

2018 Iowa FFA Floriculture Test

1. What is the male part of a flower?
 - a. Pistil
 - b. Stamen
 - c. Petal
 - d. Sepal

2. Which of the following is the correct taxonomy hierarchy?
 - a. Kingdom, Phylum, Class, Order
 - b. Phylum, Kingdom, Order, Class
 - c. Order, Phylum, Class, Kingdom
 - d. Class, Phylum, Kingdom, Order

3. _____ is the evaporation of water through plant leaves and stems, primarily through stomata.
 - a. Photosynthesis
 - b. Transpiration
 - c. Guttation
 - d. Chlorophyll

4. Which of the following carries water and minerals upwards in the plant?
 - a. Cambium
 - b. Sepal
 - c. Phloem
 - d. Xylem

5. As a plant grows, the number of plant cells increases in the plant (chromosome pairs duplicate in each new cell). This is known as _____.
 - a. Cytoplasm
 - b. Meiosis
 - c. Mitosis
 - d. Mitochondria

6. Poinsettias can be kept more compact by creating longer nights by shading them from the hours of _____ to _____.
 - a. 8 PM, 8 AM
 - b. 5 PM, 8 AM
 - c. 5 PM, 5 AM
 - d. 8 PM, 5 AM

7. _____ is created in a floral design when all parts flow together to give a completed look to a floral arrangement.
- Accent
 - Repetition
 - Unity
 - Harmony
8. Which one of these flowers is NOT considered a massing flower?
- Zinnias
 - Tulip
 - Cone Flowers
 - Protea
9. When wiring and taping a daisy chrysanthemum for a corsage which wiring method is preferred?
- Piercing
 - Clutchwire
 - Hook
 - Hairpin
10. What width is #9 ribbon?
- 2 & 11/16"
 - 1 & 7/16"
 - 5/8"
 - 5/16"
11. Which material of ribbon, below, is considered the easiest to work with in floral design?
- Satin
 - Velvet
 - Plastic
 - Cotton
12. Which of the following is NOT used when creating an outdoor Christmas garland?
- Holly
 - Boxwood
 - Cedar
 - Eucalyptus
13. Which of the following business structures is the easiest to begin and most private?
- Sole proprietorship
 - Partnership
 - Limited partnership
 - Corporation

14. Which of the following would NOT make your indoor display more successful?
- Bright and flashy colors
 - Keep the display simple
 - Keep the display small
 - Coordinate with other advertising
15. _____ is the art of trimming and training plants into ornamental shapes.
- Espalier
 - Root pruning
 - Topiary
 - Bonsai
16. Balance is achieved in a floral design when flower size and container flow together and _____ each other.
- Alternate
 - Clash with
 - Complement
 - Accent
17. _____ flowers are used to tie arrangements together.
- Line
 - Massing
 - Form
 - Filler
18. _____ creates a sense of continuity among the shapes, colors, and textures of an arrangement.
- Proportion
 - Accent
 - Repetition
 - Rhythm
19. Which wiring method should be used for flowers with a large calyx?
- Piercing
 - Hook
 - Clutchwire
 - Hairpin
20. Which of the following is NOT a floral arrangement design?
- Round
 - Obtuse
 - Hogarth Curve
 - Crescent

21. You are utilizing a fertilizer of 20-15-10. What number represents potassium?
- 20
 - 15
 - 10
 - None of the above
22. The art of dwarfing plants by growing them in shallow containers is known as _____.
- Topiary
 - Bonsai
 - Cormel
 - Monocot
23. What is the gray-white material of volcanic origin used to improve aeration in growing media?
- Silt
 - Moss
 - Perlite
 - Limestone
24. A begonia is best used for what purpose/setting?
- Flower Bed
 - Cut Flower
 - Herb
 - Ground Cover
25. Gypsophila is best used for what purpose/setting?
- Flower Bed
 - Cut Flower
 - Herb
 - Ground Cover

Answer Key

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

Floral Production

1. The acronym IPM is frequently used in reference to pest control, what does the acronym IPM stand for?
 - a. Innovative Plant Material
 - b. Integrated Pest Management
 - c. Initiating Proper Methods
 - d. Improper Production Method
2. Which of the following signal words found on pesticide labels would indicate that the product is highly toxic?
 - a. Danger/Poison (with skull and crossbones)
 - b. Warning
 - c. Caution
 - d. Attention
3. What does the acronym PPE represent?
 - a. Personal Property Evaluation
 - b. Property Protection Equipment
 - c. Personal Protective Equipment
 - d. Partial Protection Equipment
4. Which one of the following pests can sometimes be difficult to control because of a protective shell that can be hard or soft that provides protection to the insect from pesticide treatment?
 - a. Thrips
 - b. Spider Mites
 - c. Leaf Miners
 - d. Scale
5. Which is the Active Ingredient in the product with the trade name RoundUp?
 - a. 2,4-D
 - b. Carbaryl
 - c. Imidacloprid
 - d. Glyphosate
6. What is the term used to represent the movement of pesticide particles or vapors by air and becomes problematic when these particles are found off-target?
 - a. Draft
 - b. Drift
 - c. Application
 - d. Drench
7. What would be one of the first environmental concerns to consider when choosing a plant for an interiorscape?
 - a. Height of plant
 - b. Plant light requirements
 - c. Beauty of plant
 - d. Cost of plant

