

**California FFA Milk Quality and Dairy Foods CDE
2025-2029 Test Questions**

1. The form of mastitis that is hidden from sight is known as _____.
 - a. Infectious
 - b. Clinical
 - c. Acute
 - d. Sub-clinical
2. Today, milk that has been ultra pasteurized must have been heated at or above ____ degrees for at least _____.
 - a. 161°F for 15 seconds
 - b. 180°F for 10 seconds
 - c. 200°F for 5 seconds
 - d. 280°F for 2 seconds
3. Which of the following will best control contagious mastitis?
 - a. Pre-milking teat dip
 - b. Barrier type teat dip
 - c. Antibiotic teat dip
 - d. Germicidal teat dip
4. The _____ test is used to detect if milk has been pasteurized properly.
 - a. Lipase
 - b. Coliform
 - c. Standard Plate Count
 - d. Phosphatase
5. The _____ test may be of value in detecting gross carelessness in the production and handling of milk on the farm.
 - a. Phosphatase
 - b. Sediment
 - c. Freezing Point
 - d. Acidity
6. Milk provides _____ and _____ in approximately the same ratio as found in bone.
 - a. Calcium and magnesium
 - b. Calcium and phosphorus
 - c. Calcium and iron
 - d. Phosphorus and magnesium
7. A major reason the federal government establishes minimal farm milk prices is
 - a. To insure that all dairymen have a market for milk
 - b. To insure that all processors have adequate milk for manufacture of butter and cheese
 - c. To insure an adequate supply of pure and wholesome milk for the consumer
 - d. To provide federal control of the production of milk

8. About _____ percent of the calcium available in the food supply is provided by milk and milk products.
 - a. 66%
 - b. 76%
 - c. 86%
 - d. 96%
9. Which of the following directly influence(s) the total supply of milk?
 - a. Prices paid milk producers
 - b. Manufacturing plants
 - c. Costs of fat production
 - d. Foreign exports
10. Specific gravity of milk at 60°F is _____.
 - a. 1.022
 - b. 1.032
 - c. 1.033
 - d. 1.042
11. The Dairy Herd Improvement Association is a cooperative which provides _____.
 - a. Data on breeding quota levels
 - b. Milk testing and record keeping program for dairy cows
 - c. Minimum prices paid by processors to producers for milk.
 - d. Assistance to groups of dairy farmers who collectively market their milk
12. Farm water supplies must be protected from surface contamination. Water is usually tested for _____ as an indicator of possible sewage contamination.
 - a. Proteolytic bacteria
 - b. Lipolytic bacteria
 - c. Coliform bacteria
 - d. Psychotrophic bacteria
13. The International Dairy Federation (IDF) mission is to promote _____.
 - a. Scientific, cultural & economic progress
 - b. Agricultural, technical & economic progress
 - c. Technical, scientific & industrial progress
 - d. Scientific, technical & economic progress
14. If you produce milk in this state, the price you will receive for your milk is a blend of classes, components, quota, and non-quota values. It is the only state with its own farm milk pricing system. The state is _____.
 - a. Wisconsin
 - b. Texas
 - c. New Mexico
 - d. California
15. There are four classes of milk under Federal Orders, and they provide for
 - a. Classification according to the relative safety of each class
 - b. Payment for milk according to its quality
 - c. Payment for milk according to its cost of production
 - d. Payment for milk according to its end use

16. What is the most popular type container used for fluid milk?
 - a. Glass
 - b. Paper
 - c. Plastic
 - d. Pouch
17. What is the most popular size container used for fluid milk?
 - a. Gallon
 - b. Half Gallon
 - c. Quart
 - d. Five quart bulk
18. "Cultured" in front of the name of a milk product indicates:
 - a. Product is older and more mature
 - b. Product is highly refined
 - c. Product has appropriate bacteria added to it
 - d. Product has been through a school and is more expensive
19. _____ percent of all milk produced in the U.S. is sold to dairy processing plants.
 - a. 97
 - b. 98
 - c. 99
 - d. 100
20. By FDA definition of an imitation product, which of the following is NOT true?
 - a. Tastes like the real product it represents
 - b. Has the same nutritional value as the real product it replaces
 - c. Looks like the real product it represents
 - d. Imitation products are not regulated by the FDA
21. Chemical sanitizers containing _____ are most widely used for sanitizing milking equipment.
 - a. Bromine
 - b. Saline
 - c. Chlorine
 - d. Iodine
22. Milk found in cows with a high somatic cell count would result in a decrease in _____.
 - a. Butterfat
 - b. Whey protein
 - c. Casein
 - d. Trace minerals
23. Milk is a good supplier of minerals except for _____.
 - a. Magnesium-Iron-Manganese-Copper
 - b. Riboflavin-Magnesium-Lactose-Manganese
 - c. Phosphorus-Copper-Zinc-Calcium
 - d. Potassium-Boron-Iron-Calcium

