

KOSSA Practice Items  
Horticulture

1. The three major plant cell parts are  
AC007
  - a. cell wall, chloroplast, goigi
  - b. cell wall, goigi, nucleus
  - c. cell wall, cytoplasm, nucleus
  - d. cell wall, nucleus, vacuole
  
2. What are the major vegetative parts of the plant?  
AC002
  - a. leaf, flower, seed
  - b. leaf, root, stem
  - c. root, seed, bud
  - d. stem, flower, node
  
3. What are the major reproductive parts of the plant?  
AC002
  - a. leaf, root, stem
  - b. leaf, flower, seed
  - c. leaf, fruit, stem
  - d. flower, fruit, seed
  
4. What are the four essential plant parts?  
AC002
  - a. leaf, flower, stem, root
  - b. leaf, root, seed, flower
  - c. flower, seed, petal, root
  - d. stem, flower, root, seed
  
5. The four main parts of the flower  
AC002
  - a. stamen, style, ovary, pistil
  - b. .petal, pistil, stamen, sepal
  - c. anther, petal, sepal, receptacle
  - d. anther, petal, stamen, receptacle
  
6. Plant production from a cutting is a type of \_\_\_\_\_ propagation.  
AC004
  - a. asexual
  - b. bisexual
  - c. sexual
  - d. unsexual

KOSSA Practice Items  
Horticulture

7. A monocotyledon is defined as  
AC001
- embryo with no cotyledon
  - embryo with single cotyledon
  - embryo with two cotyledons
  - embryo with three cotyledons
8. Cotyledons are defined as  
AC001
- vascular bundle
  - seedlings
  - embryo
  - seed leaves
9. The required conditions for germination include  
AC005
- moisture, soil, temperature
  - soil, air, temperature
  - moisture, air, optimal temperatures
  - light, soil, temperature
10. The most favorable temperature for seed germination is  
AC005
- 65°F to 80°F
  - 32°F to 105°F
  - 32°F to 65°F
  - 80°F to 105°F
11. Vigor is
- the ability of seeds to germinate under different conditions.
  - the ability of the seed to work hard
  - the ability of the seed to grow
  - the ability of the seed to grow fast
12. A monocot plant example is  
AC001
- bean
  - carrot
  - oats
  - turnip

KOSSA Practice Items  
Horticulture

13. Dicots have

AC001

- a. fibrous roots
- b. tap roots
- c. non-fibrous roots
- d. adventurous roots

14. Which of the following is not a specialized stem

AC002

- a. tuber
- b. bulb
- c. tendril
- d. root

15. An evergreen is an example of an

AC001

- a. annual
- b. biannual
- c. perennial
- d. winter annual

16. Trees and shrubs that drop all of their leaves in the fall.

AC001

- a. annual
- b. biannual
- c. deciduous
- d. evergreen

17. Parent material of the glacial origin that was deposited by wind.

OB005

- a. alluvium
- b. loess
- c. glacial till
- d. topography

18. Many soils have been formed from material originally moved by \_\_\_\_\_.

OB005

- a. glaciers
- b. wind
- c. water
- d. human

KOSSA Practice Items  
Horticulture

19. As materials such as organic matter and minerals are altered in the soil, this process is called \_\_\_\_\_.  
OB002
- a. translocation
  - b. transpiration
  - c. transformation
  - d. relocation
20. Most productive soils range from  
OB004
- a. 1.0 to 4.0 pH
  - b. 4.0 to 9.0 pH
  - c. 7.0 to 9.0 pH
  - d. 9.0 to 14 pH
21. Which of the following is known as the most highly visible erosion?  
OB005
- a. gully erosion
  - b. rill erosion
  - c. sheet erosion
  - d. steep erosion
22. Which practice will reduce and prevent soil erosion on property?  
OB005
- a. mechanical tillage
  - b. crop rotation
  - c. monocropping
  - d. traditional tillage
23. Three functions of a growing medium  
OB006
- a. provide fertilizer, moisture, oxygen
  - b. provide seed cover, support, light
  - c. provide nutrients, support, oxygen
  - d. provide seed cover, nutrients, moisture
24. Common components in a soilless mix are:  
OB006
- a. peat moss, perlite, vermiculite
  - b. sand, silt, clay
  - c. sand, peat moss, bark
  - d. perlite, vermiculite, miracle grow
25. A soil that contains equal amounts of sand, silt, and clay is called a \_\_\_\_\_.  
OB003
- a. even mix
  - b. sandy silt
  - c. uniform mix
  - d. loam

