

**2012 National FFA
Floriculture Career Development Event**

(*Please print clearly*)

Participant Name: _____ Participant Number: _____

GENERAL KNOWLEDGE EXAM

1. Nontraditional 20th Century flower arranging styles can be arbitrarily divided into two types known as Radial Structure and the interest-equated style, based on the method of construction.
 - a. True b. False
2. The difference between an informal boutonniere and a formal boutonniere is the informal boutonniere has a green piece attached behind the flower held in place with floratape.
 - a. True b. False
3. Linear materials are those that grow into the shape of a tall spire or spike. They are usually tall and slender. Often they are _____ below the tip but taper definitely to a point at the top, much like a _____.
 - a. fluffy, ice cream cone b. full, church steeple
 - c. round, mountain peak d. full, mountain peak
4. The American style of flower arranging is based on the _____ elements of design.
 - a. 2 b. 4 c. 6 d. 7
5. What are the three kinds of traditional flower arrangements recognized today in America by flower arrangers and the National Council of State Garden Clubs?
 - a. line, mass, line-mass b. line, naturalistic, abstract
 - c. naturalistic, free-form, abstract d. free-form, abstract, mass
6. The famous painter della Robbia is remembered for his symmetrical treatments of wreaths and garlands made of dull colored fruits, peppers, cones, berries, foliage, and flowers.
 - a. True b. False
7. Who first developed the "rules" of the floral design?
 - a. French of the Industrial Era b. Indians of the Columbus Era
 - c. Greeks of the Roman Era d. English of the Victorian Era

8. What are the four types or shapes of plant material?
- a. circle, square, rectangle, pyramid b. line, form, square, balance
c. shape, mass, symmetrical, triangle d. line, form, mass, filler
9. The art of any period of civilization reflects the tastes and ideas of that time and place. In general, _____ and _____ flower arrangements have emphasized mass and color.
- a. China, Japan b. Georgian, Victorian
c. Mediterranean, Europe d. Renaissance, French
10. The French Period was from _____.
- a. 1550-1760 b. 1400-1600
c. 475-1400 d. 1715-1800
11. During the French Period, the court life, beginning with King Louis XIV (1638-1715) in France, greatly influenced the art forms of Europe in the late 17th and 18th centuries. The tone was one of luxury, magnificence, and elegance, but the styles of flower _____ and _____ were characterized by mild restraints.
- a. painting, arranging b. cascading, arranging
c. curves, motifs d. shells, scrolls
12. Dahlias flower morphology is simple and flower size varies from larger than 9.25 in. to less than 4 cm.
- a. True b. False
13. Boutonnieres and corsages are supplemental to apparel and should accent the clothing, not detract from it while the flowers used should reflect the time of year or season, not the event or reason for the celebration.
- a. True b. False
14. _____ is represented by strong geometric lines and forms. They are highly stylized and are often thought to mimic Egyptian and Aztec cultures as well as being influenced by the contemporary society.
- a. Art Nouveau b. Art Bonified
c. Art Classified d. Art Deco

15. _____ is curvilinear lines, cascading works, with nature's patterns of plants and flowers depicted either in the arrangement or in the container.
- a. Art Nouveau
 - b. Art Bonified
 - c. Art Classified
 - d. Art Deco
16. The most common type of florist ribbon used is a waterproof _____ with a _____ edge.
- a. unsanitized acetate, fused
 - b. nylon ribbon, round
 - c. sanitized acetate, fused
 - d. nylon ribbon, sharp
17. Tertiary colors are the _____ mixture of a primary and secondary color next to it.
- a. unequal
 - b. 1:2 ratio
 - c. 3:1 ratio
 - d. equal
18. _____ harmony combines three colors equi-distant on the wheel forming a triangle such as red, blue, and yellow.
- a. Tetrad
 - b. Triadic
 - c. Complementary
 - d. Monochromatic
19. The most important consideration in setting up an irrigation system is water _____.
- a. pressure
 - b. concentration
 - c. quality
 - d. volume
20. One of the most important factors is the electrical conductivity (EC), a measure of soluble salts. Water with a low EC, _____ mS/cm, will give the greatest number of irrigation options and will help reduce future problems from the accumulation of high soluble salts in the root medium.
- a. 6.0-7.0
 - b. 0.8-2.0
 - c. 0.1-0.5
 - d. 2.0-2.8
21. Foliar analysis is especially useful when you need to determine _____ levels in the plant.
- a. micronutrient
 - b. macronutrient
 - c. both a and b
 - d. neither a or b

22. The _____ the alkalinity level, the _____ the pH of soilless medium will _____.
- a. lower, slower, decrease b. higher, slower, increase
c. higher, quicker, increase d. lower, quicker, decrease
23. Each plant has an optimum temperature range. In general, if you were to lump all floriculture crops together, you would find the optimum range is from 35-50°F (2-10°C) on the lower side and _____°F (_____°C) on the upper side.
- a. 55-70, 12-17 b. 65-85, 18-29
c. 51-64, 11-19 d. 75-90, 30-40
24. During propagation, such as seed germination and plug seedling production, and in liner (rooted cutting) production, temperatures are _____ than they are during finished crop production.
- a. higher b. lower
c. inconsistent d. none of the above
25. Temperature is the only way you will control how quickly your plants grow.
- a. True b. False
26. Bonzi is one of the more _____ PGRs (plant growth regulators).
- a. inactive b. differential
c. limited d. active
27. For the traditional florist, the term “_____” is meant to promote the sale of flowers by offering a variety of products in a variety of ways.
- a. flower design b. wholesale
c. retailer d. marketing
28. _____ is a philosophy, a way of thinking that puts the consumer at the center of attention.
- a. Marketing b. Retailing
c. Floral designing d. none of the above
29. In the 1980s, “Architectural” arrangements that were angular and linear took the place of the “_____”.
- a. Square-Bails b. Circular- Pillars
c. Round-Moundy’s d. none of the above