24. Water added to milk is detected by checking the _____.
a. Acid degree value
b. Sediment content
c. Titratable acidity
d. Freezing point
25. Milk with low total solids will produce what off-flavor?
a. Flat
b. Malty
c. Salty
d. Acid
26. A cryoscopy is an important tool that test for _____ in milk.
a. Butterfat
b. Antibiotics
c. Pesticides
d. Added water
27. Milk is the only source of _____ in nature.
a. Calcium
b. Phosphorous
c. Lactose
d. Fatty acids
28. The microbiological standard for Grade A raw milk at the producer farm is _____ bacteria or less per milliliter of milk.
a. 50,000
b. 100,000
c. 150,000
d. 200,000
29. The somatic cell count standard for Grade A raw milk is _____ or less per milliliter of milk.
a. 500,000
b. 750,000
c. 1,000,000
d. 1,500,00
30. Fluid milk contains an average of _____ percent solids.
a. 9
b. 11
c. 13
d. 15
31. _____ cause(s) flavors in milk such as acid, high acid, or sour milk.
a. Chemical adulterants
b. Microorganisms
c. Sediment
d. Weeds

32. About _____ of the calcium available in the food supply is provided by milk.
- 65%
 - 50%
 - 75%
 - 95%
33. *Lactobacillus bulgaricus* and *Streptococcus thermophilus* are examples of _____.
- Spoilage bacteria
 - Lactic acid producing bacteria
 - Odor producing bacteria
 - Yeasts and molds
34. The decision of a milk hauler to accept or reject milk at the producing farm
- Depends on knowledge of milk quality and ability to smell off odors
 - Must always be confirmed by tests for acidity
 - Must be made the day before pickup is scheduled
 - All of the above
35. With the exception of _____, all of the following off flavors of milk are caused by bacteria.
- Bitter
 - Malty
 - Yeasty
 - Salty
36. The Grade A Pasteurized Milk Ordinance (PMO) specifies requirements for the production of Grade A raw milk for pasteurization and is recommended by _____.
- The Food and Drug Administration
 - The Small Business Administration
 - The U.S. Department of Agriculture
 - The National Committee on Milk
37. In Federal order markets, milk sold for consumption in fluid form is in _____.
- Class IV
 - Class III
 - Class II
 - Class I
38. Milk covered by Federal milk marketing orders is _____.
- Grade A
 - Grade B
 - Grade C
 - Grade A, B, C
39. The largest percentage of the U.S. milk supply is utilized in the production of _____.
- Cream and specialty sales
 - Cheese
 - Frozen dairy desserts
 - Evaporated, condensed and dry products

40. By definition, a product labeled “milk” must contain not less than _____ percent milk fat.
- 0.5%
 - 2.0%
 - 3.25%
 - correct choice not listed
41. Federal Definitions and Standards of Identity specify that Whole Milk contain not less than _____.
- 3.00 percent milkfat and 8.25 percent solids-not-fat
 - 3.50 percent milkfat and 8.50 percent solids-not-fat
 - 3.50 percent milkfat and 8.00 percent solids-not-fat
 - 3.25 percent milkfat and 8.25 percent solids-not-fat
42. Cheddar cheeses sold in the United States, which are not made from pasteurized milk, must be ripened at least _____ days.
- 30
 - 60
 - 120
 - 150
43. The milk in what class receives the highest price in the market?
- Class I
 - Class II
 - Class III
 - Class IV
44. Flavors of milk may be caused in general by _____.
- Water content of the milk
 - Temperature that milk is stored
 - Feeds consumed by the cow
 - Amount of sun light the cow receives
45. The major cause of the salty flavor in milk is _____.
- The large intake of salt by the cow
 - Associated with sunlight exposure
 - Mastitis
 - Bacteria
46. _____ is a test for rancidity.
- Acid degree value
 - Cryoscope
 - Disc assay
 - Titrateable acidity
47. The four primary taste sensations are _____.
- Bitter, metallic, sour, sweet
 - Bitter, salt, sour, sweet
 - Metallic, salt, sour, sweet
 - Burnt, bitter, salt, sour

