
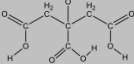
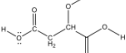





17. Hydrolysis \_\_\_\_\_ ?
- Is how cell break down macromolecules
  - Is the process of using water to break a bond
  - Is how starch is used to make glucose
  - All of the above
  - None of the above
18. The difference between complex and simple carbohydrates is \_\_\_\_ ?
- The number of chemical bonds found on each sugar molecule
  - The types of carbon bonds found in the saccharide
  - The number of branch points on the monomer
  - The amount of water bound to the starch
  - Simple carbohydrates are monomers while complex carbohydrates are polymers of simple sugars

19. Milk sugar \_\_\_\_\_ ?
- Is lactose which is made of two glucose molecules
  - Is lactose which is made of glucose and galactose
  - Is sucrose which is made of glucose and fructose
  - Is the same as table sugar
  - Is not degraded by the enzyme lactase
20. A branched starch found in potatoes rice and grains and used as a source of energy in the human diet is \_\_\_\_\_ ?
- Amylose
  - Amylopectin
  - Cellulose
  - Glucose
  - Glycerol

21. Using the table shown here, which of the following is the stronger acid, that is the acid more likely to dissociate its proton before the other acids?

Acid	Structure	pKa of acid	Food source
Acetic Acid		4.75	Vinegar
Citric Acid		3.15, 4.77, 5.19	Lemon juice
Malic Acid		3.40, 5.11	Apple juice
Lactic Acid		3.88	Yogurt

- a. acetic acid   b. citric acid   c. malic acid   d. lactic acid
22. Simple sugars are considered “bad” sugar vs complex carbohydrates which are often thought of as “good” sugar is due to which of the following?
- Simple sugars are indigestible by intestinal bacteria
  - Complex carbohydrates are quickly converted to di- and mono-saccharides to easily and quickly enter the blood stream
  - Simple sugars are not good emulsifiers
  - Complex carbohydrates such as starch hold water and are tasteless
  - A single bolus of simple sugar causes a quick rise in blood sugar followed by a large drop in blood sugar, while complex carbohydrates lead to a slow and steady supply of blood sugar

23. When grains of starch is dissolved in water, the starch \_\_\_\_\_
- Binds fats keeping the complex as a gel
  - Interacts with water soluble vitamins
  - Absorbs water, swells and forms a gel when cool
  - Binds proteins to form very effective curds
  - Is not used in breads pastries or sauces

24. One of the two monomers found in milk sugar is used to create insulation cells in brain and neural tissue is called \_\_\_\_
- Galactose
  - Sucrose
  - Fructose
  - Maltose
  - Inulin

**For the next several questions, please refer to the figure page at the end of this test**

25. Which of the following is an image of a lipid?
- 1
  - 2
  - 3
  - 7
  - none of the above
26. Which of the two lipids would you expect to see in vegetable oil and not butter?
- 1
  - 3
  - 4
  - 7
27. Figure \_\_\_\_ is a polymer of simple sugars.
- 1
  - 2
  - 3
  - 5
  - 7
28. Which figure is an image of a monosaccharide?
- 2
  - 3
  - 5
  - 8
  - all of the above
29. Which figure represents a protein?
- 1
  - 2
  - 6
  - 7
  - 9
30. Which of the two figures represents a lipid with a higher melting point?
- Fig 8
  - Fig 9
31. Which of the following is an image of an amino acid?
- 3
  - 5
  - 6
  - 7
  - none of the above
32. A protein exposed to high heat or low pH will \_\_\_\_\_
- denature
  - bind tightly to water
  - remain native
33. Long polymers of carbohydrates that are not digested are classified as
- Insoluble proteins
  - High melting point fatty acids
  - Fiber
  - DNA and RNA
  - None of the above
34. When canning fruit to make jellies, acids like citrate is used to help \_\_\_\_\_ form a stable gel?
- Pectin
  - Plant Gums
  - Cellulose
  - Emulsifiers
  - Inulin