30. Roses require special handling and, after cutting stems _____, they should be placed in a commercially available _____ solution which _____ the water acidity and speeds the uptake of water.
- a. underwater, preservative, raises b. horizontally, preservative, lowers
c. underwater, hydrating, lowers d. none of the above

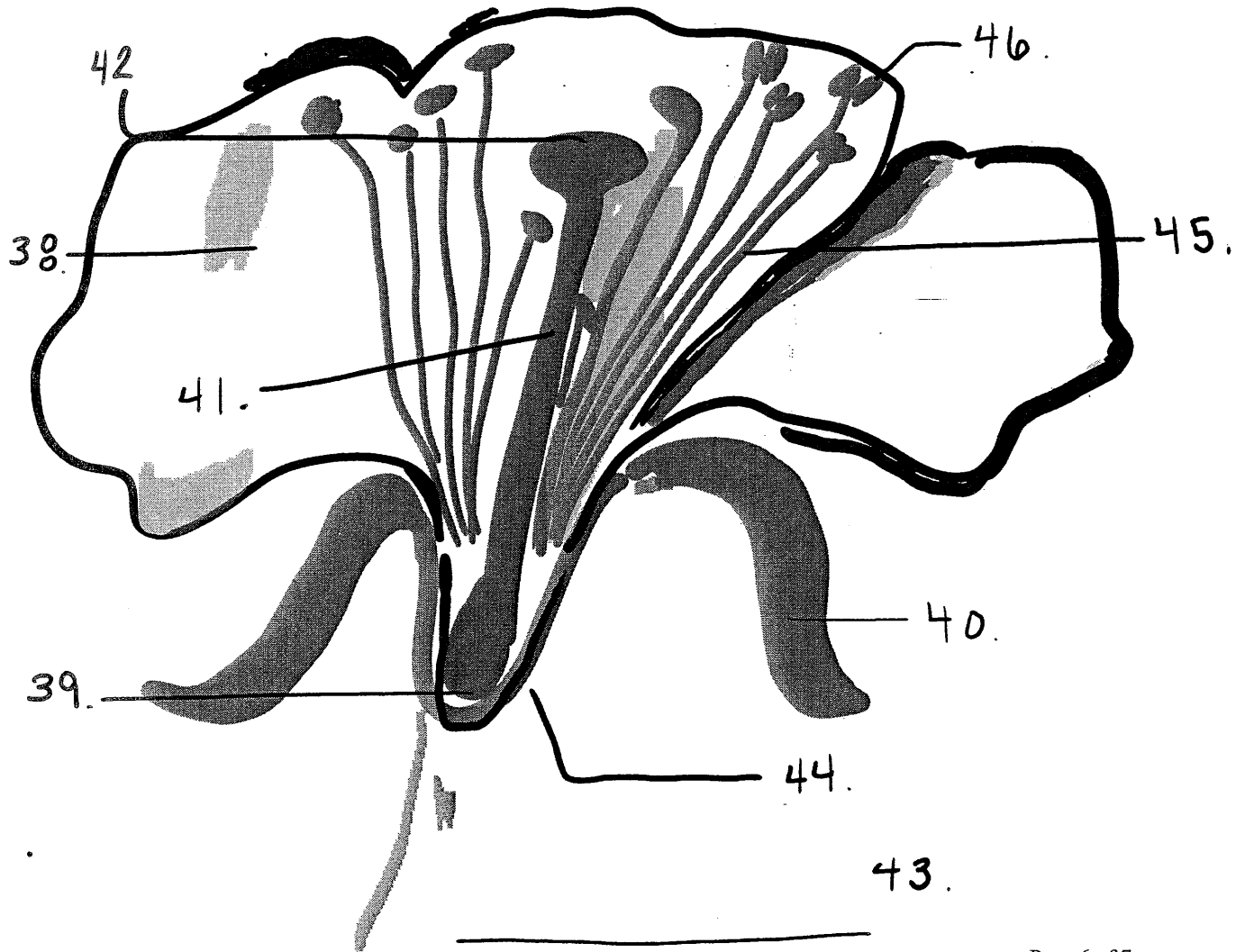
For questions 31 through 33, match the following terms to the description:

- a. Wood Picks b. Metal Picks c. Water Picks d. Designer Pick

31. _____ are green plastic tube-like reservoirs with rubber caps, into which the flower stem is inserted.
32. _____ attached with a heavy-duty picking machine. A sharp, pointed, barbed shaft is attached to the flower or foliage.
33. _____ available in green and natural colors. They are pointed on one end for easy insertion with or without attached wires on the other end.
34. _____ involve tubing that provides water to individual pots.
- a. Flow benches b. Spaghetti tubes
c. Tray mechanization d. Capillary mats
35. _____ is obtained from nature and is the result of weathered rocks.
- a. Plant nutrition b. Macro-nutrients
c. Mineral soil d. none of the above
36. Calcium, magnesium, and sulfur are said to be _____ macro-nutrients because plants need moderate amounts.
- a. primary b. secondary
c. slow release d. none of the above
37. Plant growth is dependent on _____ essential elements, often referred to as nutrients.
- a. 9 b. 13 c. 3 d. 17