48. Lactose is the principal _____ in milk.
- Fat
 - Protein
 - Carbohydrate
 - Mineral
49. The two most important diseases of cattle transmissible to man through milk are _____.
- Tuberculosis and brucellosis
 - Brucellosis and scarlet fever
 - Scarlet fever and Q fever
 - Tuberculosis and anthrax
50. A consumer found an off-flavor in milk packaged in transparent plastic and exposed to high intensity fluorescent light. The off-flavor probably was
- High acid
 - Bitter
 - Oxidized
 - Rancid (lipolyzed)
51. Which group of flavors cannot be detected by odor?
- Bitter, salty
 - High acid, rancid
 - Feed, garlic/onion
 - Metallic/oxidized, malty
52. The components of milk responsible for richness and sweetness, in this order are:
- Minerals and lactose
 - Milk fat and milk sugar
 - Casein and lactalbumin
 - Nonfat solids and lactic acid
53. The California Mastitis Test is done to:
- See if a cow has an infection
 - Check for bacteria in milk
 - Determine whether mammary glands are inflamed
 - Check for mastitis-producing bacteria in the bulk milk
54. Federal regulations state that ice cream must have at least ____ milkfat, the single most important ingredient,
- 4.5%
 - 8.5%
 - 10%
 - 12%
55. The off flavor most likely to be found in milk that has not been cooled properly is:
- Sour
 - Rancid
 - Oxidized
 - Bitter

56. The Babcock test is a rapid, simple and accurate test for:
- Water in milk
 - Titrateable acidity
 - Fat content
 - Nonfat milk solids content
57. The two dairy product categories that require the highest amount of raw milk from the U.S. supply are:
- Ice cream and fluid milk products
 - Fluid milk products and cheese
 - Butter and non fat dry milk
 - Cheese and ice cream products
58. A system of fairly distributing payment among producers in a Federal Milk Market is called:
- Pooling
 - Take-off, pay-back
 - Base-excess pricing
 - Seasonal incentive
59. Milk marketing cooperatives:
- Are not permitted by Federal Orders
 - Provide marketing power for dairy farmers
 - Control Federal Orders
 - Operate only outside Federal Orders
60. Each Federal Milk Marketing order is administered by a representative of the:
- Secretary of Agriculture of the U.S.
 - Secretary of commerce of the U.S.
 - Secretary of Treasury of the U.S.
 - Secretary of the U.S. Food and Drug Administration
61. It takes approximately _____ lbs. of whole milk to make one pound of whole milk cheddar cheese.
- 5
 - 10
 - 13
 - 22
62. Federal Milk Marketing Orders are a mechanism for:
- The most economical utilization of milk
 - Finding a market for every producer's milk
 - Economical transportation of milk
 - Market stabilization
63. For the maximum intake of calcium, one should consume_____.
- Whole Milk
 - 2% Milk
 - 1% Milk
 - Skim Milk

64. When pasteurizing milk, the minimum that raw milk must be heated to for 15 seconds is
- 111° F
 - 121° F
 - 161° F
 - 171° F
65. It requires approximately _____ pounds of skim milk to make one pound of nonfat dry milk.
- 22
 - 13
 - 11
 - 6
66. The quantity of milk used to produce 1 pound of buttermilk depends chiefly upon the _____.
- Protein content
 - Solids-non-fat content
 - Bacteriology content
 - Milk fat content
67. The CMT should be read within _____ seconds.
- 40
 - 30
 - 20
 - 10
68. The application of heat to milk for the purpose of preservation, with the extra benefit of the protection of public health, continues to develop. Innovative methods are now available for processing milk at _____ with only fractions of a second holding times.
- Aseptic processing
 - Ultra high temperatures
 - Sterilization
 - High temperature short time
69. Pasteurization is the process of heating every particle of milk and milk products to the minimum required _____ and holding it continuously for the minimum required _____ in equipment that is properly designed and operated.
- Temperature and length
 - Time and temperature
 - Temperature and time
 - Time and length
70. The major reason milk from cows treated with antibiotics must be withheld from the milk supply is because _____.
- A large proportion of the human population is sensitive to antibiotics
 - Antibiotics increase the somatic cell count of milk
 - Antibiotics cause an off-flavor in milk
 - Antibiotics kill some of the good bacteria found in milk
71. When cows have mastitis, the protein content of milk may be higher, but the cheese yield is lower because of a decrease in _____ protein.
- Lysine
 - Casein
 - Tryptophan
 - Whey

