b. Environmental stress.
   c. Plant injuries.
   d. Unfavorable chemical usage.
   e. **All of these.**

canker

4. The best recommendation to avoid this disorder would be:
   a. Water often.
   b. A herbicide application following the onset of symptoms.
   c. **Correct plant selection for your area.**
   d. Addition of ammonium sulfate.
   e. Nothing, usually controlled effectively by nature.

Station #3:

5. The plant disorder before you is:
   a. An annual weed plant.
   b. **A perennial weed plant.**
   c. A fungus disorder.
   d. A weed plant that has stolons.
   e. Both b and d are correct.

Creeping charlie

6. The best recommendation for the management/correction of this disorder would be:
  a. **Proper lawn maintenance such as regular, proper mowings; feedings, and waterings.**
  b. An application of a non-selective insecticide.
  c. An application of a non-selective broadleaf herbicide.
  d. The application of 2-4 D and MCPP in mid-summer.
  e. A post-emergence broadleaf grass and weed killer.

Station #4:

7. The main cause of the plant disorder before you is:
  a. In-correctly applied insecticides.
  b. A chewing insect pest.
  c. An egg laying insect pest
  d. **Cool, wet weather.**
  e. All the above.

Leaf spot

8. The best recommendation for the management/correction of this disorder would be:
  a. An application of a balanced fertilizer in the early spring.
  b. The addition of potassium to the soil.
  c. An application of dormant oil sprays in the spring.
  d. **A fungicide and summer pruning.**
  e. Choose plants adaptable to local growing conditions.

Station #5:

9. The plant disorder before you is most likely caused by:
  a. Over application of lime.
  b. A chewing insect.
  c. A piercing/sucking insect.
  d. **A fungus**
  e. B and C are correct.

Powdery mildew

10. The best recommendation to avoid this disorder would be:
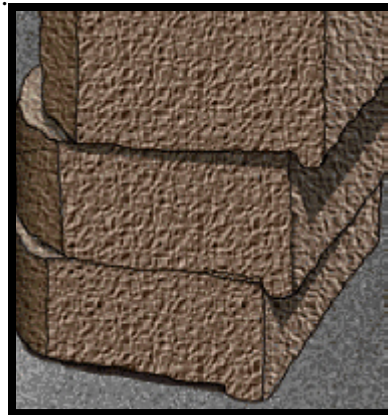 a. Decrease air circulation in the area.
  b. **Avoid using overhead watering to reduce relative humidity.**
  c. Plant resistant plants in infested areas.
  d. Increase the planting populations – plant more plants/square foot.
  e. All the above.

2007 Iowa FFA
Nursery/Landscape CDE
Problem Solving Activity

Problem #1:

Unmanageable slopes pose a danger to those who must mow or rake them. They may also be affected by erosion from run off that can create unattractive ruts that just grow deeper and wider over time. With a little effort, you can take control of that slope and convert it into a decoratively landscaped area that looks great and is easier to maintain.

Modern retaining wall systems can be delivered to your home on pallets. The best part of the job is that the blocks interlock and require no mortar. Retaining wall blocks in morterless systems have a lip on the bottom rear side to lock the blocks together and create a step effect, with the wall leaning backwards. When the cavity behind the wall is filled with soil, the blocks are pushed forward, strengthening the joint between the lips and the underlying blocks. The blocks are tapered from the front face to the rear to allow easy formation of curves. Each block measures 4" thick x 12" long x 6" deep. If the retaining wall bricks cost $1.89 each plus tax (6%), how much will the bricks cost to construct a wall that is 3' high and 40' long?

a. $604.80   b. $680.40   **c. $721.22**   d. $761.29

Problem #2

Standard bricks measure 4 x 8 inches, so you'll need about 45 bricks to cover every 10 square feet of walkway. For rectangular walkways, calculate the square footage by multiplying the length by the width and add 5 percent to that number for breakage and later repairs. You are preparing to install a brick walkway that is 6 feet wide and 120 feet long. How many bricks will you need?