Use the diagram below to identify 38 through 46:

- | | | | | |
|-----|-------------|---------------|---------------|---------------|
| 38. | a. petal | b. style | c. stigma | d. pedicel |
| 39. | a. style | b. ovary | c. filament | d. anther |
| 40. | a. petal | b. stigma | c. sepal | d. receptacle |
| 41. | a. stigma | b. ovary | c. sepal | d. style |
| 42. | a. anther | b. stigma | c. filament | d. pedicel |
| 43. | a. pedicel | b. receptacle | c. ovary | d. sepal |
| 44. | a. filament | b. anther | c. receptacle | d. style |
| 45. | a. style | b. petal | c. stigma | d. filament |
| 46. | a. sepal | b. anther | c. style | d. ovary |



47. The chief function of the leaves is food manufacture. This process of food manufacture is called photosynthesis. **carbon dioxide + water** $\xrightarrow{\text{light}}$ **glucose + oxygen**
(in the presence of chlorophyll)

What is the correct equation?

- a. $6\text{CO}_2 + 6\text{H}_2\text{O} \xrightarrow{\text{light}} \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$
- b. $2\text{CO}_2 + 2\text{H}_2\text{O} \xrightarrow{\text{light}} \text{C}_6\text{H}_6\text{O}_2 + 6\text{O}$
- c. $4\text{CO}_2 + 6\text{H}_2\text{O} \xrightarrow{\text{light}} \text{C}_2\text{H}_{12}\text{O}_2 + 6\text{O}$
- d. none of the above
48. Poinsettia's history shows that Poinsettias represented purity and served as a reminder of the blood sacrifices to the Aztec people.
- a. True b. False
49. National Poinsettia Day is December _____, the anniversary of the death of Joel Robert Poinsett.
- a. 19 b. 5 c. 12 d. 21
50. _____ is a feathered single flower made from the florets of a gladiolus flower.
- a. Tendril b. Bias
- c. Var d. Glamellia

Good Luck Everyone!

2011 National FFA Floriculture
Career Development
General Knowledge Exam

1. Plants convert chemical energy into light energy which results in plant growth.
a. true b. false

2. Wavelengths are measured in _____ with specific wavelengths corresponding to specific _____.
a. nanometers, color b. kilometers, size
c. centimeters, weight d. pedometers, width

3. Photoperiodism is a phytochrome-mediated response.
a. true b. false

4. Modern _____ cultivars come in an astonishing variety of colors, color combinations and petal styles (spoon, quill, and flat).
a. dianthus caryophyllus (carnations) b. Helianthus annus L. (sunflower)
c. chrysanthemum (daisy) d. dahlias

5. Dahlias are native to the mountains of _____.
a. Mexico b. Switzerland
c. Ireland d. New England

6. Growth is best for Helianthus annus L. between _____ and _____ sun is always preferred.
a. 75 to 85 F, full b. 45 to 65 F, partial
c. 55 to 75 F, partial d. 65 to 75 F, full_

7. _____ is an example of a species that is commercially cultivated.
a. Seed hydration b. Exacum affine
c. Stratification d. Scarification

8. When spores germinate, they form a small _____ leaf like structure known as the prothallus.
a. black b. yellow
c. green d. brown

9. _____ is any method of breaking through hard, water-impermeable seed coats to allow water to penetrate.
a. Seed hydration b. Exacum affine
c. Stratification d. Scarification

10. Disadvantages to Pregermination are limited shelf life of _____, limited selection, and cost.
- a. 6 to 8 weeks
 - b. 4 to 5 days
 - c. 4 to 5 weeks
 - d. 6 to 8 days
11. Floral supply companies focus their inventories on hard goods and tools but primarily on fresh flowers and foliage.
- a. true
 - b. false
12. _____ were historically the first people to use flowers for decorative purposes.
- a. Egyptians
 - b. Japanese
 - c. Europeans
 - d. Greeks and Romans
13. The strewing of flowers and loose petals at banquets and festivals was typical of the _____ period.
- a. Egyptian
 - b. Greek and Roman
 - c. Japanese
 - d. Italian Renaissance
14. The _____ period is considered the beginning of the flower arranging as it is known today.
- a. Egyptian
 - b. Greek and Roman
 - c. Japanese
 - d. Italian Renaissance
15. The point at which the plant is receiving as much light energy as it can use is the _____ point.
- a. light completion
 - b. light saturation
 - c. light compensation
 - d. light fabrication
16. The *Euphorbia pulcherrima* a _____ day plant, is induced to flower by providing _____ nights and _____ days.
- a. long, short, long
 - b. short, short, long
 - c. short, long, short
 - d. long, long, short
17. The floral industry is an international, multitrillion dollar industry.
- a. true
 - b. false

