Unit 3 Test
Plant Structures and Functions

Name _____ Date _____ Hour _____

Multiple Choice
Choose the answer that best completes each statement or question.

_____ 1. What is the basis for all living things, including plants?

A. cells
B. genes
C. tissues
D. structures

_____ 2. What substance must be present for plants to produce food?

A. ethylene
B. filament
C. abscisic acid
D. chlorophyll

_____ 3. Movement of water and gases in and out of the plant leaves is achieved through the _____.

A. epidermis
B. endodermis
C. palisade layer
D. spongy mesophyll

_____ 4. What protects the leaves from water loss?

A. cuticle
B. endodermis
C. palisade layer
D. spongy mesophyll

_____ 5. What layer of cells in a plant's leaves is responsible for making the plant's food and also giving the leaves strength?

A. cortex
B. endodermis
C. palisade layer
D. abscission layer

_____ 6. Epidermal cells that open and close the stomata allowing water to escape on cool days and conserving water on hot days are _____.

A. nodes
B. sepals
C. internodes
D. guard cells

_____ 7. Bermuda grass has a _____.

A. taproot system
B. fibrous root system
C. abscission root system
D. auxiliary root system

_____ 8. A carrot would be an example of a(n) _____.

A. taproot system
B. fibrous root system
C. abscission root system
D. auxiliary root system

_____ 9. What part of the root system helps the root retain water?

A. cortex
B. internodes
C. epidermis
D. endodermis

_____ 10. What tissue type in a plant's vascular system serves as a means of distributing chemicals, such as weed killers, to all parts of the plant?

A. cortex
B. xylem
C. phloem
D. endodermis

_____ 11. Water and mineral elements are moved from the roots to all parts of the plant in the _____.

A. cortex
B. xylem
C. phloem
D. endodermis

_____ 12. When compared to woody stems, herbaceous stems are _____.

A. harder
B. browner
C. less durable
D. more durable

_____ 13. Where does growth in length occur on a stem?

A. node
B. internode
C. axillary buds
D. terminal bud

_____ 14. How are new leaves or stems produced on a stem?

A. lenticels
B. leaf petiole
C. axillary buds
D. abscission layer

_____ 15. What closes the hole created when a leaf falls off the stem?

A. lenticels
B. leaf petiole
C. axillary buds
D. abscission layer

_____ 16. How is the leaf blade attached to the stem?

A. lenticels
B. leaf petiole
C. axillary buds
D. abscission layer

_____ 17. In the stem, the exchange of gasses between the plant and the environment is done through _____.

A. nodes
B. lenticels
C. axillary buds
D. internodes

_____ 18. On a stem, the places where buds or leaves form are _____.

A. nodes
B. lenticels
C. axillary buds
D. internodes

_____ 19. How will the xylem and phloem appear in an oak tree?

A. rings in the stem
B. straight lines in the stem
C. scattered throughout the stem
D. intertwined in a line throughout the stem

_____ 20. How will the xylem and phloem appear in corn, wheat, and oats?

A. rings in the stem
B. straight lines in the stem
C. scattered throughout the stem
D. intertwined in a line throughout the stem

_____ 21. How are insects attracted to flowers?

A. pistil
B. sepals
C. stamen
D. petals

_____ 22. How are the inner structures of a flower protected as they develop?

A. pistil
B. sepals
C. stamen
D. petals

_____ 23. What part of the flower produces pollen?

A. pistil
B. sepals
C. stamen
D. petals

_____ 24. What part of the flower includes the ovary or seed-producing part of the flower?

A. pistil
B. sepals
C. stamen
D. petals

_____ 25. Plants that have both male and female flowers on them on the same plant are known as _____.

A. perfect plants
B. complete plants
C. dioecious plants
D. monoecious plants

_____ 26. What type of plant would need to have two plants that are planted near each other for pollen to be transferred from a plant with a stamen to a plant with a pistil?

A. perfect plants
B. complete plants
C. dioecious plants
D. monoecious plants

_____ 27. What must happen in order for pollination to occur?

A. A perfect flower must develop.
B. A complete perfect flower must develop.
C. Pollen grains must make their way to the top of the sepals.
D. Pollen grains must make their way to the top of the pistil.