8. What common greenhouse pest can be identified easily by their white waxy powder like appearance?
 - a. Thrips
 - b. Aphids
 - c. Broad Mites
 - d. Mealybugs
9. When trying to control ants in an interiorscape, what classification of pesticides would need to be used if chemical control is your decided option for control?
 - a. Herbicides
 - b. Miticides
 - c. Insecticides
 - d. Fungicides
10. Which of the following problems attributed to a fungal infection is usually identified by finding superficial powdery patches of white to light gray that first appear on leaves, petioles, young stems and buds, and even flowers?
 - a. Root Rot
 - b. Damping Off
 - c. Verticillium Wilt
 - d. Powdery Mildew
11. What would be the 3 steps (in order) to diagnosing plant problems?
 - a. Identify the Problem, Select a Solution, Apply the Chemical
 - b. Identify the Problem, Determine the cause, Select a Solution
 - c. Determine the Cause, Apply Fertilizer, Monitor
 - d. Identify the Problem, Monitor, Water the plant material
12. What are 3 aspects of control that are available in IPM to address pest issues?
 - a. Mechanical Control, Biological Control, Chemical Control
 - b. Monitor, Application, Re-monitor
 - c. Water Control, Drift Control, Erosion Control
 - d. Testing, Applying, Monitoring

Answer Key

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

2018 Iowa FFA Floriculture Problem Solving Practicum

- 1) Your school greenhouse has fourteen (14) benches that measure four (4) feet by eight (8) feet. How many square feet of bench space do you have for growing?
 - A) 225
 - B) 32
 - C) 896
 - D) 448

- 2) Your FFA chapter plans to sell fall mums this year and would like to plant enough to fill all your bench space from question one. If you space your mums on ten (10) inch centers how many mums can you grow to fill your bench space?
 - A) 895 Mums
 - B) 645 Mums
 - C) 255 Mums
 - D) 448 Mums

- 3) You will need to order soil for your poinsettia crop. You will be planting poinsettias in six (6) inch round pots that are 6" tall. How many cubic feet of soil will you need to order to fill 500 pots?
 - A) 10 cubic feet
 - B) 80 cubic feet
 - C) 50 cubic feet
 - D) 140 cubic feet

- 4) You can purchase loose bulk potting soil **by the full cubic yard** at a much cheaper price than bagged material by the cubic foot. How many cubic yards of soil would you need to have delivered to plant the poinsettias from question 3?
 - A) 50 cubic yards
 - B) 2 cubic yards
 - C) 17 cubic yards
 - D) 6 cubic yards

- 5) You have the following production costs for your poinsettia crop from questions 3 & 4:

Pots: Case of 500 = \$40.00

Potting Soil: Cubic Yard = \$80.00

Poinsettia Cuttings = \$1.15 each.

What is your production cost for each poinsettia plant?

- A) \$1.39
- B) \$1.55
- C) \$1.78
- D) \$2.44

2018 Iowa FFA Floriculture Problem Solving Practicum

- 6) Your garden center sells topsoil in two (2) cubic foot bags. A customer comes in wanting to add topsoil to his planting beds. He has two (2) beds that measure five (5) feet by eight (8) feet, and one circular bed that measures ten (10) feet across. You recommend that he add topsoil to a depth of three (3) inches. How many bags of topsoil would you recommend to your customer?
- A) 40 bags
 - B) 159 bags
 - C) 80 bags
 - D) 20 bags
- 7) You are mixing fertilizer for your holding tank. You will need to add a $\frac{1}{2}$ ounce of granular fertilizer per gallon of water. Your cylindrical tank measures eight (8) feet across and four (4) feet tall. There are 7.48 fluid gallons per cubic foot and sixteen (16) ounces per pound. How many pounds of fertilizer do you need to add to your holding tank to completely fill the tank?
- A) 47 pounds
 - B) 752 pounds
 - C) 1503 pounds
 - D) 201 pounds
- 8) You are testing a new variety of petunias for germination percentage. You sow 288 seeds and 259 plants emerge. What is the germination percentage?
- A) 72%
 - B) 90%
 - C) 98%
 - D) 111%
- 9) You are offering a discount on 4" wave petunias: buy one at \$1.50 get one $\frac{1}{2}$ price. You have a customer purchase twenty six (26) wave petunias. What is their final bill with a 7% sales tax?
- A) \$29.25
 - B) \$41.73
 - C) \$20.87
 - D) \$31.30

2018 Iowa FFA Floriculture Problem Solving Practicum

10) You have the following costs associated with producing a corsage.