18. The floral design of the _____ influence emphasizes careful and significant placement of every flower, branch or leaf.
- a. Egyptians
 - b. Greeks and Romans
 - c. Japanese
 - d. Italians
19. Consumers encounter Alstroemeria frequently in the retail marketplace, as it is one of the World's top _____ cut flowers.
- a. fifteen
 - b. five
 - c. fifty
 - d. ten
20. The *Antirrhinum majus* is also known as the _____.
- a. Snapdragon
 - b. Poinsettia
 - c. Daisy
 - d. Carnation
21. Alstroemeria hybrids are also known as _____.
- a. Princess Lily
 - b. Iris
 - c. Snapdragon
 - d. Oriental Lily
22. *Zantedeschia rehmannii*, *Z. elliotiana*, *Z. hybrids* also known as _____.
- a. Christmas Lily
 - b. Peace Lily
 - c. Easter Lily
 - d. Calla Lily
23. Iron deficiency, identified by blackening or interval chlorosis of young leaves, is the primary problem for plants growing in a low pH medium.
- a. true
 - b. false
24. Seed grown tubers generally produce _____ eyes, which mean plants will have a _____ number of flowers and leaf spouts.
- a. fewer, higher
 - b. more, higher
 - c. more, lower
 - d. fewer, lower
25. Most Callas sold today from the United States are three year old true seed hybrids.
- a. true
 - b. false
26. Floriculture is defined literally as " _____ " but includes florist shops, flower retailers, wholesale florist, production greenhouses and floral supply companies.
- a. culture of flowers
 - b. industry of flowers
 - c. culture of horticulture
 - d. culture of floral arranging

27. _____ provides even faster seedling production than other hydration methods and results in 100% usable seedlings.
- seed hydration
 - mechanization treatments
 - matricconditioning
 - Pregermination
28. The _____ point is the light intensity at which the plant is receiving as much energy from the light during photosynthesis as it is during respiration.
- light completion
 - light saturation
 - light compensation
 - light fabrication
29. Although general plant growth usually requires light with all wavelengths _____ and _____ wave lengths result in the greatest plant growth response.
- yellow (580nm), green (530nm)
 - green (530), purple (530)
 - red (700), blue (470)
 - yellow (580), blue (280)
30. The Italian Renaissance was significant during the _____ centuries.
- 17th and 18th
 - 15th and 16th
 - 12th and 13th
 - 14th and 15th
31. According to Ikebana, the placement of three main flowers or branches signifies _____, _____, and _____.
- man, woman, child
 - earth, love, family
 - emotion, wealth, family
 - heaven, man, earth
32. Place cut Antirrhinum majus stems vertically as soon as possible after harvest; stems placed horizontally may begin to bend upward in as little as _____.
- 30 minutes
 - 5 hours
 - 2 hours
 - 60 minutes
33. When the source of _____ is removed, the concentration of the _____ drops quickly, thereby releasing lateral branches from _____ dominance and allowing them to develop.
- auxin, inhibitory, apical
 - tunic, potassium, atypical
 - tunic, hormone, atypical
 - auxin, hormone, apical
34. _____ is similar to seed hydration except the process is allowed to progress further until the seed coat splits and the radical becomes visible.
- micropropagation
 - mechanization treatments
 - stratification
 - Pregermination

35. _____ is a technique used by seed suppliers to imbibe the seed and begin germination, but then stop the process before the radical (root) emerges.
- a. seed hydration
 - b. mechanization treatments
 - c. matricconditioning
 - d. Pregermination
36. Stratification is the application of a moist chilling treatment of 32 to 50 F (0 to 10 C) to seeds.
- a. true
 - b. false
37. The _____ fuzzy fungal growth of Botrytis often begins with injured or necrotic areas and then infects healthy tissue.
- a. white
 - b. black
 - c. gray
 - d. brown
38. Measuring light requires the use of _____ factor(s).
- a. 1
 - b. 5
 - c. 4
 - d. 3
39. Light has _____ function(s) in plant growth.
- a. one
 - b. three
 - c. two
 - d. four
40. *Helianthus annuus* L. is the most commonly grown _____ species.
- a. carnations
 - b. snapdragons
 - c. poinsettia
 - d. sunflowers
41. *Dianthus caryophyllus* is a native of the _____ area, originally flowering only in the early spring.
- a. Mediterranean
 - b. Bahamas
 - c. South America
 - d. Central America
42. Dahlias flower morphology is complex and flower size varies from larger than _____ to less than _____ in diameter.
- a. 10.25 in., 9 in.
 - b. 8.25 in., 4 in.
 - c. 9.25 in., 6 in.
 - d. 7.75 in., 3.75in.
43. Plants grown under light high in _____ wavelengths will be short, dark green, and well branched.
- a. blue
 - b. green
 - c. red
 - d. yellow

44. Sunflowers require low nutritional levels.
a. true b. false
45. Treated seed virtually _____ viral, fungal, and bacterial disease at the time of planting, greatly _____ disease in professional grower products.
a. creates, eliminating b. initiates, increasing
c. creates, increasing d. eliminates, reducing
46. There are two different purposes for using artificial lighting. First, lamps can be used to provide additional light to increase photosynthesis and plant growth. This is termed _____ lighting. Second, lamps can be used to alter the photoperiod perceived by the plants. This is termed _____ lighting.
a. high, frame b. secondary, illusion
c. supplemental, photoperiodic d. synthetic, capturing
47. Many growers apply a shading compound or shade cloth from _____ to _____ to reduce heat stress that results from high light levels entering the greenhouse.
a. late spring, early fall b. early fall, early spring
c. late summer, late fall d. late winter, early summer
48. Alstroemeria produce two types of shoots _____ and _____.
a. nonflowering, vegetative b. staggered, flowering
c. flowering, vegetative d. upright, nonflowering
49. Botrytis blight is also known as _____.
a. Calla delight b. tulip fire
c. Rose Midge d. daffodil delight
50. Sympathy flowers are important to _____ the deceased and _____ the living.
a. grieve, inspire b. grieve, express
c. express, remind d. honor, comfort

