
Student Name: _____

Teacher: _____ Date: _____

District: Johnston

Assessment: 9_12 Agriculture AU10 - Agriscience Applications Test 3

Description: Midterm Review

Form: 501

1. Professional agricultural organizations are often related to a:

- A. Piece of equipment.**
- B. Commodity.**
- C. Legislator.**
- D. Specific company.**

2. Many professional agricultural organizations require its members to:

- A. Attend weekly meetings.**
- B. Give a percentage of their profits to the organization.**
- C. Pay membership dues.**
- D. Take an oath.**

3. Courses in vocational agriculture were established in 1917 by the:

- A. Smith-Hughes Act.**
- B. Smith-Jones Act.**
- C. Mary Smith Act.**
- D. John Smith Act.**

4. A goal of MOST professional agricultural organizations is to:

- A. Create more paperwork.**
- B. Keep membership down by raising the amount of dues members have to pay.**
- C. Maintain the old methods of farming.**
- D. Update its members on new methods, products, and technology.**

5. Women were allowed in the FFA in:

- A. 1929**
- B. 1943**
- C. 1951**
- D. 1969**

6. In what year did agriculture teachers network across the United States in a team effort to form the FFA National Organization?

- A. 1970**
- B. 1890**
- C. 1928**
- D. 1958**

7. A leadership CDE that is a basic statement of beliefs about FFA and agriculture is:

- A. FFA Creed**
- B. Prepared Public Speaking**
- C. Extemporaneous Public Speaking**
- D. Parliamentary Procedure**

8. Which belief is MOST reflected in The FFA Creed?

- A. Decline of agriculture**
- B. Importance of getting the upper hand by any means possible**
- C. Need to put others down in order to succeed**
- D. Value of work and fair play**

9. Which activity is MOST helpful in developing poise, confidence, and leadership?

- A. Cleaning up the school grounds**
- B. Identifying trees in a forestry class**
- C. Making an oral presentation or speech**
- D. Moving plants in a nursery**

10. A MAJOR purpose of FFA career development events is to encourage agriscience students to develop leadership and:

- A. Improve competitive attitudes.**
- B. Increase technical agricultural skills.**
- C. Earn their degrees.**
- D. Win scholarships.**

11. Which organization is MOST likely agricultural related?

- A. Boy Scouts.**
- B. Grange.**
- C. Hot Rod Association.**
- D. Red Hat Society.**

12. Which is true of FFA extemporaneous speeches?

- A. Delivered with little or no preparation**
- B. Never used in public speaking**
- C. Usually 20 to 30 minutes in length**
- D. Planned and practiced for days before delivery**

13. Public Law 740 passed by Congress in 1950 granted the FFA:

- A. A new purpose.**
- B. A federal charter.**
- C. Unlimited money.**
- D. A new name.**

14. Which FFA career development event requires participants to grade and evaluate egg and chicken products?

- A. Parliamentary procedure**
- B. Dairy judging**
- C. Poultry judging**
- D. Public speaking**

15. What do professional agricultural organizations often provide for their members?

- A. Trade shows**
- B. Free equipment**
- C. Medical care**
- D. Transportation**

16. A CDE such as horse judging allows students to:

- A. Earn recognition**
- B. Develop technical knowledge**
- C. Develop confidence**
- D. All of the above**

17. Which organization MOST likely has as its primary purpose the support of the student organization for agricultural education?

- A. FFA Alumni Association
- B. National Agricultural Teachers Association
- C. National Agricultural Education Council
- D. Teamsters Union

18. Developing students' potential for premier leadership, personal growth, and career success is the FFA:

- A. Creed.
- B. Mission.
- C. Motto.
- D. Slogan.

19. In which Career Development Event is a student given 30 minutes to prepare a speech on an agricultural topic and then present that speech to a panel of judges?

- A. Agricultural Sales
- B. Extemporaneous Public Speaking
- C. Prepared Public Speaking
- D. The FFA Creed

20. Hope makes a motion to have a dance. However, before discussion from the floor can occur on the motion, it must be:

- A. Amended.
- B. Seconded.
- C. Tabled.
- D. Voted on.