72. Besides calcium, milk contains _____, a mineral that is found in brain tissue, muscles, teeth and bones.
- Phosphorous
 - Iron
 - Chlorine
 - Zinc
73. As with grade A milk, _____ adopts and enforces regulations to control milk used for the manufacturing of milk products.
- The federal government
 - Each state
 - The large dairy cooperatives
 - Each milk marketing orders area
74. A high acid flavor (sour) in milk is caused by _____.
- Growth of bacteria in the milk
 - Exposure of cows to acid rain
 - Drinking hard water
 - Absorption of acid from corn silage
75. Milk protein contains _____ of the essential amino acids and in appreciable amounts.
- 25%
 - 50%
 - 75%
 - 100%
76. The CMT test results that indicate a somatic cell count of 400,000 to 1,500,000 are _____.
- Mixture thickens with slight gelation
 - Viscous gel forms, mass adheres to paddle
 - Distinct precipitate forms, but no gel
 - Slight precipitate forms and tends to disappear
77. In order to gain bargaining power, milk producers have formed _____ to manufacture milk products and market them directly.
- Manufacturing coops
 - Supply coops
 - Marketing coops
 - Consumer coops
78. To reduce the feed flavor in milk to acceptable levels, cows should be removed from offending feeds _____ hours before milking.
- 1-2
 - 2-4
 - 4-6
 - 6-8
79. Milk used for _____ is Class I Milk.
- Cottage cheese
 - Ice milk
 - Provolone cheese
 - Fluid milk products

80. A large portion of the population is sensitive to the antibiotic _____.
a. Streptomycin
b. Penicillin
c. Terimycin
d. Ampicillin
81. _____ is the cause of the rancid flavor in milk.
a. Feeding high moisture corn
b. Feeding haylage
c. Storing milk in the sunlight
d. Extreme agitation of raw milk
82. Whole milk contains _____ percent protein.
a. 1.5-2.5
b. 2.5-3.5
c. 3.5-4.0
d. 4.0-4.5
83. To separate the aqueous and fat in the final stage of the Babcock test, a _____ is used.
a. Hot water bath
b. Centrifuge
c. Sulfuric acid bath
d. Colloidal component
84. Which of the following is not an objective of milk evaluation?
a. Determining the presence of desirable characteristics
b. Determining one brand of milk from another
c. Determining whether one sample differs from another
d. Determining presence and magnitude of undesirable characteristics
85. Milk, including skimmed used in fluid milk products, is Class ____ and receives the highest price.
a. I
b. II
c. III
d. IV
86. One gallon of milk weighs _____ pounds.
a. 8.8
b. 8.2
c. 8.4
d. 8.6
87. Federal milk marketing orders were established in _____.
a. 1917
b. 1927
c. 1937
d. 1947
88. To add mold to the blue cheese, it is mainly _____.
a. Injected into the cheese
b. Grown on the cheese
c. Mixed in the whey mixture
d. None of the above

89. Some streptococci that produce lactic acid also produce certain aldehydes, which impart a ____ flavor.
- Malty
 - Bitter
 - Salty
 - Metallic
90. By using a ____ with plastic beads of varying density, nonfat solids in milk can be rapidly estimated.
- Lactometer
 - Hydrometer
 - Humidoscope
 - Polyscope
91. Milk meeting the highest sanitary requirements is known as Grade ____.
- A_
 - AA
 - AAA
 - AAAA
92. The major cause of mastitis infections are ____ infections
- Actinomycosis
 - Virus
 - Coliform
 - Bacterial
93. The two main proteins in milk are ____ and ____.
- Lactose, Lactalbumin
 - Casein, Lactalbumin
 - Ascorbic, Thiamin
 - Colgate, Casein
94. What is the largest cost on most U.S. dairy farms?
- Feed
 - Fuel
 - Labor
 - Veterinary
95. Pasteurization was developed in ____ as a heat treatment to preserve food.
- 1890
 - 1920
 - 1930
 - 1946
96. _____ is a milk process that makes milk more easily digested by those with a sensitive digestive system.
- Ionization
 - Evaporation
 - Pasteurization
 - Homogenization

97. _____ amino acids are commonly found in milk proteins, including the essential amino acids.
- 7
 - 12
 - 14
 - 19
98. Continued low calcium intake may result in _____ in adults.
- Cavities
 - Nerve irritability
 - Loss of genetic height potential
 - Osteoporosis
99. Summer milk has been estimated to contain 1.6 times as much vitamin _____ as winter milk.
- A
 - B
 - C
 - D
100. The number of Federal milk marketing orders in the United States is
- 1 to 2
 - 6 to 7
 - 15 to 16
 - 20 - 21
101. _____ is the process of killing all microorganisms.
- Pre-cleaning
 - Contamination
 - Sterilization
 - Sanitation
102. S. M. Babcock developed the Babcock Test in _____.
- 1960
 - 1941
 - 1917
 - 1890
103. Bangs Disease is another name for _____.
- Q-fever
 - Undulant fever
 - Tuberculosis
 - Brucellosis
104. By regulation, milk from cows treated with antibiotics usually must be withheld for _____ hours.
- 48 – 72
 - 30 – 60
 - 48 – 108
 - 72 – 96
105. By FDA definition, an imitation product does not have to _____ the real product it represents.
- Have the same nutritional value
 - Taste like
 - Look like
 - Imitation products are not regulated by the FDA