8. There are two different purposes for using artificial lighting. First, lamps can be used to provide additional light to increase photosynthesis and plant growth. This is termed _____ lighting. Second, lamps can be used to alter the photoperiod perceived by the plants. This is termed _____ lighting.
- a. supplemental, photoperiodic c. secondary, illusion
b. high, frame d. synthetic, capturing
9. *Dianthus caryophyllus* is the genus and species for which flower?
- a. lily c. carnation
b. orchid d. baby's breath
10. If the pH of the growing medium is too low, the quickest remedy is the injection of acids into irrigation system.
- a. true b. false
11. There is an abbreviation for the mathematical differences between the day temperature and the night temperatures. Identify that abbreviation.
- a. AM-PM c. DT/NT
b. DIF d. NT + DT
12. For vertical color, whether it is in the garden, a cut flower bouquet or an arrangement, you can't beat *Antirrhinum majus*.
- a. true b. false
13. *Alstroemeria* hybrids are also known as _____.
- a. Oriental Lily c. Iris
b. Snapdragon d. Princess Lily
14. Many growers apply a shading compound or shade cloth from late spring to early fall to reduce heat stress that results from high light levels entering the greenhouse.
- a. true b. false
15. The conductive tissue in the stem that transports water and minerals from roots to the leaves is called the _____.
- a. Pistil c. Xylem
b. Stigma d. Pedicel

16. The term texture as it applies to plants includes such adjectives as _____, _____, and _____.
- a. entire, serrate, lobed
 - b. fine, medium, bold
 - c. smooth, fuzzy, spiny
 - d. corymbose, umbel, panicle
17. Shape is two dimensional, while form is _____.
- a. flat
 - b. three dimensional
 - c. two dimensional
 - d. one dimensional
18. When the source of _____ is removed, the concentration of the _____ drops quickly, thereby releasing lateral branches from _____ dominance and allowing them to develop.
- a. auxin, hormone, apical
 - b. tunic, potassium, atypical
 - c. tunic, hormone, atypical
 - d. auxin, inhibitory, apical
19. The most commonly used growth retardant is _____.
- a. slow grow
 - b. Diazanon
 - c. Retoid
 - d. Cycocel
20. Many crops today are offered as tissue - cultured plantlets, stage 2 or stage 3. This form of vegetative propagation offers many advantages to growers, primarily in that plants grown from tissue are _____ and _____.
- a. lightweight, slow growing
 - b. disease free, quick growing
 - c. disease free, slow growing
 - d. dehydrated, quick growing
21. *Zantedeschia rehmannii*, *Z. elliotiana*, *Z. hybrids* also known as _____.
- a. Easter Lily
 - b. Peace Lily
 - c. Calla Lily
 - d. Christmas Lily
22. Place cut *Antirrhinum majus* stems vertically as soon as possible after harvest; stems placed horizontally may begin to bend upward in as little as _____.
- a. 2 hours
 - b. 30 minutes
 - c. 5 hours
 - d. 60 minutes

23. Evaporative _____ help to offset the heat load caused by _____ light, thus effective greenhouse cooling allows the grower to provide _____ light levels before heat stress is problematic.
- a. heating pads, high, higher c. heating pads, overhead, lower
b. cooling pads, overhead, lower d. cooling pads, high, higher
24. _____, identified by yellowing or interveinal chlorosis of young leaves, is the primary problem for plants growing in a _____ pH medium.
- a. iron deficiency, high c. magnesium deficiency, high
b. nitrogen levels, low d. calcium deficiency, low
25. Limited induction photoperiod is a _____ technique for controlling elongation of long-day herbaceous perennials.
- a. chemical c. non-chemical
b. drastic d. synthetic
26. Confucius taught that real enjoyment consists of _____ and _____.
- a. exactness, contemplation c. simplicity, contemplation
b. simplicity, spontaneity d. exactness, contradiction
27. The principal of total compatibility of all parts of an arrangement with each other is termed _____.
- a. proportion c. harmony
b. texture d. rhythm
28. The most popular orchid potting material is _____.
- a. Fir bark c. Tree fern fiber
b. Lava Rock d. Osmunda filter
29. The arrangement of flowers referred to as a "Full Couch Spray" is used for _____.
- a. top of an arch way at wedding c. center piece of a window seal
b. top of a closed casket d. center piece of royalty dinner table

30. Day length is the shortest on _____ and increases until _____; thereafter, it decreases.
- a. January 7, July 7
 - b. December 12, June 12
 - c. December 21, June 21
 - d. November 30, June 30
31. These summer-blooming perennials produce dense, bristly balls of blue color:
- a. Global thistle
 - b. Delphinium
 - c. Blue plumbago
 - d. Bleeding Heart
32. All but one of the following is easily suitable for pressing. Which one is not suitable?
- a. Dusty Miller
 - b. Pansies
 - c. Daffodil
 - d. African Violets
33. There are certain soil requirements for building a terrarium. Too much soil looks heavy, while too little soil will not hold the root system. In general, what is the correct amount of soil in relation to the height of the container?
- a. 66%
 - b. 25%
 - c. 45%
 - d. 75%
34. Alstroemeria produce two types of shoots _____ and _____.
- a. upright, nonflowering
 - b. nonflowering, vegetative
 - c. flowering, vegetative
 - d. staggered, flowering
35. An orchid having a horizontal stem from which numerous shoots arise is called _____.
- a. Sympodial
 - b. Terrestrial
 - c. Epiphytic
 - d. Monopodial
36. Snapdragons should be stored and shipped _____ at all times to prevent _____ of the spikes. Snapdragons can be stored for _____ to _____ days, dry or in water, at 40 F (4 C).
- a. flat, curvature, 1, 2
 - b. upright, wilting, 5, 6
 - c. horizontal, drooping, 3, 5
 - d. upright, curvature, 3, 4