21. The FFA Creed was written and adopted in 1928 to:

- A. Give members a theme song.
- B. Help members understand the importance of the organization.
- C. Provide a jingle for advertisement.
- D. Raise money for the support of contest held at the national level.

22. Aaron wants to make a motion to have a cookout. What is the MOST acceptable way for him to state the motion?

- A. I believe we should have a cookout.
- B. I make a motion that we have a cookout.
- C. I move we have a cookout.
- D. I think that we should have a cookout.

23. New FFA members are required to learn the FFA Creed to achieve the first degree of membership, the:
- A. Greenhand Degree.
 - B. Chapter FFA Degree.
 - C. State FFA Degree.
 - D. American FFA Degree.
24. The first line of the FFA motto is:
- A. Doing to learn.
 - B. Earning to live.
 - C. Learning to do.
 - D. Living to serve.
25. The symbol that signifies that the FFA is a national organization is the:
- A. Corn.
 - B. Eagle.
 - C. Owl.
 - D. Rising sun.
26. What item on the agenda reminds members of what happened at the last meeting?
- A. Reading of the minutes
 - B. Old business
 - C. Adjournment
 - D. Call to order
27. A main motion is made to have refreshments after all meetings. It must pass by a:
- A. Majority vote.
 - B. Roll call vote.
 - C. Secret ballot vote.
 - D. Two-thirds majority vote.
28. Business meetings should be conducted by following a/an:
- A. Order of business.
 - B. List of things to do.
 - C. The mood of the group.
 - D. Chairperson's orders.

29. The FFA Creed was adopted by members of the:

- A. Third National FFA Convention.**
- B. Thirty-third National FFA Convention.**
- C. One hundred and sixty-third National FFA Convention.**
- D. Ninety-third National FFA Convention.**

30. Jim wants to amend a motion to go to the county fair. The three common ways he can amend the motion is by:

- A. Adding, striking out, or substituting.**
- B. Combining, blending, or referring.**
- C. Delaying, avoiding, or defeating.**
- D. Withdrawing, rescinding, or conferring.**

31. The secretary is the officer MOST responsible for:

- A. Keeping financial records for the group.**
- B. Keeping records of the meetings.**
- C. Making certain the public is informed about the club's activities.**
- D. Presiding over the meetings.**

32. Business that was started but not completed in the last meeting is referred to as:

- A. Committee reports.**
- B. New business.**
- C. Old business.**
- D. Order of business.**

33. Freshmen members are asked to learn the FFA Creed because it:

- A. Gives the teacher time to relax.**
- B. Helps students develop the skill necessary to compete in tool identification career development events.**
- C. Is used by FFA in the place of saying the pledge allegiance to the American flag.**
- D. Represents the beliefs and values that the FFA stands for and members need to know.**

34. The official colors of the National FFA Organization are:

- A. National red, white, and blue.**
- B. Blue and Yellow.**
- C. Navy blue and corn yellow.**
- D. National blue and Corn gold.**

35. What symbol on the FFA emblem represents the progressive nature of agriscience, and the need for workers in agriscience to cooperate and work toward common goals?
- A. American flag
 - B. Plow
 - C. Rising Sun
 - D. Owl
36. Jackie moves to amend the motion to have the banquet at the school cafeteria. What is she MOST likely trying to do to the motion?
- A. Change it
 - B. Kill it
 - C. Preserve it
 - D. Restore it
37. What item of business should occur immediately after the reading of the minutes, and before the group begins unfinished business?
- A. Degree Ceremonies
 - B. Guest speakers
 - C. Treasurer's Report as well as other officer reports
 - D. Move to suspend the reading of the minutes
38. Before presenting a prepared speech to an audience, the BEST way a speaker can improve the presentation is by:
- A. Drinking plenty of water to prevent thirst during speaking.
 - B. Practicing the speech before a mirror to observe posture, gestures, and facial expressions.
 - C. Making a copy of the manuscript to place in a personal file.
 - D. Listening to the sounds of the ocean waves and seagulls.
39. Stage presence is important for a good speech because it shows the speaker's:
- A. Ability to write a manuscript.
 - B. Confidence and ease before the audience.
 - C. Correct use of grammatical structure.
 - D. Skill in researching the internet for references.
40. Ginger wants to obtain the floor. In order to be recognized, she should address the presiding officer by saying:
- A. I desire to speak.
 - B. Your Honor.
 - C. I call for recognition.
 - D. Madame/Mr. President.

