Iowa FFA
2001 Floriculture CDE
General Knowledge Examination

1. Which of the following is not one of the four major divisions of the horticulture industry?

   a. Floriculture
   b. Pomology
   c. Arborology
   d. Landscape and nursery
   e. None of these

2. Scientists who identify and classify plants are known as:

   a. Taxonomists
   b. Herbologists
   c. Horticulturists
   d. Gardeners
   e. Plantidentist

3. What structure underneath the leaf allows the leaf to breathe and/or transpire?

   a. Stem
   b. Pistil
   c. Stoma
   d. Chloroplasts
   e. Airopotics

4. Name the two main parts of the external leaf.

   a. Leaf and stalk
   b. Blade and stalk
   c. Petiole and blade
   d. Petiole and leaf stalk
   e. Margin and petiole

5. What color in green plants indicates a deficiency of nitrogen?

   a. Blue
   b. Purple
   c. White
   d. Green
   e. Yellow

6. What is the percentage of water in a plant?

    a. 95 percent
    b. 90 percent
    c. 85 percent
    d. 80 percent
    e. 60 percent

7. Besides carbon monoxide, what is another major air pollutant that can damage or kill plants?

    a. Carbon dioxide
    b. Sodium Chlorate
    c. Potassium Sulfate
    d. Sulfur dioxide
    e. Nitrogen Phosphate

8. Why would a greenhouse operator add carbon dioxide to the environment of certain plants?

    a. Slow down growth rates
    b. Speed up growth rates
    c. Control insects
    d. Stimulates root hairs to become thicker
    e. Stimulates the development of cambium tissue

9. Growth regulating substances in plants are called?

    a. Steroids
    b. Hormones
    c. Fertilizers
    d. Nitrates
    e. Residues

10. A chemical _____ is used to make plants shorter and more compact, thus making the stems more able to support flowers?

    a. Hormone
    b. Fertilizer
    c. Retardant
    d. Stimulant
    e. Inhibitor

11. Which of the following is not a prominent plant hormone?

    a. Auxins
    b. Gibberellins
    c. Cytokinins
    d. Indolebutyric acid (IBA)
    e. Inhibitors

12. This hormone is responsible for stimulating cell division.

    a. Auxins
    b. Gibberellins
    c. Cytokinins
    d. Indolebutyric Acid (IBA)
    e. Inhibitors

13. Which of the following is not a recommended method of watering interior plants?

    a. Keep media constantly dry
    b. Drench and let dry
    c. Keep media moist
    d. Drench and let dry slightly
    e. Keep evenly moist

14. Which of the following is the best way to clean the leaves of an indoor plant?

    a. Use a heavy shower of water
    b. Wash with a diluted solution of vinegar and luke warm water
    c. Use a fine spray of water
    d. Use mayonnaise and warm water
    e. Use warm water and baby oils

15. What terms describe a fertilizer that has been coated with plastic and dissolves over a period of time?

    a. Slow release
    b. Water soluble
    c. Time encapsulated
    d. TSF (timed slowed fertilizer)
    e. None of the above

16. Besides mildew, what is the other most common disease of indoor plants?

    a. Fungus
    b. Botrytis
    c. Aphids
    d. Phytrium
    e. None of the above

17. Which of the following is not considered to be one of the most commonly used plants in terrariums:

    a. Cacti
    b. Succulents
    c. Woodland plants
    d. Tropical plants
    e. Rosaceae

18. In floral design, an arrangement that has equal visual weight is known as?

    a. Style
    b. Sameness
    c. Harmony
    d. Equality
    e. Balance

19. Which of the following floral terms best describes the design principle of: "a total look that flows together"?

    a. Accent
    b. Harmony
    c. Massing flowers
    d. Scale
    e. Rhythm

20. Which of the following in not considered one of the basic floral design shapes?

    a. Hogarth Curve
    b. Crescent
    c. Horizontal
    d. Obtuse Angle
    e. Triangle

21. What tool is used when a feathered carnation corsage is made?

    a. Wire cutter
    b. Florist knife
    c. Florist Scissors
    d. Florist Pliers
    e. Fingers and hands

22. When wiring gladiolus and mums, which wiring method should be used?

    a. Hook
    b. Hairpin
    c. Clutchwire
    d. Piercing
    e. A or B

23. What is not a reason why florists use wire in corsages?

    a. To hold the flowers in their natural position
    b. To hold the flowers in the correct position in the design
    c. To make arranging the flowers in the corsage easier
    d. To prevent the flower heads from breaking off the natural stems
    e. To make adding accessories such as bows easier.