KOSSA Practice Items  
Horticulture

26. Soil is classified by the amount of  
OB003
- sand, silt, clay and loam it contains
  - where it is found in the soil profile
  - silt , clay , gravel
  - sand, silt, clay it contains
27. A document that guides the operation of a business  
OA001
- business plan
  - marketing plan
  - mission statement
  - planning statement
28. Fertilizer containing 15-10-26 contains  
OB004
- 15% nitrogen, 10% phosphate, and 26% potash.
  - 15% phosphate, 10% nitrogen, and 26% potash.
  - 15% potash, 10% phosphate, and 26% nitrogen.
  - none of the above
29. Ben gave Cami an approximate price for yard work to be completed this is called a(an)  
AB008
- cost summation
  - estimate
  - bid
  - contingency cost
30. For the new landscaping job you will be required to utilize landscape fabric. The area to be covered is 16' x 16'and the landscape fabric measures 3'x 5'. How many rolls of fabric will it take to cover the area?  
AB009
- 18
  - 16
  - 5
  - 19

KOSSA Practice Items  
Horticulture

31. Use the Punnett Square method to estimate the possible gene combinations for the following situation. Crossing a yellow marigold (YY) with an orange marigold (yy). What would be the offspring's gene combination?

AC007


- a. YY
- b. yy
- c. Yy
- d. yY

32. Use the Punnett Square method to estimate the possible gene combinations for the following situation. Crossing a red rose (RR) with an white rose (rr). What would the phenotype ratio be?

AC007


- a. 4:0 (dominant recessive)
- b. 2:1 (dominant recessive)
- c. 2:2 (dominant recessive)
- d. 0:4 (dominant recessive)

33. The method of asexual propagation that involves the growing of small pieces of plant tissue.

AC004

- a. propagation culture
- b. plant culture
- c. cell culture
- d. tissue culture

34. Qualitative traits are traits controlled by

AC007

- a. several pairs of genes
- b. a single pair of genes
- c. six pairs of genes
- d. seven pairs of genes

KOSSA Practice Items  
Horticulture

35. You have decided to buy your mother a corsage for Mother's Day. The original cost for a three flower corsage is \$15.00 however; the flower shop is running a special \$13.00 price for Mother's Day. What would be the percentage in price reduction from the original cost?

AB007

- a. 21.3%
- b. 15.4 %
- c. 10.0%
- d. 40.0%

36. You have a 30' x 45' greenhouse. You need to install tables using the maximum potential of the space. Each table measures 6' x 12. Using the given information, determine how many tables you must install. Consider the following stipulations:

- *There must be a minimum of 5' aisle lengthwise in the middle of the greenhouse*
- *There must be minimum of 2' between the long sides of benches and/or walls*
- *You must fit as many benches as possible in the greenhouse*

AB003

- a. 4
- b. 11
- c. 20
- d. 10

37. You have 10 tables that are 6' x 12'. Each plant flat is 12" x 24".

-Determine how many flats will fit on each table.

AB003

- a. 36
- b. 48
- c. 17
- d. 18

38. As an greenhouse owner there are many different items that must be stored in the headhouse in order to have the items on hand at the right time. Given your headhouse is 15'x 32' use the following setup's to determine the minimum amount of potting soil you are able to store. Remembering the following:

- *Pallets of potting soil 3 ft X 3 ft*
- *There must be minimum of 2' between the long sides of the pallets and/or walls*
- *There must be a minimum of 4' aisle lengthwise in the middle of the headhouse*

- a. 24
- b. 18
- c. 12
- d. 6

KOSSA Practice Items  
Horticulture

39. You have been hired to fill 3 planter boxes that hold about 10 cubic feet of soil each. You have the supply store deliver 6 cubic yards of potting mix. How many cubic yards of potting soil do you need to fill the planter boxes?

AB003

- a. 11.5
- b. 6.0
- c. 30.0
- d. 1.1

40. Which of the following is the correct soil layer order?

OB002

- a. sub soil, topsoil, parent material, bed rock
- b. parent material, sub soil, top soil, bed rock
- c. parent material, top soil, sub soil, bed rock
- d. top soil, sub soil, parent material, bed rock

41. Two growth regulators used with tissue culture techniques are

AC004

- a. auxins, cytokinins
- b. auxins, callas
- c. cytokinins, plantlets
- d. callas, cytikinins

42. The male part of the flower is called the

AC002

- a . pistal
- b. ovary
- c. style
- d. stamen

43. A flower which is missing either male or female parts is called

AC002

- a. complete flower
- b. incomplete flower
- c. perfect
- d. imperfect flower

KOSSA Practice Items  
Horticulture

44. A form of biotechnology that involves the changing of the genetic makeup of living organisms.

AC006

- a. gene manipulation
- b. genetic engineering
- c. organism change
- d. organism manipulation

45. Which of the following best describes precision farming?

AC006

- a. use of cropping practices that improve yields based on the needs of the land.
- b. using biology to develop new products or processes.
- c. the use of machines and equipment to do precise work.
- d. technology gathered and recorded data from a great distance.