35. The carbohydrate polymer which cooks sometimes use instead of starch for thickening and gelling foods and stabilize emulsions is  
 a. Pectin b. Xanthan gum c. Cellulose d. Emulsifiers
36. An amphipathic molecule \_\_\_\_\_.  
 a. Has both a hydrophobic and a hydrophilic region  
 b. Does not dissolve in water and does not aggregate with other hydrophobic molecules  
 c. Have two charges on opposite ends of the molecule
37. Lecithin is a natural \_\_\_\_\_ molecule found in many foods and acts as an emulsifier. Lecithin is also found in membranes of cells.  
 a. Lipid b. Sugar c. protein d. starch
38. If a lipid is solid at room temperature it is considered a(an)  
 a. Oil b. fat or butter
39. You are cooking and find you have two containers of lipids. One is animal fat, mostly saturated and long chains. The second container is vegetable oil with many polyunsaturated fatty acids. Which of the following statement is correct?  
 a. The molecules in the first container will be less tightly packed with less hydrophobic interactions than the fats in the second container  
 b. There will be more water associated with the double bonded fats of the second container  
 c. The molecular arrangement of the fats in the first container will be more closely packed and need more energy to change the material from solid to liquid than the lipids found in the second container.  
 d. The fats found in the first container are healthier due to the types of fats.  
 e. None of the above
40. Which of the following is not part of the amino acid?  
 a. Side group b. Amino group  
 c. Carboxyl group e. Hydrophobic group
41. A triglyceride is a special kind of fat or lipid that contains\_\_?  
 a. Three glyceride molecules bonded to a fatty acid  
 b. Three fatty acids bonded to a glycerol molecule  
 c. Hydrogen bonded hydrogens to oxygens  
 d. Only saturated lipids and fatty acids  
 e. All of the above
42. Fat rich -food that has a longer shelf life is likely to have more of what kind of fat?  
 a. Saturated Fatty Acids b. Trans Fatty Acids  
 c. Cholesterol d. Emulsifiers e. None of the above
43. Trans fatty acids \_\_\_\_\_.  
 a. Contain double bonds in fatty acids that creates bends or kinks to the shape  
 b. Decrease the risk of heart disease and cancer  
 c. Increase the rate of spoilage of food  
 d. Are created by partial hydrogenation of unsaturated fats  
 e. Are found naturally in milk fat
44. The conversion of saturated plant oils to fat-like shortening (solids) requires adding hydrogens and removing a double bond. This process is called \_\_\_\_?  
 a. Trans fatty acid acylation  
 b. Full hydrogen ion translocation  
 c. Hydrogenation  
 d. Trans Am – why don't they bring this car back too?
45. Which of the following monosaccharides is involved in neural membrane development and found in papaya, tomato and watermelon?  
 a. sucrose b. glucose c. galactose d. glycogen e. fructose
46. The temperature at which fats begin to decompose and become obnoxious is called the \_\_\_\_\_.  
 a. Smoke Point b. Emulsification point c. Burning point  
 d. Melting point e. Freezing point
47. If you have food that curdles and or oils and separates, you need to add a compound which will keep them separated. This kind of a molecule is \_\_\_\_?  
 a. Sometimes an amphipathic lipid  
 b. Sometimes a soap  
 c. Called an emulsifier  
 d. Often found in egg yolk  
 e. All of the above
48. Proteins are polymers of which smaller unit or monomer?  
 a. Amine groups b. Simple carbohydrates  
 c. Amino acids d. Acidic sugars e. Peptides
49. A properly folded and functional protein is considered \_\_\_\_  
 a. Native b. Denatured c. None of the above
50. Which of the following is not part of the amino acid?  
 a. Side group b. Amino group  
 c. Carboxyl group e. Hydrophobic group
51. Proteins and amino acids impart flavor to food by \_\_\_\_  
 a. Participating in browning reactions  
 b. Some have their own tastes  
 c. When broken down, some proteins add to aged taste of food  
 d. Can add a richness to food like tomatoes  
 e. All of the above
52. An example of a protein's secondary structure is \_\_\_\_?  
 a. The specific sequence of amino acids  
 b. The R-group interaction  
 c. An alpha helix  
 d. A disulfide bonding  
 e. The amino acid side groups
53. When cooking, heat and or acid does what to the structure of a protein?  
 a. Binds to fats  
 b. Always generates curds  
 c. Often unfolds and denatures proteins  
 d. Leaves the proteins in solutions where they can not interact with each other