41. Which symbol in the FFA emblem represents labor and tillage of the soil?

- A. Owl
- B. Eagle
- C. Plow
- D. Cross-section of the ear of corn

42. The President is responsible on every agenda for the:

- A. Reading of the minutes.
- B. President's report.
- C. New business.
- D. Call to order.

43. Kim was excited about learning leadership skills through FFA participation, but she was really surprised that the FFA also taught members the value of:

- A. Greed.
- B. Isolationism.
- C. Patriotism.
- D. Selfishness.

44. Adjournment means that:

- A. You must go home now.
- B. The group must move to a new location.
- C. The group will no longer conduct official business in this meeting.
- D. Recreation is not allowed after meetings.

45. An agenda forms the framework of a good meeting and is also known as the:

- A. Officer reports.
- B. Order of business.
- C. Reading of the minutes.
- D. Treasurers report.

46. Harry is unsure if the motion is in order. The parliamentarian instructs him that the maximum number of main motions that can be on the floor at any one time is:

- A. 6
- B. 4
- C. 2
- D. 1

47. The presiding officer is regarded as the traffic controller in a business meeting, and calls on members who want to speak as they ask to be:
- A. Ascertained.
 - B. Confirmed.
 - C. Registered.
 - D. Recognized.
48. The FFA Creed has five paragraphs that begin with the words I believe and was written by:
- A. Henry C. Groseclose.
 - B. Leslie Applegate.
 - C. E.M. Tiffany.
 - D. Wesley Barefoot.
49. What is the MOST likely result when the chapter FFA Officer team presents a parliamentary procedure demonstration to the local Lions club?
- A. Creates conflict with parents because students are out of class
 - B. Develops the team's confidence and skill in conducting business meetings
 - C. Eliminates the need for practicing good parliamentary procedure
 - D. Makes Lions club members jealous of the FFA Officer team
50. What symbol in the FFA Emblem represents knowledge and wisdom?
- A. Owl
 - B. Eagle
 - C. Plow
 - D. Cross-section of the ear of corn
51. Lucas moved to amend the motion to have refreshments after all meetings by substituting once per quarter in the place of after all meetings. The amendment must pass by a:
- A. Majority vote.
 - B. Roll call vote.
 - C. Secret ballot vote.
 - D. Two-thirds majority vote.
52. Clint works for an hourly wage in a SAE enterprise involved in production. What activity is he MOST likely involved in?
- A. Landscaping his home.
 - B. Learning to weld.
 - C. Raising beef cattle.
 - D. Visiting a supply store.

53. If Jenny wants to have an entrepreneurship project, she needs to know that it:

- A. Involves ownership or partial-ownership and assumes financial risk.**
- B. Is the same as an improvement project.**
- C. May also be recorded as a supplementary skill.**
- D. Must be done without pay or profit of any kind whether cash or bartered items.**

54. Tamara wants to conduct an SAE that is appropriate for students who want to use the scientific method. Which SAE is BEST for her to use?

- A. Analytical**
- B. Experimental**
- C. Improvement**
- D. Placement**

55. If Deanna has several enterprises as part of her SAE, she MOST likely has:

- A. A job watering shrubs.**
- B. Participated in the Extemporaneous Public Speaking event.**
- C. Several types of animals or plants in her project.**
- D. Visited several agribusinesses.**

56. Kim is working part-time at the Green Thumb Garden Center. What type of SAE is she involved in?

- A. Protective**
- B. Placement**
- C. Exploratory**
- D. Entrepreneurship**

57. Howard records a short-term supplementary skill in his SAE record book. What did he MOST likely do?

- A. Change a spark plug.**
- B. Conduct an experiment on the affects of fertilizer on corn.**
- C. Raise Christmas trees**
- D. Work in a florist shop.**

58. Haley learned that part of her grade in agricultural education was given for activities outside of the regular classroom time. She learned the grade was for:

- A. Becoming established in an agriscience occupation.**
- B. Early graduation.**
- C. FFA participation.**
- D. Supervised agricultural experience.**