46. Which of the following defines “endosperm?”

AC001

- a. a little plant that eventually grows and develops into the mature plant
- b. fleshy fruit
- c. the food storage tissue in the seed
- d. normal cells containing a double set of chromosomes

47. Which environmental factor does not play a key role in seed germination?

AC005

- a. soil
- b. moisture
- c. air, oxygen
- d. warm temperatures

48. Which part of the seedling will emerge first from a dicot?

AC001

- a. roots
- b. leaves
- c. stem
- d. bloom

49. A plant that is identical to the parent plant is known as a

AC007

- a. clone
- b. perfect replica
- c. offspring
- d. callus

KOSSA Practice Items  
Horticulture

50. At the end of the season sale Jim's greenhouse is selling all bedding plants 50% off the original price. If Abby buys 6 dailies for \$5.00 each, 2 rose bushes for \$6.50 each and, 7 ornamental grasses for \$11.00 each. What would her bill have been if she had not received the 50% discount?

AB007

- a. \$120
- b. \$134
- c. \$174
- d. \$220

51. You estimate that your bean crop can be harvested in 2 weeks and 2 days if you hire three combine drivers to work 12 hours a day, 6 days a week. How many hours do all three combines have to work to harvest the bean crop?

AB008

- a. 1000 hours
- b. 504 hours
- c. 600 hours
- d. 1202 hours

52. Based on the hours worked from the previous question if you paid each combine driver \$13.50 per hour what would be each person's take home pay at the end of the harvest?

AB002

- a. \$1350
- b. \$6804
- c. \$ 1143
- d. \$2268

53. Bobby works for Krista's Lawn Care Service. He is paid \$6.00 per hour for the first 40 hours he works in a five day work week. After 40 hours he is paid time and a half. This week he has worked 62 hours. Based on this what would be his take home pay.

AB002

- a. \$438
- b. \$ 372
- c. \$ 558
- d. \$279

54. Plants which are grown from seeds use this type of propagation method

AC003

- a. asexual
- b. bisexual
- c. sexual
- d. unusual

KOSSA Practice Items  
Horticulture

55. Strawberry plants have this type of specialized stem  
AC002

- a. rhizome
- b. stolon
- c. tendril
- d. tuber

KOSSA Practice Items  
Horticulture

1. c. cell wall, cytoplasm, nucleus
2. b. leaf, root, stem
3. d. flower, fruit, seed
4. a. leaf, flower, stem, root
5. b. petal, pistil, stamen, sepal
6. a. asexual
7. b. embryo with single cotyledon
8. d. seed leaves
9. c. moisture, air, optimal temperatures
10. a. 65°F to 80°F
11. a. the ability of seeds to germinate under different conditions.
12. c. oats
13. b. tap roots
14. d. root
15. c. perennial
16. c. deciduous
17. b. loess
18. a. glaciers
19. c. transformation
20. b. 4.0 to 9.0 pH
21. a. gully erosion
22. b. crop rotation
23. c. provide nutrients, support, oxygen
24. a. peat moss, perlite, vermiculite
25. d. loam
26. d. sand, silt and clay

KOSSA Practice Items  
Horticulture

- 27. b. marketing plan
- 28. a. 15% nitrogen, 10% phosphate, and 26% potash.
- 29. b. estimate
- 30. a. 18
- 31. c. Yy
- 32. a. 4:0 (dominant recessive)
- 33. d. tissue culture
- 34. b. a single pair of genes
- 35. b. 15.4 %
- 36. d. 10
- 37. a. 36
- 38. c. 12
- 39. d. 1.1
- 40. d. top soil, sub soil, parent material, bed rock
- 41. a. auxins, cytokinins
- 42. d. stamen
- 43. d. imperfect flower
- 44. b. genetic engineering
- 45. a. use of cropping practices that improve yields based on the needs of the land.
- 46. c. the food storage tissue in the seed
- 47. a. soil
- 48. c. stem
- 49. a. clone
- 50. c. \$174
- 51. b. 504 hours
- 52. d. \$2268

KOSSA Practice Items

Horticulture

53. a. \$438

54. c. sexual

55. b. stolen