3 Sweetheart Roses: \$1.00 each
Filler Flower: \$.50
9 Corsage Leaves: \$.10 each
Tape: \$.50
Wire: \$.50
Bow: \$1.50
Wristlet: \$1.00

What is your retail price if you want to mark up by two (2) times the material cost to cover overhead and labor?

- A) \$23.70
- B) \$7.90
- C) \$15.80
- D) \$18.40

11) You have three (3) acres of tomatoes in production. You need to fertilize at a rate of 1.5 pounds of nitrogen per 1000 square feet. How many pounds of nitrogen do you need to put down to cover your three (3) acres of production? One (1) acre = 43,560 square feet.

- A) 131 pounds
- B) 196 pounds
- C) 158 pounds
- D) 256 pounds

12) If you purchase fertilizer for the tomatoes in question 11 in fifty (50) pound bags with an analysis of 26-18-18, how many bags of fertilizer do you need to purchase?

- A) 8 bags
- B) 15 bags
- C) 30 bags
- D) 22 bags

2018 Iowa FFA Floriculture Problem Solving Practicum

- 1) Your school greenhouse has fourteen (14) benches that measure four (4) feet by eight (8) feet. How many square feet of bench space do you have for growing?
- A) 225
 - B) 32
 - C) 896
 - D) 448**

$4' * 8' = 32 \text{ sq. ft. per bench} * 14 \text{ benches} = 448 \text{ sq. ft. total}$

- 2) Your FFA chapter plans to sell fall mums this year and would like to plant enough to fill all your bench space from question one. If you space your mums on ten (10) inch centers how many mums can you grow to fill your bench space?
- A) 895 Mums
 - B) 645 Mums**
 - C) 255 Mums
 - D) 448 Mums

Each mum = 10" by 10" = 100 sq. inches
 $100 \text{ sq. inches} / 144 \text{ sq. inches per sq. ft.} = .694 \text{ sq. ft. per mum}$
 $448 \text{ sq. ft. bench space} / .694 \text{ sq. ft. per mum} = 645 \text{ mums}$

- 3) You will need to order soil for your poinsettia crop. You will be planting poinsettias in six (6) inch round pots that are 6" tall. How many cubic feet of soil will you need to order to fill 500 pots?
- A) 10 cubic feet
 - B) 80 cubic feet
 - C) 50 cubic feet**
 - D) 140 cubic feet

$3.14 * 3" * 3" = 28.26 \text{ sq. inches} * 6" \text{ deep} = 169.56 \text{ cubic inches}$
 $169.56 \text{ cubic inches} / 1728 \text{ cubic inches per cubic foot} = .10 \text{ cu. ft. per pot}$
 $.10 \text{ cu. ft. per pot} * 500 \text{ pots} = 50 \text{ cubic feet}$

- 4) You can purchase loose bulk potting soil **by the full cubic yard** at a much cheaper price than bagged material by the cubic foot. How many cubic yards of soil would you need to have delivered to plant the poinsettias from question 3?
- A) 50 cubic yards
 - B) 2 cubic yards**
 - C) 17 cubic yards
 - D) 6 cubic yards

$50 \text{ cubic feet} / 27 \text{ cubic feet per cubic yard} = 1.85 \text{ cubic yards} = \text{purchase } 2 \text{ cubic yards}$

2018 Iowa FFA Floriculture Problem Solving Practicum

- 5) You have the following production costs for your poinsettia crop from questions 3 & 4:

Pots: Case of 500 = \$40.00

Potting Soil: Cubic Yard = \$80.00

Poinsettia Cuttings = \$1.15 each.

What is your production cost for each poinsettia plant?

A) \$1.39

B) \$1.55

C) \$1.78

D) \$2.44

$\$40.00 / 500 \text{ pots} = \$.08 \text{ per pot}$

$\$80.00 * 2 \text{ cubic yards} = \$160.00 / 500 \text{ pots} = \$.32 \text{ per pot}$

$\$.08 \text{ pot} + \$.32 \text{ soil} + \$1.15 \text{ plant} = \1.55 each

- 6) Your garden center sells topsoil in two (2) cubic foot bags. A customer comes in wanting to add topsoil to his planting beds. He has two (2) beds that measure five (5) feet by eight (8) feet, and one circular bed that measures ten (10) feet across. You recommend that he add topsoil to a depth of three (3) inches. How many bags of topsoil would you recommend to your customer?