54. Lactose is found in what compartment of milk
- Liquid phase
  - Protein phase
  - Fat phase
  - Sugar phase
  - All of the above
55. After water, the single largest component of milk is
- Casein
  - Whey
  - Fat and lactose
  - Minerals
  - Salts
56. The enzyme which digests lactose is called
- Lactose dissolving enzyme
  - Lactase
  - Galactose hydrolyase
  - Milk sugar acid phosphatase
  - The "if you get this wrong DrP will Cry – enzyme"
57. For those adults that can tolerate milk, the amount of enzyme made in the gut changes over time. Why?
- The bacteria is no longer a problem for adults vs. youth
  - Lactose is less used in the diet of adults and therefore not needed by the body
  - Other enzymes are produced and some bacteria are found in the gut to take the place of the enzyme
  - Once the central nervous system is mature, the need for galactose is reduced
  - Glucose is not needed by adults vs. more active youth
58. Lactose which is NOT metabolized in the gut \_\_\_\_\_ .
- Results in a rush of water into the gut
  - Feeds intestinal bacteria
  - Loosens stool and causes diarrhea
  - Is metabolized (broken down) to gasses by bacteria in the gut
  - All of the above
59. Lactobacilli are an acid-producing bacteria often found cultured in milk. What is the result of cultured milk?
- Acid produced by the bacteria initiates curdling of the protein
  - Fat is broken down and digested until it is rancid or disappears
  - The acid from the bacteria causes the fat to hydrolyze and become solid
  - Creates gasses which bubble through the cream causing curds
60. Curds and Whey – what are the curds and what are the whey?
- Curds are denatured fats and proteins, whey is the proteins still in the water phase of the milk
  - Curds are the solidified cream, whey is the acidic water
  - Curds are denatured aggregated whey proteins, casein is the watery solution with whey proteins
  - Curds are the denatured whey proteins and are the resulting of binding to casein protein
- Curds are the solidified fat and whey is the proteins like casein and whey
61. Fat globules of milk tolerate heat because
- The globules are surrounded by phospholipid membranes
  - The proteins surrounding the lipid globules are difficult to denature
  - The fat in the globules are saturated and thus solid at most temperatures
  - They like hot tubs?
62. Casein proteins are found in the water phase of milk and are acid
- Soluble
  - Insoluble
  - Digestible
  - Resistant
63. Adding acid to milk leads to aggregation of casein proteins. Why?
- The acid binds to calcium in micelles
  - The carboxyl side (R) group loses a proton (H<sup>+</sup>) when the solution becomes more acidic increasing the negative charge
  - The carboxyl side group gains a proton decreasing the ionic interactions holding the protein in its native state
  - The disulfide bonds will gain a proton in a more acidic group denaturing the protein
  - The hydroxyl increase with added acid denatures the protein
64. Casein is phosphorylated. Why is this important?
- It gives milk phosphate for hair growth
  - To bind better with whey proteins in acidic conditions
  - To bind to calcium as they form mini-micelles
  - To form the negative charge capping micelles
  - To bind calcium and better interact with fat globules
65. Pasteurization
- Homogenizes milk to stop cream from separating
  - Degrades & completely cooks proteins and bacteria
  - Is best effective at high temperatures for long periods
  - Is essentially the same as homogenization
  - Is close to being the same as sterilization
66. Ultra pasteurized milk \_\_\_\_\_
- Is treated with very small nozzles during homogenization
  - Is the most pure milk after sterilization
  - Is the only true safe way to pasteurize milk
  - Does not alter the taste or chemical nature of the milk proteins and sugars
  - Involves very high heat for a very short period of time
67. Homogenization of milk \_\_\_\_\_
- Creates large globs of protein covered fat keeping the fat globules separate from each other
  - Increases a thin layer of fat around large globules of fat
  - Generates small globules of fat surrounded by casein
  - Breaks apart all of the fat globules so they stay in solution as single fat molecules
  - Are generated as high temperature milk is slowly forced through wide-bore valve