a. 3240 bricks   b. **3402 bricks**   c. 2160 bricks   d. 3245 bricks

Problem #3:

If one gallon of water mixed with 1.94 ounces of liquid fungicide make a 2.5% solution, how many ounces of fungicide would be needed to make a 3.75 % solution?

a. 1.9975
b. 2.19
c. **2.91**
d. 3.88

Problem #4:

The finished dimensions on the arbor shown are 56 inches wide, 45 inches deep, and 144 inches tall (including the legs). Below is a list of materials for arbor's construction. How much was the arbor's total cost (not including tax, delivery, or construction fee)?

Amt Used	Materials	Unit cost
4	10' pressure treated 4x4	$ 6.99
10	8 ounce weatherproof glue	$ 1.25
6	Pounds galvanized deck screws	$ 2.20
24	8' pressure-treated lattice strips	$ 4.99
2	Pound galvanized 8d finishing nails	$ 3.15
1	Can weatherproof putty	$ 2.50
4	10' 5/4 inch pressure treated deck boards	$ 9.99
2	Pressure treated arches	$ 21.50
1	6' pressure treated 1 x 6	$ 6.75
1	Gallon can primer paint & brushes	$ 7.99
1	Gallon can exterior paint & brushes	$ 9.99
6	40 pound bags concrete mix	$ 6.75

a. $387.19   b. **$330.41**   c. $320.42   d. $289.65
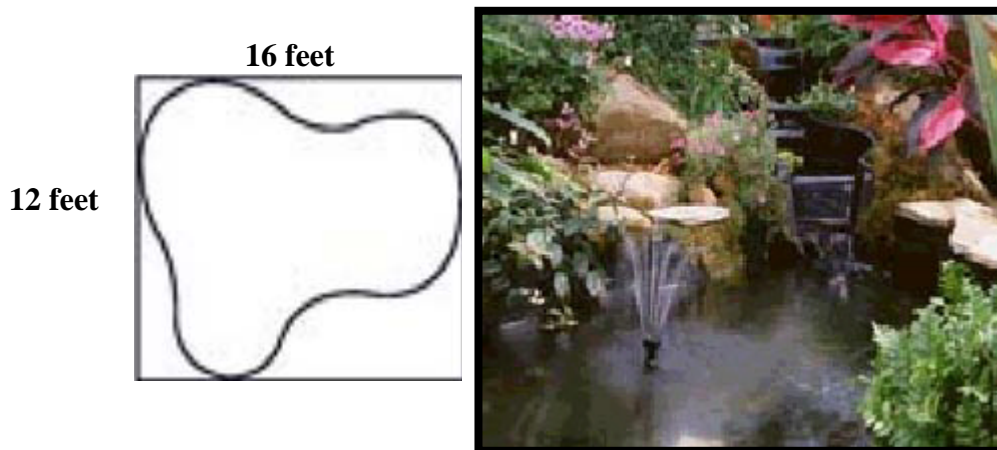
Problem #5:

Flexible pond liners come in a variety of standard sizes. Some garden suppliers carry large rolls of liner material in standard widths. To estimate the amount of liner you need, determine the actual size of your garden pond. The liner must fit the pond and overlap the edges for proper fit. To allow for pond depth, decide on the maximum depth of the pond, double it, and add this figure to the width and length of the rectangle. To provide a 12-inch overlap, add an additional 24 inches to the width and length of the liner. If you want your pond to be 30 inches deep and fit inside a 16 ft. x 12 ft. rectangle, what size liner should you buy?

Formula:
Formula for Width = Width of pool + (Depth x 2) + 24 inches (for overlap)

Formula for Length = Length of pool + (Depth x 2) + 24 inches (for overlap)

16 feet

12 feet

    a. 18 x 22 foot liner
    b. **19 x 23 foot liner**
    c. 14 x 18 foot liner
    d. 12 x 16 foot liner