106. Milk is sold in units of _____ by the producer to the handler.
- Pounds
 - Gallons
 - Cwt
 - Ton (s)
107. Milk producers have formed _____ to gain bargaining power.
- Direct marketing systems
 - Cooperatives
 - Marketing clubs
 - Cost of production organizations
108. What is the test used to screen for antibiotics in milk?
- Direct microscope
 - Charm
 - Kjeldahl
 - Cryoscope
109. The California Mastitis Test (CMT) asks that you use only _____ milk.
- Colostrum
 - Milk after “dry-off”
 - The first stream during milking
 - The second stream during milking
110. Class II manufactured dairy products are used in soft manufactured products such as
- Butter and cheddar cheese
 - Cream products, cottage cheese, and ice cream
 - Fluid whole milk, fluid low fat and skim milk, and flavored milk
 - Half-and-half
111. Under which of the following weather conditions would you expect to observe the greatest decrease in milk yield per cow?
- Cold and dry
 - Hot and humid
 - Cool and humid
 - Warm and dry
112. Although milk from the cow is processed, it is not an engineered or fabricated food and contains about _____ % solids.
- 3.5
 - 13
 - 76
 - 87
113. Removing cows from green grass or silage four hours prior to milking, can minimize or eliminate which flavor defect in milk?
- Flat
 - Feed
 - Bitter
 - High acid

114. Purple color that results from CMT test is generally more intense in samples from infected quarters, because such samples have a _____pH.
- Alkaline
 - Acid
 - Neutral
 - No correct answer listed
115. Dairy cows need _____ day dry periods for rejuvenation of secretory tissue and restoration of body condition.
- 30
 - 60
 - 90
 - 120
116. The annual average milk production per cow is nearly _____?
- 8800 quarts
 - 7950 quarts
 - 7800 quarts
 - 6880 quarts
117. Mandatory animal drug residue testing was established in _____.
- 1948
 - 1988
 - 1993
 - 2000
118. Federal milk marketing orders reformed; component pricing introduced in _____.
- 1948
 - 1988
 - 1993
 - 2000
119. Contains not less than 18 percent milkfat, but less than 30 percent.
- Half-and-Half
 - Light Whipping Cream
 - Milk
 - Light Cream
120. Contains not less than 30 percent milkfat, but less than 36 percent milkfat.
- Half-and-Half
 - Light Whipping Cream
 - Milk
 - Light Cream
121. Contains not less than 36 percent milkfat.
- Half-and-Half
 - Light Whipping Cream
 - Heavy Cream
 - Light Cream

122. Cheese manufacturers realize greater yields from milk when the somatic cell counts are low and the _____.
- Protein content is low
 - Milkfat content is low
 - Protein content is high
 - Carbohydrate content is high
123. What is the number one reason for culling cows on American dairy farms, according to National Health Monitoring System data?
- Lameness
 - Reproduction problems
 - High somatic cell count
 - Low production
124. Poor quality forage will cause _____ to decrease significantly.
- Somatic cells
 - Casein percentage
 - Bacteria count
 - Fat percentage
125. The rolling herd average is defined as _____.
- An average of the herd's fat and protein percentages
 - An average of the number of cows in milk at any given time
 - The average number of hours a cow in the herd is milked per lactation
 - An estimate of annual milk production
126. Typical farm milk consists of _____.
- 87.6% water, 3.7% fat, 3.2% protein, 5.5% other solids
 - 50.6% water, 3.7% fat, 4.2% protein, 41.5% other solids
 - 80.6% water, 6.7% fat, 4.2% protein, 8.5% other solids
 - 84.6% water, 4.7% fat, 6.2% protein, 4.5% other solids
127. The document used by the U.S. dairy industry that contains the rules for producing today's fresh pasteurized milk supply is _____.
- The Code of Federal Regulations
 - Standard Methods for the Examination of Dairy Products
 - The Grade A Pasteurized Milk Ordinance (PMO)
 - The Codes Alimentarius of the World Health Organization
128. Under Federal Orders milk is priced based on the finished dairy product in which it is used. This is called _____.
- Minimum pricing
 - Creative pricing
 - Maximum pricing
 - Classified pricing
129. Federal milk order hearings can be lengthy because _____ can testify and _____ can cross-examine the witness.
- Only federal employees, no one
 - Only cooperative managers, anyone
 - Only federal lawyers, anyone
 - Any interested party, anyone