68. Milk foams are different than whipped cream foams in that \_\_\_\_\_
- Milk foams are mostly made of denatured proteins where whipped cream foams are proteins stabilized by sugar compounds
  - Milk foams are mostly made from denatured proteins while whipped cream foams are networks of fat globules stripped of some of their proteins
  - The foams made by mixing milk and steam creates a sticky patch of fat and protein while whipped cream foams are all fat globules
  - Milk foams are fat globules and whipped cream foams are sugar and fat globules
  - None of the above
69. Espresso foams are
- Cages of fats surrounded by sugar and proteins
  - Thin weak milk protein (whey) surrounding air bubbles
  - Mostly sugar cages around air bubbles
  - Egg white protein and sugar foams
  - Fat globule cages around water
70. Over whipping cream results in a greasy mixture. Why?
- Proteins in the whipped cream are denatured and bind to each other
  - The whipping breaks the fat globules into small particles which can no longer be covered by proteins
  - The milk foam proteins and sugars separate under denaturing conditions
  - The fat globules avoid each other because of emulsifying starches
71. The difference between cultured butter and regular butter is what?
- Cultured butter has listened to 12 continuous hours of good music, regular butter – Garth Brooks!
  - Cultured butter includes salt and added acetic acid.
  - Cultured butter includes a step where a bacterium metabolizes some of the sugar and fats.
  - Cultured butter has only added salt and buttermilk
72. The water separated from old whipped cream is due to what happening to the foam?
- Proteins exclude the water from the inside of each protein
  - The trapped water in the fat globule is able to leak out into the space of the bubbles.
  - The fat globule network degrades and collapses, creating a way for the water from the network to escape
  - The water fairy (yes there is one) creates dewy droplets of water on your aged pie topping – she is just trying to help you lose weight!
73. Churning butter \_\_\_\_\_
- Breaks the fat globules farther than whipping cream creating a pool of congealed fat (the grains of butter)
  - Mechanically damages the membranes of the fat globules
  - Separates the remaining water from the milk creating buttermilk
  - All of the above
  - None of the above
74. Breakdown of fat by bacteria in cultured cream creates a strong "buttery flavor" due to what compound?
- Lactones
  - Diacetyl
  - Short chain fatty acids
  - Methyl Ketones
  - All of the above
75. The salt in butter serves what main purpose
- Inhibits bacterial growth
  - Decreases the water content
  - Stabilizes the grains of fat
  - Further solidifies the solid butter
  - Enhances the salty flavor of the butter
76. A mixture of vegetable oil, water and buttermilk thickened with plant membrane lipids \_\_\_\_\_
- Will not burn or scorch if used in frying
  - Is margarine
  - Is "I can't believe it's not butter"
  - Is a thick paste used to strengthen ice cream
  - Are the primary constituents of tallow
77. A smooth ice cream texture \_\_\_\_\_
- Is due to the ice crystals formed from the water in the cream
  - Is due to the amount of fat incorporated into the ice cream
  - Is due to the amount of protein in the ice cream
  - All of the above
  - None of the above
78. Bacteria produce lactate in metabolism of glucose. Why?
- To regenerate NAD<sup>+</sup> for continued ATP production
  - To produce acid to kill other bacteria
  - To use the ATP produced during glucose metabolism
  - All of the above
  - None of the above
79. Adding egg yolk to ice cream preparation \_\_\_\_\_
- Increases the fat and creaminess of the final ice cream
  - Is how soft serve ice cream is made
  - The lecithin and protein act as emulsifiers and decrease the ice crystals for a more creamy taste
  - Stabilize the water to create a more solid ice enhanced feel to the tongue
80. Water in ice cream \_\_\_\_\_
- Is fully solidified in small or large ice crystals
  - Is found in the air trapped during mixing and freezing
  - Is separated during the cream phase so very little if any remain in ice cream
  - Accounts for a significant fraction of the volume of ice cream
  - Is found in some portion unfrozen with the sugar