24. Which of the following factors is not considered important in the greenhouse production of poinsettias?

    a. Maximum sunlight
    b. Optimal Temperatures (65 to 75 degrees F)
    c. Moisture
    d. Ventilation
    e. Clay-Loam media

25. When potted mum cuttings are first placed in a growing area, the greenhouse temperature at night should be kept at?

    a. 67 degrees F
    b. 63 degrees F
    c. 61 degrees F
    d. 54 degrees F
    e. 51 degrees F

Iowa FFA
2001 Floriculture CDE
General Knowledge Examination--KEY

1   Which of the following is not one of the four major divisions of the horticulture industry?

    a.   Floriculture
    b.   Pomology
    c.   Arborology
    d.   Landscape and nursery
    e.   None of these

2. Scientists who identify and classify plants are known as:

    a.   Taxonomists
    b.   Herbologists
    c.   Horticulturists
    d.   Gardeners
    e.   Plantidentist

3. What structure underneath the leaf allows the leaf to breathe and/or transpire?

    a.   Stem
    b.   Pistil
    c.   Stoma
    d.   Chloroplasts
    e   Airopotics

4. Name the two main parts of the external leaf.

    a.   Leaf and stalk
    b.   Blade and stalk
    c.   Petiole and blade
    d.   Petiole and leaf stalk
    e.   Margin and petiole

5. What color in green plants indicates a deficiency of nitrogen?

    a.   Blue
    b.   Purple
    c.   White
    d.   Green
    e.   Yellow

6. What is the percentage of water in a plant?

    a. 95 percent
    b. 90 percent
    c. 85 percent
    d. 80 percent
    e. 60 percent

7. Besides carbon monoxide, what is another major air pollutant that can damage or kill plants?

    a. Carbon dioxide
    b. Sodium Chlorate
    c. Potassium Sulfate
    d. Sulfur dioxide
    e. Nitrogen Phosphate

8. Why would a greenhouse operator add carbon dioxide to the environment of certain plants?

    a. Slow down growth rates
    b. Speed up growth rates
    c. Control insects
    d. Stimulates root hairs to become thicker
    e. Stimulates the development of cambium tissue

9. Growth regulating substances in plants are called?

    a. Steroids
    b. Hormones
    c. Fertilizers
    d. Nitrates
    e. Residues

10. A chemical _____ is used to make plants shorter and more compact, thus making the stems more able to support flowers?

    a. Hormone
    b. Fertilizer
    c. Retardant
    d. Stimulant
    e. Inhibitor

11. Which of the following is not a prominent plant hormone?

    a. Auxins
    b. Gibberellins
    c. Cytokinins
    d. Indolebutyric acid (IBA)
    e. Inhibitors

12. This hormone is responsible for stimulating cell division.

    a. Auxins
    b. Gibberellins
    c. Cytokinins
    d. Indolebutyric Acid (IBA)
    e. Inhibitors

13. Which of the following is not a recommended method of watering interior plants?

    a. Keep media constantly dry
    b. Drench and let dry
    c. Keep media moist
    d. Drench and let dry slightly
    e. Keep evenly moist

14. Which of the following is the best way to clean the leaves of an indoor plant?

    a. Use a heavy shower of water
    b. Wash with a diluted solution of vinegar and luke warm water
    c. Use a fine spray of water
    d. Use mayonnaise and warm water
    e. Use warm water and baby oils

15. What terms describe a fertilizer that has been coated with plastic and dissolves over a period of time?

    a. Slow release
    b. Water soluble
    c. Time encapsulated
    d. TSF (timed slowed fertilizer)
    e. None of the above

16. Besides mildew, what is the other most common disease of indoor plants?

    a. Fungus
    b. Botrytis
    c. Aphids
    d. Phytrium
    e. None of the above

17. Which of the following is not considered to be one of the most commonly used plants in terrariums:

    a. Cacti
    b. Succulents
    c. Woodland plants
    d. Tropical plants
    e. Rosaceae