130. Most dairy cows are milked two or three times per day. On average, a cow will produce _____ gallons of milk each day.
- A. 1 to 2
 - B. 8 to 9
 - C. 15 to 16
 - D. 20 to 21
131. Prices paid by handlers are identical in all federal orders for milk utilized in the manufactured product categories, however milk used in Class I varies by location. The highest price paid for Class I milk is in the _____ regions of the United States.
- a. Southeast
 - b. Northwest
 - c. Midwest
 - d. Northeast
132. In a milk market with four classes of milk, Class III milk is commonly used for...
- a. Fluid products
 - b. Cottage cheese and cream products
 - c. Cheese
 - d. Butter and dry products
133. Since 1984 President Ronald Reagan proclaimed a National Ice Cream Month. It has been celebrated annually, every _____.
- a. June
 - c. July
 - b. August
 - d. September
134. Over half of the top 50 U.S. dairy cooperatives belong to a federation that is dairy farmers' chief lobbying voice in the nation's capital. What is the name of the federation?
- a. International Dairy Federation
 - b. Dairy Farmers of America Federation
 - c. National Milk Producers Federation
 - d. International Dairy Foods Association
135. USDA Farm Service Agency administers _____ that offers dairy producers a catastrophic coverage when the difference between the all-milk price and average feed costs falls below a specified level.
- a. Margin Protection Program
 - b. Cooperatives Working Together
 - c. Federal Market Orders
 - d. DEIP Exports
136. Dividing the total dollars a dairy has in assets by the number of cows determines which economic indicator?
- a. Equity
 - b. Total investment per cow
 - c. Debt per cow
 - d. Debt to asset ratio

137. _____ is an effective exercise recovery due to its powerful nutrient package that supplies the nutrition the body needs after a workout. It has carbohydrates to help refuel the body; protein to help reduce muscle breakdown and stimulate growth; and fluid and electrolytes to aid in rehydration. Drinking it after resistance training has been show to increase the body's ability to make new muscle and may help improve body composition.
- Chocolate milk
 - Greek yogurt
 - Gatorade
 - Whey protein concentrate
138. What piece of legislation made farmer cooperatives legal?
- Capper-Volstead Act
 - Farm Bill
 - Sherman Act
 - Barkley Act
139. According to the National Animal Health Monitoring System data, what do most farmers site as the most common criteria for weaning a calf?
- Age
 - Starter intake
 - Weight
 - Space constraints
140. The ideal cleaning agent for removing milkstone from equipment surfaces is
- Acidic detergent
 - Phosphate
 - Chelating agent
 - Surfactant
141. The key to boosting milk protein lies largely in getting the correct amino acids to which part of the cow's digestive tract?
- Rumen
 - Small intestine
 - Omasum
 - Reticulum
142. Even when there are no clinical signs, a cow's milk production begins to decline when its somatic cell count is greater than how many cells/ml?
- 100,000 cells/ml
 - 200,000 cells/ml
 - 400,000 cells/ml
 - 750,000 cells/ml
143. The two most common tests used for determination of unpasteurized milk quality are _____ and _____.
- Standard plate count and color
 - Somatic cell count and standard plate count
 - Flavor and titratable acidity
 - Somatic cell count and odor

144. Bulk tanks that are used to store raw milk should have what mechanical component to assure thorough mixing of the milk to prevent fat separation?
- Thermometer
 - Agitator
 - Air vent
 - Automated control box
145. Cracked and blistered rubber parts of milking machines are likely to cause
- High bacteria counts of milk
 - Oxidation of milk
 - Rancid flavor in milk
 - High freezing points of milk
146. Milk used to make ice cream would be priced in what Federal Order class?
- Class I
 - Class II
 - Class III
 - Class IV
147. Under several Federal Milk Marketing Orders, milk is priced based on the amount of
- Water and free fatty acids
 - Mastitis and aflatoxins
 - Bacteria counts of milk and antibiotics
 - Fat, protein, and other solids
148. What step in the milking preparation routine starts the release of oxytocin?
- Predipping
 - Being brought into the parlor
 - Forestripping
 - Unit attachment
149. A cow's stomach has four compartments. Which stomach compartment has the primary function of absorbing water and other substances from the digested contents?
- Rumen
 - Omasum
 - Abomasum
 - Reticulum
150. Some soft serve frozen dairy products have replaced milk fat with _____.
- peanut butter
 - vegetable oil
 - honey
 - fruits
151. Molds growing on corn and other feed grains may produce
- Fungicides
 - Antibiotics
 - Aflatoxins
 - Bactericide