81. In ice cream, overrun\_\_\_\_\_
- Is when the cream is over whipped, leaving a greasy and unpleasant taste to the ice cream
  - Is the level of water added to the ice cream causing an overrun on water phase in the cream
  - Is the measure of the volume of air whipped into the mix
  - Is a good thing for a quality and expensive ice cream
82. Separating the liquid from the solid in making cheese is called \_\_\_\_\_?
- Curdling
  - Curd Setting
  - Affinage
  - Ripening
  - Bacterial growth
83. Affinage is the act of
- Ripening the curds to a harder, tastier cheese
  - Setting the curds
  - Draining the whey
  - Adding lactic acid to affinate the curd
  - Draining the whey
84. Cottage and cream cheese are examples of
- Heat-Acid aged cheese
  - Semi-hard washed cheese
  - Hard Cheese
  - Dry Cheese
  - Acid Coagulated Fresh Cheese
85. Cheddar and Romano are moist dense cheeses prepared by driving off water with a press and increasing temps. This is how what type of cheese is made?
- Heat-Acid precipitated cheese
  - Semi-hard washed cheese
  - Hard Cheese
  - Dry Cheese
  - Acid Coagulated Fresh Cheese
86. The act of adding heat and acid to milk results in\_\_\_\_\_?
- Yellow colored cheese
  - Bacterial growth
  - Precipitating/coagulating/denaturing the protein and causing a curd
  - Maintaining the protein in it's native state
  - All of the above
87. Proteins produce which of the following possible compounds during cheese aging?
- Diacetyl
  - Lactones
  - Esters
  - Amines
  - Acetaldehyde
88. The component of cheese making which is involved in capping casein is called
- Rennet
  - Acetic Acid
  - Starter bacteria
  - Calcium
  - Milk fat
89. Rennet \_\_\_\_\_
- was originally found in calf stomach
  - is also called chymosin
  - is engineered as a thistle rennet
  - trims away the kappa-caseins forming a meshwork of curdled protein
  - all of the above
90. Acid in curdling comes from
- Lactic acid produced from starter bacteria
  - Rennet acid production
  - Man made hydrochloric acid
  - Calcium induced acid release from protein
  - None of the above
91. Pressing the cheese with higher temps produce
- Acid washed cheese
  - Cottage cheese
  - Hard Cheese
  - Cheetoes
92. The difference between starter and non starter (finishing) bacteria is\_\_\_\_
- Starter microbes only grows in high temps and high acid conditions
  - Non-starter bacteria takes over after the acid produced by starter bacteria stops its own growth
  - Non starter bacteria works best with high temps and starter microbes works best with low temps
  - Starter bacteria lasts for many days longer than non starter bacteria
  - Starter bacteria is for ripening and non starter is for acid producing
93. Ripening of cheese by microbes takes place as\_\_\_\_\_
- The increased acid makes a sharp taste on the tongue
  - Fats are liberated from the milk globules
  - Butyric acid is made by the lactic acid producing bacteria
  - Putrification or metabolism (breakdown) of proteins into tasty amino acids
  - All of the above
94. Propionibacteria
- give munster and limberger it's strong smell and taste
  - produce carbon dioxide giving swiss cheese its holes
  - are an orange smear cheese used on the surface of cheddar
  - are only found in Wisconsin footballs
  - are a penicillium important for blue cheese
95. The bacteria that live in high salt like conditions like those found on skin produce muenster and limburger cheese and are called
- Smear bacteria
  - propionobacteria
  - penicillium roqueforti
  - p. camemberti
  - Non-starter cheese bacteria
96. Molds
- Are used in dry conditions
  - Develop on the rind of the cheese
  - Digest protein and fat giving a rich flavor to the cheese
  - Creates stilton, gorgonzola and Roquefort (blue and white) cheeses
  - All of the above