A) 40 bags

B) 159 bags

C) 80 bags

D) 20 bags

$5' * 8' = 40 \text{ sq. ft.} * 2 \text{ beds} = 80 \text{ sq. ft.}$

$3.14 * 5' * 5' = 78.5 \text{ sq. ft.}$

$78.5 \text{ sq. ft.} + 80 \text{ sq. ft.} = 158.5 \text{ sq. ft. total} * .25' \text{ (depth)} = 39.625 \text{ cubic feet}$

$39.625 \text{ cubic feet} / 2 \text{ cubic feet per bag} = 20 \text{ bags}$

- 7) You are mixing fertilizer for your holding tank. You will need to add a ½ ounce of granular fertilizer per gallon of water. Your cylindrical tank measures eight (8) feet across and four (4) feet tall. There are 7.48 fluid gallons per cubic foot and sixteen (16) ounces per pound. How many pounds of fertilizer do you need to add to your holding tank to completely fill the tank?

A) 47 pounds

B) 752 pounds

C) 1503 pounds

D) 201 pounds

$3.14 * 4' * 4' = 50.24 \text{ sq. ft.} * 4' \text{ (depth)} = 200.96 \text{ cubic feet}$

$200.96 \text{ cubic feet} * 7.48 \text{ gallons per cubic ft.} = 1503.18 \text{ gallons}$

$1503.18 \text{ gallons} * .5 \text{ ounce per gallon} = 751.59 \text{ ounces}$

$751.59 \text{ ounces} / 16 \text{ ounces per pound} = 47 \text{ pounds}$

2018 Iowa FFA Floriculture Problem Solving Practicum

- 8) You are testing a new variety of petunias for the germination percentage. You sow 288 seeds and 259 plants emerge. What is the germination percentage?
- A) 72%
 - B) 90%**
 - C) 98%
 - D) 111%

259 emerged / 288 sowed = 90%

- 9) You are offering a discount on 4" wave petunias: buy one at \$1.50 get one ½ price. You have a customer purchase twenty six (26) wave petunias. What is their final bill with a 7% sales tax?
- A) \$29.25
 - B) \$41.73
 - C) \$20.87
 - D) \$31.30**

26 plants / 2 = 13 plants

13 plants @ \$1.50 = \$19.50

13 plants @ \$.75 = \$9.75

\$19.50 + \$9.75 = \$29.25 * 1.07 (sales tax) = \$31.30

- 10) You have the following costs associated with producing a corsage.

3 Sweetheart Roses: \$1.00 each

Filler Flower: \$.50

9 Corsage Leaves: \$.10 each

Tape: \$.50

Wire: \$.50

Bow: \$1.50

Wristlet: \$1.00

What is your retail price if you want to add two (2) times the cost to cover overhead and labor?

- A) \$23.70**
- B) \$7.90
- C) \$15.80
- D) \$18.40

Material Costs: \$7.90 * 3 [original cost + 2 times costs (\$15.80)] = \$23.70

2018 Iowa FFA Floriculture Problem Solving Practicum

11) You have three (3) acres of tomatoes in production. You need to fertilize at a rate of 1.5 pounds of nitrogen per 1000 square feet. How many pounds of nitrogen do you need to put down to cover your three (3) acres of production? One (1) acre = 43,560 square feet.

- A) 131 pounds
- B) 196 pounds**
- C) 158 pounds
- D) 256 pounds

43,560 sq. ft. per acre * 3 acres = 130,680 sq. ft.

130,680 sq. ft. / 1000 sq. ft. = 130.68 * 1.5 pounds N per 1000 sq. ft. = 196 pounds

12) If you purchase fertilizer for the tomatoes in question 11 in fifty (50) pound bags with an analysis of 26-18-18, how many bags of fertilizer do you need to purchase?

- A) 8 bags
- B) 15 bags**
- C) 30 bags
- D) 22 bags

26% N * 50 pounds fertilizer = 13 pounds N

196 pounds N / 13 pounds N per bag = 15 bags

2018 State Floriculture Event

It's a beautiful sunny June day in Cedar Rapids, IA. You have a retirement party to prepare for today at Basket of Posies Flower Shop. The Family will be here to pick up in 40 minutes, work together and work quickly. Here are the orders you need to complete for the party.

- An all the way around vase arrangement using half a dozen grape carnations and babies breath with a bow.
- A table centerpiece, all the way around using yellow daisies and white daisies in a design dish.
- A single rose bud vase with babies breath and a bow.
- A small all the way around vase arrangement with yellow daises, grape mini carnations and babies breath, no bow.
- A boutonniere using babies breath, with a twine stem wrap and no greens.
- Another boutonniere using pink mini carnations with greens, no babies breath.

Good luck!