59. As a beginning agriculture student, Millie wants to learn about a lot of different career options. What SAE is BEST for her to conduct?
- A. Exploratory
 - B. Improvement
 - C. Placement
 - D. Supplemental
60. John is conducting activities to improve the appearance, convenience, and safety, of his home. Which SAE project is he MOST likely involved in?
- A. Exploratory
 - B. Improvement
 - C. Supplementary
 - D. Planning
61. Of the many hands on experiences Sandy has through SAE and FFA, which is MOST helpful in helping her learn to identify plants?
- A. Grading products in the Poultry Evaluation CDE
 - B. Preparing and delivering an extemporaneous speech
 - C. Reciting the FFA Creed
 - D. Working as an intern at a nursery
62. Gradie has records for exploratory, entrepreneurship, and placement SAE activities. How can he BEST keep up with what he has done?
- A. Ask the teacher to keep the records in a class roll book.
 - B. Keep a shoe box with scraps of paper to remind him of activities.
 - C. Maintain an up to date record book or computer file.
 - D. Throw receipts in the glove compartment of his car or truck.
63. Mozambic wants to study a problem in agriculture that is not easily tested by experimentation. His study will BEST be considered as what type of SAE?
- A. Analytical
 - B. Easy
 - C. Placement
 - D. Production

64. Hawan is part owner in greenhouse that grows tomatoes for the local market. What type of SAE is she involved in?
- A. Protective
 - B. Placement
 - C. Exploratory
 - D. Entrepreneurship
65. Sybal has performed several supplementary, improvement, and exploratory activities that count toward her agricultural education grade. The activities will be graded as:
- A. Extra credit.
 - B. FFA participation.
 - C. Recreation.
 - D. Supervised agricultural experience.
66. Eastern North Carolina counties are leaders both statewide and nationally in the production of:
- A. Fraser fir Christmas trees.
 - B. Turkeys.
 - C. Apples.
 - D. Dairy products.
67. What is the world's MOST important source of vegetable oil, that provides the basic materials for hundreds of products?
- A. Soybean
 - B. Corn kernel
 - C. Peanut
 - D. Sunflower seed
68. The highest beef cattle producing states are generally located near what crop producing states?
- A. Corn belt.
 - B. Soft red winter wheat.
 - C. Spearmint.
 - D. Citrus.
69. Land grant universities such as North Carolina A&T and North Carolina State University were established to teach:
- A. agriculture and accounting.
 - B. agriculture and hospitality.
 - C. agriculture and military tactics and do agricultural research.
 - D. biology, chemistry and physics.

70. The industry that grows, manages, and harvests trees for lumber, poles, posts, pulpwood, and many other commodities is:

- A. Forestry.**
- B. Horticulture.**
- C. Production agriscience.**
- D. Renewable natural resources.**

71. Which is the BEST free source of information for small businesses in agriculture?

- A. Cooperative Extension Service**
- B. Corporate troubleshooting group**
- C. Professional consultant**
- D. Teamsters Union**

72. A local tractor dealership is BEST described as an:

- A. Agribusiness.**
- B. Agriculture Display.**
- C. Agriculture Production Enterprise.**
- D. Agri-Marketing Service.**

73. If someone wanted to find the ranking of North Carolina in sweet potato production, what agency would they consult?

- A. Farm Bureau**
- B. National Resource Conservation Service**
- C. National Agricultural Statistics Service**
- D. U.S. Forest Service**

74. The BEST term to describe the application of scientific principles and new technologies in agriculture is:

- A. Agribusiness.**
- B. Agriscience.**
- C. Farming.**
- D. Renewable natural resources.**

75. Which is an applied science?

- A. Biology**
- B. Chemistry**
- C. Entomology**
- D. Physics**

76. In 1878 a milking machine was invented by:

- A. John Deere.**
- B. Eli Whitney.**
- C. Massey Ferguson.**
- D. Anna Baldwin.**

77. The agriscience industry that includes producing, processing, and marketing fruits, vegetables, and ornamental plants is:

- A. Forestry.**
- B. Horticulture.**
- C. Production agriscience.**
- D. Renewable natural resources.**

78. Which is often called an applied science since it uses principles learned in other sciences to solve practical problems?