97. Which kind of cheese likely started as they were stored in dry caves in France?  
 a. Cheddar cheese b. Blue cheese c. Cottage cheese  
 d. Mozzarella cheese e. None of the above
98. Cheese whiz and Velveeta are made from  
 a. Whey proteins mixed with fat  
 b. Processed non-milk proteins  
 c. Scraps of old cheese mixed with phosphates and alginate
99. When proteins break down into amino acids and amines giving a polymer like that found in rotted flesh, the smell is from \_\_\_\_  
 a. trimethylamines  
 b. Putrescine – a polymer of amines  
 c. Sulfur from cysteine – amino acid side group  
 d. Ammonia Nitrogen from amino acids  
 e. Amino acids themselves which have a taste
100. Fats which are metabolized into shorter chains by lipases -  
 a. Have a buttery or peppery taste  
 b. Have ketones which are highly fragrant  
 c. Have fat – that doesn't smell, what the heck are you talking about?  
 d. Have sulfur from amino acid side groups
101. What happens when we melt cheese?  
 a. At higher temps, fat melts then the cheese is more supple  
 b. Often heating brings little beads of melted fat to the surface  
 c. At higher temps enough of the bonds holding the casein proteins together are broken  
 d. The protein matrix collapses and flows as a thick liquid  
 e. All of the above
102. Which cheese will melt well and is suitable for cooking?  
 a. A high protein, low water cheese (parmesan)  
 b. Acid only curdled cheeses with many inter-bonded proteins and calcium  
 c. Cheddar cheeses which are lower protein and medium water quantity  
 d. All of the above
103. What is the role of starch in cheese sauces?  
 a. Acts to denature proteins and fat  
 b. Is a medium strong acid for curdling protein  
 c. The starch acts to coat and emulsify proteins and fats avoiding clumps or curds – gets in the way of the denatured proteins.  
 d. Helps the proteins bind to each other for a stronger string  
 e. Binds the calcium needed in the milk protein micelles
104. Why would you add acid when making a cheese soup or sauce?  
 a. The acid decreases the interactions and removes the calcium from the proteins  
 b. Works against starches  
 c. Hydrolyzes the fats into smaller amino acids  
 d. Keeps the protein content down
105. Heat induced reactions which involve amino acids and sugars are called \_\_\_\_  
 a. Maillard Reaction  
 b. Tyrosine or phenyloxidase browning  
 c. Caramelization browning  
 d. Curing  
 e. Salting
106. The Maillard reaction takes place at or above what temp?  
 a. 150°F b. 285°F c. 385°F d. 240°F e. 450°F
107. What best describes the type of reaction between a sugar and amino acid in the Maillard reaction \_\_\_\_  
 a. Elimination  
 b. Substitution  
 c. Lysis  
 d. Dehydration  
 e. Water lysis
108. The amadori compound \_\_\_\_\_  
 a. Is a result of the initial reaction between a simple sugar and amino acid  
 b. Only has several possible final pathways  
 c. Is a combination of the two molecules  
 d. All of the above  
 e. None of the above
109. Which of the following pairs from the Maillard reaction is correct  
 a. Furans - made from fission of the amadori compound  
 b. Acetone and diacetyls made from the breakdown of the amadori compound  
 c. sugars by the reversal of the amadori compound  
 d. Colorless pyrazines made by addition of free amino acids to the amadori compound
110. An egg wash is often added to breads, why?  
 a. To provide amino acids for the sugars in the bread to brown  
 b. To dry the crust of the bread while cooking  
 c. To cross-link proteins for a solid crust  
 d. To react with other amino acids for the Maillard reaction
111. Wet meat will brown  
 a. Slower  
 b. faster  
 c. more extensively  
 d. never  
 e. always
112. Foods which brown well are those foods that  
 a. Have high protein and complex carbohydrates  
 b. Are low in protein but high in free nitrogen  
 c. Are high in protein and simple sugars like ribose and glucose  
 d. Are high in sugar only  
 e. Are low in protein and sugar content

113. If you want to speed up a browning reaction with a protein rich food and complex carbohydrates, which of the following would you choose?
- Add amino acids to react with the complex carbohydrate
  - Add dip the food item in whey
  - Fry in fat to get a high heat
  - Dip in a simple sugar solution
  - Make the solution more acidic
114. What stops two molecules from reacting at low temperatures?
- There is not enough energy to allow the reactants to collide with enough strength
  - There is not enough energy to reach the transition (activation barrier) state
  - Without heat or a catalyst the activation barrier cannot be overcome
  - All of the above
  - None of the above
115. Which of the following describes the role of an enzyme
- To increase the activation energy
  - To create short chain fats
  - To bind to fats and curd food
  - To decrease the activation energy needed for a reaction to occur
  - To digest sugars
116. The part of a reducing sugar necessary for a Maillard reaction is\_\_\_\_\_?
- R-OH
  - R-CH<sub>3</sub>
  - R-C=O
  - R-COO-
  - R-NH<sub>3</sub><sup>+</sup>
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  - are a penicillium important for blue cheese
124. Molds
- Are used in dry conditions
  - Develop on the rind of the cheese
  - Digest protein and fat giving a rich flavor to the cheese
  - Creates stilton, gorgonzola and Roquefort (blue and white) cheeses
  - All of the above
125. Which kind of cheese likely started as they were stored in dry caves in France?
- Cheddar cheese
  - Blue cheese
  - Cottage cheese
  - Mozzarella cheese
  - None of the above
126. Allowing the cheese to ripen over time is often a result of
- Enzymes from the starter bacteria that are long dead but whose enzymes live on
  - A loss of fat due to milk curdling
  - Removing acid by washing
  - Adding of native, non-broken down proteins from mold
  - All of the above
127. Allowing the cheese to ripen over time is often a result of
- Enzymes from the starter bacteria that are long dead but whose enzymes live on
  - A loss of fat due to milk curdling