37. Most Callas sold today from the United States are _____ year old true seed hybrids.
- a. three
 - b. two
 - c. one
 - d. four
38. Treated seed virtually _____ viral, fungal, and bacterial disease at the time of planting, greatly _____ disease in professional grower products.
- a. eliminates, reducing
 - b. creates, eliminating
 - c. initiates, increasing
 - d. creates, increasing
39. Seed-grown tubers generally produce _____ eyes, which means plants will have a _____ number of flowers and leaf sprouts.
- a. fewer, lower
 - b. fewer, higher
 - c. more, lower
 - d. more, higher
40. Natural photoperiods vary during the year and by _____.
- a. synergy level
 - b. moon position
 - c. latitude
 - d. greenhouse glazing
41. By understanding the critical photoperiod for lower induction, growers can manipulate photoperiods to make plants either _____ or _____.
- a. vegetative, reproductive
 - b. asexual reproductive, atypical
 - c. sterile, unproductive
 - d. atypical, reproductive
42. Powdery mildew is a water mold in the same class of fungi as Pythium and Phytophthora, which produces its characteristic symptoms on leaf undersides.
- a. true
 - b. false
43. Botrytis blight is also known as _____.
- a. tulip fire
 - b. Calla delight
 - c. daffodil delight
 - d. Rose Midge
44. There are two main types of symptoms observed with Botrytis blight, _____ or _____ leaf spots.
- a. reproductive, nonproductive
 - b. nonaggressive, aggressive
 - c. both a and b
 - d. neither a or b

45. The colonial bouquet is a _____ bouquet that is popular for both _____ and _____.
- a. round, brides, bridesmaid's
 - b. triangular, brides, grooms
 - c. round, ring bearer, ushers
 - d. square, flower girl, pew
46. The crescent bouquet is one variation of the cascade bouquet that is designed in a _____ shape. The cascade style is a beautiful design for elegant or formal weddings.
- a. S
 - b. C
 - c. A
 - d. none of the above
47. Sympathy flowers are important to _____ the deceased and _____ the living.
- a. express, remind
 - b. grieve, inspire
 - c. honor, comfort
 - d. grieve, express
48. A grouping of different types of plants potted in the same container is known as a _____.
- a. casket saddle
 - b. fireside basket
 - c. full couch spray
 - d. dish garden
49. The foundation for a casket spray is a _____.
- a. casket saddle
 - b. papier-mâché
 - c. dish garden
 - d. none of the above
50. A _____ is an organizational business tool to state the business' purpose and goals and estimate the financing needed to fund the new florist.
- a. gray market
 - b. business plan
 - c. demographical study
 - d. income forecast

GOOD LUCK!

**2009 National FFA Floriculture
Career Development Event
General Knowledge Examination**

1. Floriculture production in the United States is valued at about \$_____ at farm gate.
 - a. 4.7 billion
 - b. 4.7 million
 - c. 7.4 billion
 - d. 4,750,000

2. The leading floriculture production states are _____, _____, and _____.
 - a. California, Kansas, Oklahoma
 - b. Texas, Florida, Iowa
 - c. California, Florida, Texas
 - d. Florida, California, Canada

3. Florida floriculture crop production is valued at \$_____.
 - a. 765 million
 - b. 278 million
 - c. 1.02 billion
 - d. 765 thousand

4. True or False. Watering greenhouse plants is one of the easiest jobs faced by growers.
 - a. true
 - b. false

5. When should plants be watered?
 - a. just before sunrise
 - b. mid-day with the sun overhead
 - c. just before wilting or water stress occurs
 - d. right when leaves start to fall

6. Perched water table means that the container has _____ at the bottom of the container right after watering, when drainage has occurred.
 - a. free-water
 - b. no water
 - c. root water
 - d. vitamin water

7. This is _____ because it is not held by the root medium.
 - a. root water
 - b. vitamin water
 - c. free-water
 - d. tunic

8. _____ factors need to be considered to achieve a successful fertility program.
 - a. Seven
 - b. Nine
 - c. Five
 - d. Two

9. When certain elements are provided in excess to plants, uptake of other nutrients may be hindered. One example of a mineral antagonism is the _____ interaction; a 1:1 ratio is recommended for most floriculture crops.
 - a. hydrogen- carbon monoxide
 - b. nitrogen-potassium
 - c. hydrogen- nitrogen
 - d. potassium- calcium

10. The optimum ph range for most crops growing in a soilless medium is _____.
 - a. 1.4-4.8
 - b. 5.8-6.4
 - c. 6.5-7.9
 - d. 3.5-4.4