- A. Agriculture**
- B. Biochemistry**
- C. Biology**
- D. Chemistry**

79. John Deere Company is still a leader in the agricultural equipment industry, but got it starts with the invention of the:

- A. Corn picker.**
- B. Milking machine.**
- C. Steel moldboard plow.**
- D. Tractor.**

80. What did George Washington Carver develop that greatly impacted agriculture?

- A. The cotton gin.**
- B. Crop rotation methods and the use of legumes.**
- C. The gene gun.**
- D. The tractor.**

81. The tractor largely replaced the mule for horsepower and was invented by:

- A. Eli Whitney.**
- B. Edmund Quincy.**
- C. Benjamin Holt.**
- D. Anna Baldwin.**

82. About what percent of the work force is on the farm in the United States?

- A. 7
- B. 2
- C. 10
- D. 12

83. The agriscience industry composed of people who haul, grade, process, package, and market commodities from production sources is:

- A. Agriscience mechanics.
- B. Agriscience supplies and services.
- C. Agriscience professions.
- D. Agriscience processing, products, and distribution.

84. The cotton gin removes the cottonseed from the cotton fiber and was invented by:

- A. Eli Whitney.
- B. Edmund Quincy.
- C. Benjamin Holt.
- D. Anna Baldwin.

85. The reaper was invented by Cyrus McCormick in 1834 to:

- A. Cut and stack grain in the field.
- B. Shell corn from the cob.
- C. Cut grain in the field.
- D. Gather hay crops and put them in bales.

86. Discovering new ways of controlling crop pests would BEST be described as:

- A. Agricultural marketing.
- B. Agriculture sales.
- C. Agribusiness.
- D. Agriscience.

87. Raising livestock was dramatically changed in 1874 by the invention of (the):

- A. iron plow.
- B. barbed wire.
- C. milking machine.
- D. corn picker.

88. Which is an agribusiness related to horticulture?

- A. Dairy processor**
- B. Greenhouse dealer**
- C. Livestock market**
- D. Veterinarian**

89. The agriscience industry that involves the management of wetlands, rangelands, water, fish, and wildlife is:

- A. Agriscience supplies and services.**
- B. Forestry.**
- C. Production agriscience.**
- D. Renewable natural resources.**

90. Why might beef cattle and hog producing states be located near corn belt states?

- A. The weather is nice for both corn and hogs.**
- B. Corn makes a good windbreak for cattle and hogs.**
- C. Only hogs and cattle eat corn.**
- D. Corn is a primary feed for cattle and hogs and is thereby readily available.**

91. The local food movement is defined in terms of geographic proximity of:

- A. producer to consumer.**
- B. consumer to retailer.**
- C. producer to producer.**
- D. consumer to nearby grocery stores.**

92. Food insecurity is defined as not knowing where a human will find their next meal and is:

- A. a problem only in African countries.**
- B. a global problem.**
- C. a problem only in Asian countries.**
- D. only a problem where governments are corrupt.**

93. Fewer exports of products to European countries is an issue related to:

- A. Local food movements.**
- B. Organic food production.**
- C. Sustainability**
- D. Genetically Modified Organisms.**

94. Not knowing where a human will find their next meal is called?

- A. Local food movement
- B. Sustainability
- C. Food insecurity
- D. Starvation

95. What do land grant universities in North Carolina offer?

- A. Only 2 year animal science degree programs
- B. Two 2 year agriculture related degree programs.
- C. Four year agricultural degree programs.
- D. No agricultural degree programs.

96. Which is a horticulture related career?

- A. Broiler producer
- B. Forest ranger
- C. Timber cruiser
- D. Wholesale florist

97. Which career relates to plant science?

- A. Farrier
- B. Greenskeeper
- C. Logging foreman
- D. Veterinarian

98. Which career is involved with plants grown around the home for aesthetic purposes?

- A. Floral designer
- B. Forester
- C. Landscaper
- D. Wholesale florist

99. Which career supplies flowering plants to a florist?

- A. Floral designer
- B. Forest ranger
- C. Greenhouse manager
- D. Landscape architect

100. An example of a plant science career that belongs in any of the plant science areas is:

- A. forage manager.**
- B. entomologist.**
- C. produce manager.**
- D. florist.**