18. In floral design, an arrangement that has equal visual weight is known as?

    a. Style
    b. Sameness
    c. Harmony
    d. Equality
    e. Balance

19. Which of the following floral terms best describes the design principle of: "a total look that flows together"?

    a. Accent
    b. Harmony
    c. Massing flowers
    d. Scale
    e. Rhythm

20. Which of the following in not considered one of the basic floral design shapes?

    a. Hogarth Curve
    b. Crescent
    c. Horizontal
    d. Obtuse Angle
    e. Triangle

21. What tool is used when a feathered carnation corsage is made?

    a. Wire cutter
    b. Florist knife
    c. Florist Scissors
    d. Florist Pliers
    e. Fingers and hands

22. When wiring gladiolus and mums, which wiring method should be used?

    a. Hook
    b. Hairpin
    c. Clutchwire
    d. Piercing
    e. A or B

23. What is not a reason why florists use wire in corsages?

    a. To hold the flowers in their natural position
    b. To hold the flowers in the correct position in the design
    c. To make arranging the flowers in the corsage easier
    d. To prevent the flower heads from breaking off the natural stems
    e. To make adding accessories such as bows easier.

24. Which of the following factors is not considered important in the greenhouse production of poinsettias?

    a. Maximum sunlight
    b. Optimal Temperatures (65 to 75 degrees F)
    c. Moisture
    d. Ventilation
    e. Clay-Loam media

25. When potted mum cuttings are first placed in a growing area, the greenhouse temperature at night should be kept at?

    a. 67 degrees F
    b. 63 degrees F
    c. 61 degrees F
    d. 54 degrees F
    e. 51 degrees F

Problem 1:

A florist has been asked to prepare an order for an upcoming wedding. The order consists of 9 corsages, 12 boutonnieres, and a boutique. Each corsage costs the floral owner $4.50 in materials. Each boutonniere costs the floral owner $3.95 in materials, and the boutique costs the floral owner $12.36 in materials. The floral owner is marking up all wholesale prices by 150 percent. In addition, each corsage takes 15 minutes to make, each boutonniere takes 10 minutes, and the boutique takes 30 minutes. The floral owner determines that her time is worth $12.00 per hour. If sales tax is 6%, how much is this customer's bill?

a. $100.26   b. $150.39   c. $207.39   d. $219.83   e. none of these

Problem 2:

A greenhouse owner discovers that three of her growing houses have an insect problem. She determines that the best way to treat this problem is to spray insecticide XXX for three consecutive days. Each growing house has 6 benches that are each 6 feet wide and 400 feet long. The application rate for this insecticide mixture is 1 gallon per 50 square feet. The mixing directions call for one-half (1/2) ounce of chemical per gallon of water. If this chemical costs $180 per gallon and the sales tax is 6%, what will this owner need to pay for all the chemical XXX they will need?

a. $643.95   b. $518.35   c. $321.98   d. $214.65   e. none of these

Problem 3:

A retail floral shop in one day had the following sales: 18 floral arrangements @ $25.00 each; 6 corsages @ $15.00 each; 11 miscellaneous houseplants @ an average of $9.50 each; and 4 planter boxes @ an average of $11.30 each. This florist normally marks up all her inventory by 50%. With this information, what was this floral shop owners wholesale prices for all products sold this day?

a. $344.85   b. $459.80   c. $919.60   d. $689.70   e. none of these

Problem 4:

A severe bacterial disease has attacked plants in a greenhouse. A new fungicide has been recommended as a treatment. The greenhouse has 8 different growing benches that are each 4 feet wide and 80 feet long. The application rate for this new fungicide is .5 (one-half) gallons per 10 square feet of bench space. The fungicide is mixed at the rate of 3 ounces per 10 gallons of water. The fungicide sells for $225 per gallon. How many gallons of fungicide are needed per application?

a. 128   b. 30   c. 11.5   d. .3   e. none of these

Problem 5:

Flowers-R-Us just received an order from a customer that lives 46 miles away. They ordered 24 centerpieces for a large reception to be held that evening. The wholesale cost of each centerpiece is $11.39 each (does not include labor). Each centerpiece takes 20 minutes to make. The owner marks-up the wholesale prices by 75%. She figures labor at $15 per hour. The delivery charge is $25.00 (not taxable). If sales tax is 6%, what is the total bill for this order?

a. $672.18   b. $634.28   c. $478.38   d. $443.46   e. none of these

Problem 1:

A florist has been asked to prepare an order for an upcoming wedding. The order consists of 9 corsages, 12 boutonnieres, and a boutique. Each corsage costs the floral owner $4.50 in materials. Each boutonniere costs the floral owner $3.95 in materials, and the boutique costs the floral owner $12.36 in materials. The floral owner is marking up all wholesale prices by 150 percent. In addition, each corsage takes 15 minutes to make, each boutonniere takes 10 minutes, and the boutique takes 30 minutes. The floral owner determines that her time is worth $12.00 per hour. If sales tax is 6%, how much is this customer's bill?

a. $100.26   b. $150.39   c. $207.39   d. $219.83   e. none of these

answer: (9 x $4.50) + (12 x $3.95) + (1 x $12.36) = $100.26 + 50% = $150.39
         (9 x 15min/60 x $12/hr) + (12 x 10min/60 min x $12/hr) + (1 x 30min/60 min x $12) = $57.00
         $150.39 + $57.00 x 6% = $219.83

Problem 2:

A greenhouse owner discovers that three of her growing houses have an insect problem. She determines that the best way to treat this problem is to spray insecticide XXX for three consecutive days. Each growing house has 6 benches that are each 6 feet wide and 400 feet long. The application rate for this insecticide mixture is 1 gallon per 50 square feet. The mixing directions call for one-half (1/2) ounce of chemical per gallon of water. If this chemical costs $180 per gallon and the sales tax is 6%, what will this owner need to pay for all the chemical XXX they will need?

a. $643.95   b. $518.35   c. $321.98   d. $214.65   e. none of these

Answer: 3 days x 3 house x 6 benches x 6 ft x 400 ft x 1 gallon x .5 ounces x 1 gallon x $ 180 + 6% = $321.98
                                                      50 sq ft   gallon   128 oz   Gal

Problem 3:

A retail floral shop in one day had the following sales: 18 floral arrangements @ $25.00 each; 6 corsages @ $15.00 each; 11 miscellaneous houseplants @ an average of $9.50 each; and 4 planter boxes @ an average of $11.30 each. This florist normally marks up all her inventory by 50%. With this information, what was this floral shop owners wholesale prices for all products sold this day?

a. $344.85   b. $459.80   c. $919.60   d. $689.70   e. none of these

answer: ((18 x $25) + (6 x $15) + (11 x $9.50) = (4 x $11.30)) / 1.50 = $459.80

Problem 4:

A severe bacterial disease has attacked plants in a greenhouse. A new fungicide has been recommended as a treatment. The greenhouse has 8 different growing benches that are each 4 feet wide and 80 feet long. The application rate for this new fungicide is .5 (one-half) gallons per 10 square feet of bench space. The fungicide is mixed at the rate of 3 ounces per 10 gallons of water. The fungicide sells for $225 per gallon. How many gallons of fungicide are needed per application?

a 128   b 30   c 11.5   **d. .3**   e. none of these

answer: (8 x 4 x 80) = 2560 sq ft x .5 gallons   x 3 ounces   x 1 gallon =   .3 gallons
                                                    10 sq ft   10 gallons   128 ounces

Problem 5:

Flowers-R-Us just received an order from a customer that lives 46 miles away. They ordered 24 centerpieces for a large reception to be held that evening. The wholesale cost of each centerpiece is $11.39 each (does not include labor). Each centerpiece takes 20 minutes to make. The owner marks-up the wholesale price of the centerpieces by 75% She figures labor at $15 per hour. The delivery charge is $25.00 (not taxable). If sales tax is 6%, what is the total bill for this order?

a. $672.18   b. $634.28   c. $478.38   d. $443.46   **e. none of these**

answer: (24 x 11.39 + 75%) + (24 x 20 minutes x $15/hr) + 6% + $25 = **$659.28**
                                              60 minutes/hr