21. The greenhouse comes "alive" only after its _____, or _____, is applied. A glazing's primary purpose is to allow _____ into the greenhouse while allowing the grower to manipulate the environment _____ the greenhouse.
- a. soil, medium, soil, outside b. benches, shelves, light, inside
c. cover, medium, light, inside d. glazing, cover, light, inside
22. There is/are _____ type(s) of growing floors.
- a. 2, natural soil, mesh
b. 3, natural soil, sand and gravel floors, fish netting
c. 5, natural soil, sand and gravel floors, ground cloth, porous concrete, concrete
d. 1, natural soil
23. The _____ component of watering is the easy part because the scientific principals can be taught and learned. The _____ of watering is extremely difficult to teach. It is determining when plants need to be watered and then applying water properly.
- a. science, art b. pouring, knowledge
c. art, knowledge d. science, spraying
24. While it cost _____ to produce pinched plants in terms of _____ and _____, the _____ quality is achieved with pinched plants in terms of size, fullness and flower performance.
- a. less, fluffiness, production, best b. more, production, storage, lower
c. more, labor, time, highest d. less, labor, time, lowest
25. True or False. Flower arranging differs from other arts in that it has its own media (arrangers grow their own materials).
- a. True b. False
26. The Japanese confine their displays of flower arrangements to specific areas as a matter of _____ and _____.
- a. celebration, pride b. celebration, custom
c. ritual, custom d. custom, celebration
27. The Chinese method of handling flowers is founded on _____, preservation of life, and appreciation of _____.
- a. simplicity, colors b. symbolism, beauty
c. contemplation, colors d. simplicity, beauty
28. Confucius taught that real enjoyment consist of _____ and _____.
- a. contemplation, colors b. simplicity, beauty
c. simplicity, contemplation d. symbolism, beauty
29. True or False. A few flowers in a vase can describe the whole life history of a plant, as well as display the beauty of a perfect bloom.
- a. True b. False

30. A creative art form using space along with line, form, color, and texture to create the floral arrangements by using plant material and other components.
- a. asymmetrical balance
 - b. abstract design
 - c. background
 - d. free standing
31. Two or three colors adjacent to each other on the color wheel.
- a. analogous color harmony
 - b. abstract design
 - c. artificial
 - d. balance
32. Two sides of a vertical axis in an arrangement that are different in composition but equal in visual weight.
- a. monochromatic color harmony
 - b. dish garden
 - c. linear form
 - d. asymmetrical balance
33. A circle of greens decorated with fruits, nuts, cones, seed pods, or berries typical of the Renaissance period.
- a. Tussy Mussy
 - b. composition
 - c. Della Robbia Wreath
 - d. flower arranging
34. The art of placing floral material in a container in a pleasing manner following various artistic principles.
- a. flower arranging
 - b. design
 - c. Della Robbia Wreath
 - d. formal
35. Bringing plants into bloom at a time other than normal in nature.
- a. free-form design
 - b. free standing
 - c. forcing
 - d. novelty
36. A circle of small flowers arranged around one central flower similar to a nosegay.
- a. composition
 - b. design
 - c. Tussy Mussy
 - d. Della Robbia Wreath
37. A new concept in creative art form free from conventional ideas and patterns, nongeometric.
- a. free-form design
 - b. accent
 - c. flower arranging
 - d. abstract design
38. An all around arrangement to be viewed from all sides.
- a. flower arranging
 - b. asymmetrical balance
 - c. free standing
 - d. novelty
39. Tints, tones, and shades of one hue.
- a. tone
 - b. monochromatic color harmony
 - c. analogous color harmony
 - d. cool colors

49. _____ can be either warm or cool; it takes on the feelings of the colors with which it is associated.
- a. Textures
 - b. Yellows
 - c. Hues
 - d. White
50. The Easter lily crop is difficult to grow because...
- a. the Easter Lily is so very delicate.
 - b. the Easter Lily can only bloom one week before Easter.
 - c. Easter falls on a different date each year.
 - d. Easter is based on a Christian celebration.

11. Odd numbers should be used in arrangements when fewer than ____ flowers of one kind are used.
- a. 10
 - b. 3
 - c. 8
 - d. 5
12. _____ is a term used to describe the practices that get bulbs to grow and produce flowers.
- a. pushing
 - b. stripping
 - c. forcing
 - d. coddling
13. Green plants do not have the ability to produce their own food
- a. true
 - b. false
14. A tunicate bulb has a dry, papery covering called a _____.
- a. basal plate
 - b. scales
 - c. tunic
 - d. rhizome
15. Humans breathe _____ and release _____. Plants use _____ and release _____.
- a. O₂, CO₂, CO₂, O₂
 - b. CO₂, O₂, O₂, CO₂
 - c. CO₂, O₂, CO₂, O₂
 - d. O₂, CO₂, O₂, CO₂
16. Foilage plants are _____ and _____ plants, either woody or herbaceous (non-woody) that are successfully grown indoors.
- a. Asian, Indiana
 - b. topical, nontopical
 - b. marine, submarine
 - d. tropical, subtropical
17. _____ is the art and science of selecting, placing and maintaining plants to improve and enhance the appearance of the indoor environment.
- a. exteriorscaping
 - b. interiorscaping
 - c. landscaping
 - d. interior decorating
18. _____ is the unit of illumination that equals the light of one candle at a distance of one foot.
- a. foot-light
 - b. candle-foot
 - c. light-foot
 - d. foot-candle
19. Double potting is the act of placing a pot next to an identical pot with the same plant and displaying the two pots together.
- a. true
 - b. false
20. The interpretation of Chinese flower arrangements deal with three important principles: the art of contemplation as practiced by Confucius, the principle of the preservation of life as taught by Buddhism and the floral symbolism which has developed as a form of folklore.
- a. true
 - b. false