101. Landscape architects are a part of the horticulture industry because they:

- A. Design landscapes.**
- B. Plant landscapes.**
- C. Shoe horses.**
- D. Treat animals for disease.**

102. What components of cells determine the individual characteristics of living things?

- A. Genes**
- B. Mitochondria**
- C. Nucleic cilia**
- D. Nucleotides**

103. Which is an application of biotechnology in agriscience?

- A. Genetic engineering.**
- B. Planting seed.**
- C. Stem cuttings.**
- D. Selective breeding.**

104. The transmission of characteristics from an organism to its offspring through genes in reproductive cells is known as:

- A. Progeny.**
- B. Traits.**
- C. Heredity.**
- D. Genetics.**

105. By matching DNA scientist can:

- A. Avoid the use of genetic engineering.**
- B. Create a super specimen.**
- C. Identify parents or offspring.**
- D. Eliminate the use of scientific methods.**

106. Why does genetic engineering hold great promise in controlling disease, insects and weeds?

- A. Cheaper than developing chemicals**
- B. Internal characteristics are changed**
- C. Less government regulation exist**
- D. Safety testing is eliminated**

107. Which is true of DNA?

- A. Cannot be duplicated**
- B. Found in all living cells**
- C. Found only in male cells**
- D. Produced only in a test tube**

108. Genetically modified organisms that are safety tested in laboratories and greenhouses before they are tested outdoors are also monitored by:

- A. Chemical salespeople.**
- B. County government.**
- C. Nursery operators.**
- D. State and Federal government.**

109. The matching of genes to traits is called:

- A. Matching.**
- B. Mapping.**
- C. Meshing.**
- D. Combining.**

110. DNA is an acronym for:

- A. Deoxyribonucleic Acid.**
- B. Dibonucleic Acid.**
- C. Dynamite Alert.**
- D. Dioxynucleic Acid.**

111. When genetic information is moved from one cell to another to change the characteristics of the cell, the procedure is known as genetic:

- A. Engineering.**
- B. Division.**
- C. Mating.**
- D. Multiplication.**

112. One of the first commercial products created by genetic engineering was:

- A. Artificial sweetener.**
- B. Buttermilk.**
- C. Insulin.**
- D. Synthetic oil.**

113. What bacteria was genetically engineered to produce insulin?

- A. E. coli**
- B. Salmonella**
- C. Yeast**
- D. Listeria**

114. Where is DNA located in the cell?

- A. Cell wall**
- B. Cytoplasm**
- C. Vacuole**
- D. Nucleus**

115. Which is a product of genetic engineering?

- A. Herbicide resistant crops**
- B. Hybrid seed**
- C. Ice cream sundaes**
- D. Soft drinks**

116. Genetics is known as:

- A. The biology of heredity.**
- B. The study of plant biology.**
- C. Biochemistry.**
- D. Biotechnology.**

117. In agriscience as well as other sciences, the method used to solve a problem is called the:

- A. Educated guess method.**
- B. Most popular decision technique.**
- C. Process of elimination.**
- D. Scientific method.**

118. In order for a new biotechnology product to be approved, the product must:

- A. Be worth at least \$1 million.**
- B. Be tested to make sure that it is safe.**
- C. Be able to kill insects.**
- D. Be affordable to the average consumer.**

119. What connects the pairs of strands that make up the double helix of DNA?

- A. Bases**
- B. Starches**
- C. Sugars**
- D. Tar**

120. A MAJOR reason for the manipulation of genes using recombinant DNA technology is to:

- A. Eradicate plant and animal species.**
- B. Improve plant and animal performance.**
- C. Increase the use of pesticides in agriculture.**
- D. Monitor the affects of inbreeding.**

121. Genes are comprised of:

- A. Mitochondria.**
- B. Cytoplasm.**
- C. Endoplasmic reticullum.**
- D. DNA.**

122. Recombinant DNA technology is also known as:

- A. Bovine somatotropin.**
- B. Gene splicing.**
- C. Porcine somatotropin.**
- D. X-Gal.**

123. Coded material in a cell that determines what that cell and its successive cells will become is known as:

- A. RNA.**
- B. DNA.**
- C. Chromosomes.**
- D. Thymine.**

124. The **FIRST** step in the scientific method of problem solving is to:

- A. Collect data.
- B. Draw conclusions.
- C. Identify the problem.
- D. Prepare a written report.