_____ 28. What happens to a viable seed when conditions are not prime for germination?

A. it becomes unviable
B. it will go dormant
C. it will begin to germinate quickly
D. the plant will use the stored food in the seed

_____ 29. What part of a plant holds the embryo?

A. seed
B. sepals
C. stamens
D. pistil

_____ 30. What plants produce seeds through cones?

A. conifers
B. deciduous plants
C. herbaceous plants
D. flowering plants

_____ 31. What plant growth regulator would most likely be used on dwarf plants to make them grow taller?

A. cytokinin
B. ethylene
C. gibberellin
D. abscisic acid

_____ 32. What causes the ripening of fruits?

A. cytokinin
B. ethylene
C. gibberellin
D. abscisic acid

____ 33. Why are cut flowers kept in a cooler?

A. slows the production of cytokinin
B. slows the production of ethylene
C. slows the production of gibberellin
D. slows the production of abscisic acid

____ 34. What growth hormone serves as a safety mechanism for plants under stress?

A. cytokinin
B. ethylene
C. gibberellin
D. abscisic acid

____ 35. If a plant has no stimulus to change the direction of growth, it is known as ____.

A. tropism
B. autotropism
C. thermotropism
D. thigmotropism

Matching
Identify each plant cell part by matching it with its name.

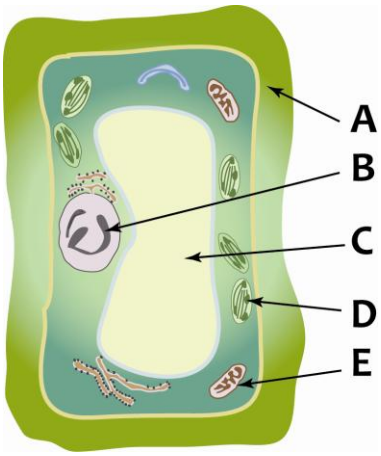
____ 36. nucleus

____ 37. cell wall

____ 38. vacuole

____ 39. mitochondria

____ 40. chloroplast



Matching
Identify each root structure part by matching it with its name.

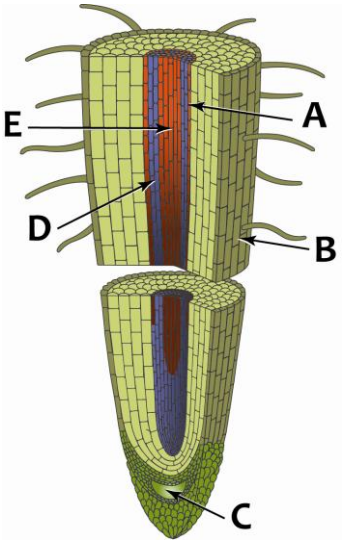
____ 41. xylem

____ 42. phloem

____ 43. epidermis

____ 44. endodermis

____ 45. apical meristem



Matching
Match each type of flower with its definition.

A. complete flower
B. incomplete flower
C. perfect flower
D. imperfect flower

____ 46. flower that has both stamens and a pistil

____ 47. flower that lacks either stamens or a pistil

____ 48. flower that is missing at least one principal part

____ 49. flower that has sepals, petals, stamens, and a pistil

Matching
Match each plant growth regulator with its description.

A. auxins
B. ethylene
C. cytokinin
D. gibberellin
E. abscisic acid

_____ 50. promotes growth through cell division and elongation

_____ 51. promotes stem elongation through cell division and elongation

_____ 52. inhibits growth; closes leaf stomas; made in mature leaves under stress

_____ 53. promotes cell division and delays leaf aging; made in root tips and developing seeds

_____ 54. gas formed in stressed tissue; made during fruit ripening; causes early petal drop

Matching
Match each plant response with its stimulus.

A. phototropism
B. chemotropism
C. gravitropism
D. thermotropism
E. thigmotropism

_____ 55. gravity

_____ 56. light

_____ 57. touch

_____ 58. temperature

_____ 59. chemicals