21. The Oriental country best known for its floral art is _____.
- a. Japan
 - b. China
 - c. Asia
 - d. Hong Kong
22. A _____ is a greenhouse designed for the display of plants.
- a. headhouse
 - b. conservatory
 - c. glazing house
 - d. rolling house
23. The importance of the growing medium rests with the four basic functions, they are as follows: holds water for plant use, provides nutrients for the plant, permits the exchange of gases to and from the plant roots and provides _____ for the plant.
- a. support
 - b. food
 - c. thermostat
 - d. growth
24. _____ capacity is the measure of a medium's capacity to hold nutrients
- a. aeration
 - b. cation exchange
 - c. conservatory
 - d. chamber
25. Organic media used in greenhouses have between _____ and _____ percent pore space.
- a. 25 and 35
 - b. 45 and 55
 - c. 75 and 85
 - d. 90 and 100
26. Lilies are _____ bulbs
- a. tunic
 - b. non-tunic
 - c. scales
 - d. tuber
27. Easter is the first Sunday following a full moon after March 21; therefore, growers must schedule their crops for their Easter lily different each year.
- a. true
 - b. false
28. The Genus-species, Erica sp has a common name of _____.
- a. Baby's breath
 - b. Daffodil
 - c. Sweet pea
 - d. Heather
29. An arrangement should be ___ to ___ times the height of a tall container or the length of an elongated container.
- a. 2-3
 - b. ½ to 1
 - c. 1 ½ - 2
 - d. none of the above
30. To acclimate a plant, the grower moves the plant from the lower light (not full sun) growing area to progressively _____ levels before shipping to an interiorscaper.
- a. lower light
 - b. higher light
 - c. full sun
 - d. none of the above.

For the next eight questions, you will be given a word bank which contains twelve possible answers. You must match the appropriate word to the right definition by filling in the correct letter next to the correct definition.

- | | | |
|-------------------------|---------------------|------------------------|
| a. Counterbalancing | a. Rhythm | a. Centering |
| b. Visual Balance | b. Proportion | b. Scale |
| c. Balance | c. Physical balance | c. Symmetrical balance |
| d. Asymmetrical balance | d. Visual Weight | d. Golden Mean. |

31. _____ deals with the relative size among objects or parts of objects.
32. _____ the ration used by the Greek's and the Japanese tradition used to attain a pleasing proportion between the plant and the container.
33. _____ is the physical or visual stability of a floral design.
34. _____ occurs where both sides of the design have or seem to have the same physical weight.
35. _____ occurs when the plant material and the manner of placement are different on each side of the central vertical axis; however, the arrangement must appear to be in balance.
36. _____ is the pleasing relationship in size and shape among objects or parts of objects.
37. _____ is the actual stability of plant materials within the container.
38. _____ refers to the perception of an arrangement being in balance or being equal in weight on both sides of the central axis.

For the next seven questions you will have a time frame of inherent genetic life (approximate) of each flower or foliage. Match the time frame to the appropriate flower.

- | | | | |
|---------------|-------------|-----------------|-----------------|
| a. 1 day | b. 3-5 days | c. 5-7 days | d. 10-14 days |
| a. 14-21 days | b. 2 days | c. morning only | d. evening only |

39. Daylily _____
40. Chrysanthemums _____.
41. Tulips, Daffodils _____.
42. Carnations _____.
43. Snapdragons _____.

44. Dutch Iris _____.
45. Roses _____.
46. _____ is best achieved when the design is arranged from back of the container toward the front. This gives the arrangement a feeling of _____ and _____.
- | | |
|-----------------------------------|-----------------------------------|
| a. balance, focal point, emphasis | b. vertical, support, crescent |
| c. emphasis, rhythm, support | d. balance, visual depth, support |
47. The hook method of wiring for floral arrangements is used for _____/
- | | |
|------------------------|---------------------|
| a. tubular flowers | b. delicate flowers |
| c. flat headed flowers | d. roses |
48. What is the purpose of “pinching” plants?
- pinching is the removal of dead flowers
 - pinching helps the plants to become more bushy
 - pinching helps the plant by requiring less fertilizer
 - pinching is the removal of large insects, such as beetles
49. A simple equation for photosynthesis follows:
- | |
|---|
| a. $4 \text{ CO}_2 + 12 \text{ H}_2\text{O} \xrightarrow[\text{chlorophyll}]{\text{light}} \text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{ O}_2 + 6 \text{ H}_2\text{O}$ |
| b. $6 \text{ CO}_2 + 12 \text{ H}_2\text{O} \xrightarrow[\text{chlorophyll}]{\text{light}} \text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{ O}_2 + 2 \text{ H}_2\text{O}$ |
| c. $6 \text{ CO}_2 + 2 \text{ H}_2\text{O} \xrightarrow[\text{chlorophyll}]{\text{light}} \text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{ O}_2 + 6 \text{ H}_2\text{O}$ |
| d. $6 \text{ CO}_2 + 12 \text{ H}_2\text{O} \xrightarrow[\text{chlorophyll}]{\text{light}} \text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{ O}_2 + 6 \text{ H}_2\text{O}$ |
50. A simple equation for respiration follows:
- $\text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{ O}_2 + 6 \text{ H}_2\text{O} \rightarrow 12 \text{ H}_2\text{O} + 6 \text{ CO}_2 + \text{Energy}$
 - $\text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{ O}_2 + 6 \text{ H}_2\text{O} \rightarrow 12 \text{ H}_2\text{O} + 6 \text{ CO}_2 + \text{Energy}$
 - $\text{C}_6\text{H}_{12}\text{O}_6 + 4 \text{ O}_2 + 6 \text{ H}_2\text{O} \rightarrow 6 \text{ H}_2\text{O} + 6 \text{ CO}_2 + \text{Energy}$
 - None of the above

GOOD LUCK!!!