125. Which is the **MOST** likely result of genetic manipulation in agriculture?

- A. Increased use of chemical pesticides
- B. Less use of chemical pesticides
- C. Less use of biological controls
- D. One cloned species that controls all others

126. DNA is in the shape of a:

- A. Single helix.
- B. Single circle.
- C. Double circle.
- D. Double helix.

127. Changing a characteristic by removing and inserting genes into DNA is known as gene:

- A. Mapping.
- B. Masking.
- C. Splicing.
- D. Swapping.

128. Recombinant DNA technology can **BEST** be described as involving:

- A. Design of farm equipment through computer imaging.
- B. Implementation of soil conservation practices.
- C. Manipulation of the genetic content of cells.
- D. Study of rock formations using global positioning satellites.

129. Tissue culture may be used for:

- A. Cloning.
- B. Disinfecting.
- C. Sexual reproduction.
- D. Sterilization.

130. If a soil pH level is 6.0 and needs to be raised to 7.0, what amendment is BEST incorporated into the soil?

- A. Sulfur
- B. Sodium
- C. Lime
- D. Magnesium

131. Foliar application of fertilizer is applied by:

- A. Injecting the fertilizer in the soil below the plant.
- B. Placing the fertilizer in a band on either side of the row.
- C. Sprinkling the fertilizer on the ground beside the plant.
- D. Spraying the fertilizer on the leaves of the plant.

132. Organic fertilizers made from dried and pulverized manure are:

- A. Balanced sources of plant nutrients.
- B. Caustic to plants and can cause injury.
- C. In soluble form and quickly available to plants.
- D. Slow acting and long lasting.

133. The female part of a flower is called the:

- A. Pistil.
- B. Petal.
- C. Anther.
- D. Filament.

134. Lime raises the soil pH level so that the soil becomes more:

- A. Acidic.
- B. Alkaline.
- C. Eroded.
- D. Porous.

135. Sexual reproduction in plants is the propagation of plants by:

- A. Flowers.
- B. Roots.
- C. Seeds.
- D. Stems.

136. The three parts of a seed are:

- A. Root, stem, and flower.
- B. Root, seed coat, and endosperm.
- C. An embryo, cotyledon, and new plant.
- D. Seed coat, endosperm, and embryo.

137. Jan discovered that plants requiring high light intensity can not be grown well under greenhouse tables because:

- A. Low light intensity hinders food making process of photosynthesis.
- B. High light levels damage foliage and cause leaf burn.
- C. Plants get too much water from dripping plants.
- D. Plants root in the ground instead of in their pots.

138. Which plant growing media is a volcanic ash material?

- A. Peat moss
- B. Perlite
- C. Soil
- D. Vermiculite

139. Soil pH affects the availability of:

- A. Nutrients in the soil.
- B. The structure of the soil.
- C. The land class of the soil.
- D. Microbes in the soil.

140. What form must most nutrients become before they can be absorbed by a plant?

- A. Air
- B. Gas
- C. Liquid
- D. Solid

141. John discovers the house plant foliage is yellowing and stunted when compared to another house plant grown next to a window. What is the likely cause?

- A. Low light intensity hindered food production and photosynthesis in the stunted plant
- B. The stunted plant was making too much food
- C. The stunted plant was too cold since it did not get enough direct sunshine
- D. Water was not available for the stunted plant

142. The purpose of petals in flowers is to:

- A. Attract insects for pollination.
- B. Support the stamen.
- C. Store food for young seeds.
- D. Hide the plant from animals.

143. Food for the seed is stored in the:

- A. Seed coat.
- B. Endosperm.
- C. Embryo.
- D. Radicle.

144. What type of fertilizer is animal manure?

- A. Complete
- B. Inorganic
- C. Lime
- D. Organic

145. The rate at which photosynthesis is carried out depends on the amount of:

- A. Nitrogen, phosphorus, and potassium in the water.
- B. Oxygen in the atmosphere.
- C. Respiration carried on during the daylight hours.
- D. Light intensity, temperature, and carbon dioxide.