152. The actual milk check amount received by a dairy farmer is called the _____.
a. Milk-feed ratio price
b. Cooperative bonus premium
c. Federal Order price
d. Mailbox price
153. One type of test for antibiotics, common adulterants of milk, is based upon the principle that the growth of bacteria is _____ by them.
a. Stimulated
b. Enhanced
c. Magnified
d. Inhibited
154. Which of the following directly influence(s) the total supply of milk?
a. Prices paid to milk producers
b. Manufacturing plants
c. Costs of fat production
d. Foreign exports
155. 22. Dairy farmers can buy and sell dairy futures on what exchange?
a. New York Stock Exchange
b. National Dairy Exchange
c. Coffee, Sugar, Coca Exchange
d. Chicago Mercantile Exchange
156. 35. USDA reports net prices received by dairy farmers for milk, usually the prices are published on a map to show regional differences. The prices are referred to as _____.
a. Blend prices
b. Regional prices
c. Mailbox prices
d. BFP prices
157. 36. If you produce milk in this state, the price you will receive for your milk is a blend of classes, components, quota, and non-quota values. It is the only state with its own farm milk pricing system. The state is _____.
a. Wisconsin
b. Texas
c. New Mexico
d. California
158. 61. The two most important etiological agents of mastitis are _____.
a. Streptococcus agalactiae and Staphylococcus aureus
b. Streptococcus uberis and Streptococcus dysgalactiae
c. Pseudomonas aeruginosa and coliform bacteria
d. Klebsiella and actinomycetes
159. _____ cause(s) flavors in milk such as acid, high acid, or sour milk.
a. Chemical adulterants
b. Microorganisms
c. Sediment
d. Weeds

160. Aflatoxins sometimes found in dairy foods are produced by
- Protozoa
 - Bacteria
 - Mold
 - Yeasts
161. To make one pound of butter, you need approximately _____ pounds of whole milk.
- 21.2
 - 2.2
 - 10.6
 - 10.0
162. When using a milking machine the milk is drawn from the cow by _____
- Vacuum
 - The liner pulse squeezing the teat
 - The Liner opening the teat
 - Air pressure
163. Federal milk marketing orders are a mechanism for _____.
- Market stabilization
 - Controlling the utilization of milk
 - Assuring a market for producers' milk
 - Assuring a reasonable price for milk
164. _____ is a test for rancidity.
- Titratible acidity
 - Cryoscope
 - Disc assay
 - Acid degree value
165. Which of the following is a name used for bacteria that grow in milk at 40-50 deg. F?
- Coliforms
 - Psychrotrophs
 - Thermophiles
 - Mesophiles
166. _____ is the time after processing during which a dairy product normally remains suitable for human consumption.
- Code date
 - Product life
 - Package date
 - Shelf date
167. The only mastitis pathogen using the mammary gland as its primary habitat is _____
- Lactis
 - Cremoris
 - Agalactiae
 - Thermophilus

168. The milk fat differential used in paying for raw milk is:
- The price to be added or subtracted per 1/10 % of milk fat above or below a set percentage
 - A value established to penalize milk producers who have too much fat in their milk
 - A value set to penalize milk producers who have too little fat in their milk
 - The price to be added or subtracted per 50 percent of milk fat above or below a set percentage
169. Milk freezes within a range of ____ to ____ degrees C.
- .530 to -.550
 - .330 to -.350
 - .430 to -.450
 - .630 to -.650
170. For the maximum intake of calcium, one should consume ____.
- Whole Milk
 - 2% Milk
 - 1% Milk
 - Skim Milk
171. Net profit after taxes divided by annual net sales is called ____.
- Profit margin
 - Return on equity
 - Return in assets
 - Carry over profits
172. As with grade A milk, ____ adopts and enforces regulations to control milk used for the manufacturing of milk products.
- The federal government
 - Each state
 - The large dairy cooperatives
 - Each milk marketing orders area
173. Bacteria that survive specific heat treatment are said to be ____.
- Psychrotrophic
 - Coliform
 - Psychrophilic
 - Thermoturic
174. Which of the following does not promote metallic/oxidized off flavor in milk?
- Hypochlorite sanitizer
 - Sunlight
 - Fluorescent light
 - Copper
175. To separate the aqueous and fat in the final stage of the Babcock test, a ____ is used.
- Hot water bath
 - Centrifuge
 - Sulfuric acid bath
 - Colloidal component