146. Grafting is:

- A. A type of sexual propagation.
- B. A type of hybridization.
- C. A method by which two plants are propagated.
- D. A method of joining two different plants.

147. Which plant growing media is a mineral mica- type material?

- A. Peat moss
- B. Perlite
- C. Soil
- D. Vermiculite

148. The purpose of a seed coat is to:

- A. Store food.
- B. Store genetic material.
- C. Protect the seed.
- D. Filter light.

149. What is applied to lower the pH value of soil?

- A. Lime
- B. Sulfur
- C. Fertilizer
- D. Sand

150. Antonio is concerned that the photosynthesis process is too slow in his plants because the heat in his greenhouse was cut down by accident. What temperature range will photosynthesis work best in?

- A. 50 to 60 degrees Fahrenheit
- B. 60 to 70 degrees Fahrenheit
- C. 65 to 85 degrees Fahrenheit
- D. 85 to 95 degrees Fahrenheit

151. Photosynthesis may be affected in enclosed conditions such as a greenhouse because of:

- A. Extremely cold temperatures.
- B. A shortage of carbon dioxide.
- C. A shortage of food.
- D. Too much chlorophyll in the plant.

152. The major types of root systems are:

- A. Cell division and fibrous.
- B. Cuttings and root hairs.
- C. Fibrous and root cap.
- D. Fibrous and taproot.

153. The primary function of the leaf is:

- A. To support other plant structures.
- B. To produce flowers.
- C. To produce fruit.
- D. To manufacture food for the plant.

154. The primary function of the root is to:

- A. Make sure that the plant will grow.
- B. Anchor the plant and supply water and nutrients.
- C. Ensure that the plant can be propagated.
- D. Hold up the stem of the plant and provide propagation material.

155. The part of the plant that is responsible for development of seed is the:

- A. Flower.
- B. Stem.
- C. Leaf.
- D. Petiole.

156. A procedure of fertilizer application used on row crops where the fertilizer is placed in bands about 8 inches from the row is known as:

- A. Side-dressing.
- B. Top-dressing.
- C. Broadcasting.
- D. Foliar application.

157. The primary function of the stem is:

- A. To produce flowers.
- B. To produce fruit.
- C. To anchor the plant.
- D. To support other plant structures.

158. The propagation method where a plant is separated into smaller parts is:

- A. Division.
- B. Grafting.
- C. Air layering.
- D. Tip layering.

159. Pollen is produced in the stamen by the:

- A. Pistil.
- B. Stigma.
- C. Filament.
- D. Anther.

160. The three primary nutrients supplied in a complete fertilizer are:

- A. Carbon, hydrogen, and oxygen.
- B. Nitrogen, phosphorus, and potassium.
- C. Calcium, magnesium, and sulfur.
- D. Carbon, nitrogen, and sulfur.

161. Sulfur is used to lower soil pH so that the soil will become more:

- A. Acidic.
- B. Alkaline.
- C. Eroded.
- D. Porous.

162. A substance applied to cuttings to speed up the development of roots is:

- A. Fertilizer.
- B. Lime.
- C. Steroids.
- D. Rooting hormone.

163. Propagation is defined as:

- A. The union of an egg and sperm.
- B. The process of increasing the number of a species.
- C. A cheaper method of propagation than with seeds.
- D. The only way to propagate some species and cultivars.

164. The BEST tool to use when preparing a plant to be joined to another plant asexually is/are:

- A. Lopping shears.
- B. A grafting tool.
- C. A tube cutter.
- D. Pruning shears.

165. The BEST tool to use when pruning small limbs to shape shrubbery is the:

- A. Floral scissors.
- B. Pole pruner.
- C. Pruning saw.
- D. Pruning shears.

166. What is the BEST tool to cut large branches when pruning shrubs that are hard to reach?

- A. Bush axe**
- B. Lopping shears**
- C. Hedge shears**
- D. Chainsaw**

167. The BEST tool to use when shaping shrubbery into a continuous row for screening is the:

- A. Chainsaw.**
- B. Hedge shears.**
- C. Lopping shears.**
- D. Pruning shears.**