176. A ____ cup is a cup with fine wire mesh on top used to detect the presence of abnormal milk.
- Striated
 - Mesh
 - Streak
 - Strip
177. Quarters infected with mastitis tend to shed more ____ defending white blood cells.
- Leukocytes
 - Bovis
 - Sediment
 - Virulent organisms
178. The hormone oxytocin is released by the ____ gland. This act stimulates the mammary gland.
- Pituitary
 - Sweat
 - Endocrine
 - Vascular
179. The first law on milk quality in the United States prohibited the addition of ____ to milk.
- Sediment
 - Antibiotics
 - Water
 - Protein
180. According to HACCP, a receiving station is where _____.
- raw milk is received, handled, stored, etc
 - cows enter the parlor to be milked
 - trucks receive milk
 - supplies are received
181. To remove fat from milking equipment an _____ is used.
- Alkaline cleaner in hot water
 - Acid cleaner in cold water
 - Acid cleaner in hot water
 - Alkaline cleaner in cold water
182. Compared to a Holstein cow, the average Jersey cow produces _____ on a per-gallon of milk basis.
- More fat and total milk solids
 - More fat but less total milk solids
 - Less fat but more total milk solids
 - Less fat and total milk solids
183. Infectious mastitis microorganisms almost invariably gain entrance to the mammary gland via a _____.
- Blind quarter
 - Suspensory ligament
 - Streak canal
 - Caudal base

184. Adulterants of milk that are detrimental to human health are _____.
a. Proteins
b. Pesticides
c. Minerals
d. Water
185. The two main proteins in milk are _____ and _____.
a. Casein, lactalbumin
b. Ascorbic, thiamin
c. Lactose, lactalbumin
d. Colgate, casein
186. The enzyme _____ is almost completely inactivated during pasteurization.
a. Acid glycerol
b. FFA (Free Fatty Acid)
c. Alkaline phosphatase
d. lactose
187. The absence of _____ in milk is not an accident, since they would catalyze oxidation, producing metallic or oxidized flavors.
a. Boron and tin
b. Zinc and brass
c. Lead and casein
d. Iron and copper
188. The titratable acidity of milk that has been cooled properly usually ranges from _____ percent.
a. .13 to .17
b. 1.3 to 1.7
c. .26 to .30
d. .013 to 0.17
189. Under Federal Orders, dairy farmers receive their milk checks _____.
a. Weekly
b. Bi-monthly
c. Daily
d. Once or twice monthly
190. To identify specific bacteria in a Standard Plate Count, a Preliminary Incubation Count is performed in which the sample is incubated for _____.
a. 18 hours for 55 degrees F
b. 18 hours for 55 degrees C
c. 32 hours for 48 degrees F
d. 48 hours for 32 degrees C
191. When performing a California Mastitis Test (CMT) test milk from a normal quarter _____.
a. Forms small clumps in a moderate reaction
b. Forms a gelatinous mass clinging together in a strong reaction
c. Turns a deep purple color
d. Flows freely without change in viscosity

192. The _____ or uniform price is determined by the proportion of the total delivery used in products of each class.
- Average
 - Classified
 - Parity
 - Blend
193. An advantage of making processed cheese is its _____.
- Better taste
 - Marketability
 - Extended shelf-life
 - All of these
194. Rules developed by the----- _____ are designed to protect the health and welfare of consumers.
- United States Department of Agriculture (USDA)
 - Food and Drug Administration (FDA)
 - Future Farmers of America (FFA)
 - Protein and Lactose Organization (PLO)
195. Quality checks of Grade A milk is _____.
- Done by the milk processor
 - A responsibility of the health authority
 - The first consideration in pooling milk
 - A part of the testing by Market Administrators
196. Salmonellosis infections are most common in cows that have calved within _____.
- 2 days
 - 50 days
 - 20 days
 - 10 days
197. When a producer's 3 month somatic cell count (SCC) rolling mean exceeds 400,000, a _____ request must be submitted to AMS in an effort to keep the milk eligible for export to the EU.
- Premium denial
 - Degradation
 - Derogation
 - Re-inspection
198. As produced at the farm, milk from Holstein cows is expected to contain approximately _____ percent milkfat and _____ percent nonfat milk solids.
- 2.7 , 8.7
 - 8.7, 3.7
 - 8.7 , 2.7
 - 3.7 , 8.7
199. A CMT test result that indicates a somatic cell count of 400,000 to 1,500,000 will produce a _____.
- Slight precipitate which tends to disappear
 - Distinct precipitate, but no gel
 - Viscous gel which adheres to paddle.
 - Mixture which thickens with slight gelation

200. The decision of a milk hauler to accept or reject milk at the farm _____.
- A. Is made the day before pickup is scheduled
 - b. All of these
 - c. Depends on a knowledge of milk quality and ability to smell off odors
 - d. Must always be confirmed by acidity test