- c. Removing acid by washing
  - d. Adding of native, non-broken down proteins from mold
  - e. All of the above
128. Fats which are metabolized into shorter chains by lipases have a
- a. A buttery or peppery taste
  - b. Ketones which are highly fragrant
  - c. Fat
  - d. Sulfur from amino acid side groups
129. What happens when we melt cheese?
- a. At around 90oC fat melts then the cheese is more supple
  - b. Often heating brings little beads of melted fat to the surface
  - c. At higher temps enough of the bonds holding the casein proteins together are broken
  - d. The protein matix collapses and flows as a thick liquid
  - e. All of the above
130. What is the role of starch in cheese sauces?
- a. Acts to denature proteins and fat
  - b. Is a medium strong acid for curdling protein
  - c. The starch acts to coat and emulsify proteins and fats avoiding clumps or curds – gets in the way of the denatured proteins.
  - d. Helps the proteins bind to each other for a stronger string
  - e. Binds the calcium needed in the milk protein micelles
131. Which of the following cheeses would you use for a topping or gratin?
- a. A high moisture good melting cheese
  - b. A stringy cheese
  - c. A protein rich cheese which will brown easily
  - d. A low fat cheese
132. The Egg white\_\_\_\_\_
- a. Is a watery matrix of protein
  - b. Has several layers of albumin proteins
  - c. Acts to inhibit virus and bacteria by binding vitamins
  - d. All of the above
  - e. None of the above
133. The main protein in egg white is \_\_\_\_\_
- a. lecithin
  - b. albumin
  - c. calcium carbonate
  - d. vitamin A
  - e. Casein
134. The most plentiful egg protein which has reactive sulfur groups
- a. cystein
  - b. emulsificationase
  - c. whey
  - d. ovalbumin
  - e. cholesterol
135. Lysozyme, found in the egg white\_\_\_\_\_
- a. Degrades the bacterial cell wall acting as an antibacterial agent protecting the egg
  - b. Is a good source of iron
  - c. Is a fat used for emulsification
  - d. Digests carbohydrates and can not be used when making some dishes
  - e. Is a DNA molecule found in bacterial cell walls
136. The yellow color of egg yolk is due to
- a. xanthophylls found in alfalfa and corn fees of chickens
  - b. Cholesterol content
  - c. Chlorophyll
  - d. Fat droplets
  - e. Lecithin
137. Salt, as used in mayonnaise, does what to the egg yolk?
- a. Breaks apart the light deflecting sub spheres of the fats
  - b. Clears the yolk
  - c. Thickens the yolk
  - d. All of the above
  - e. None of the above
138. As an egg gets older, CO2 escapes the egg white, resulting in \_\_\_\_\_
- a. More alkaline (less acidic)
  - b. Degraded protein in the egg white
  - c. More water absorbed from the air
  - d. A more dense egg
  - e. A whiter yolk
139. As we heat eggs, the egg white turns white. What is happening?
- a. Water is being driven off.
  - b. Protein are denatured and aggregating
  - c. Salts in the water are binding to the proteins
  - d. Minerals and proteins are mixing causing curds
  - e. Water is evaporating leaving a hard cake of protein
140. What does the book mean when it says “close but not too close” in terms of cooking eggs?
- a. Overcooking gives a rubbery texture to the eggs
  - b. Too much protein denaturation results in crosslinked solid egg whites
  - c. Proteins bond too exclusively to each other
  - d. Water is driven out of the protein network
  - e. All of the above
141. The sulfur smell of eggs comes from what?
- a. Cystine amino acid side groups
  - b. Fats degrading in the heat
  - c. Ammonia from amino acids
  - d. Lecithin breakdown
  - e. Cholesterol metabolism
142. Acids and Salt does what to eggs
- a. Tightens up the egg proteins
  - b. Liquefies the proteins
  - c. Causes steam to puff up the egg
  - d. Tenderize the egg
  - e. All of the above

143. The specific way a flavor molecule binds tightly to its receptor is often called
- Gated channel
  - Lock and key
  - Non-specific binding
  - Sweet receptor specificity
  - Umami binding
144. Taste receptor cells are located in
- The front of the tongue
  - In the taste buds
  - Specific locations but separate from the other types of taste receptor cells
  - Only in the foliate papillae
  - In the middle of the tongue
145. Which of the following taste receptors open and allow ions to flow into the cell when a flavor molecule binds?
- Sour and Sweet
  - Salty and Umami
  - Bitter and Sweet
  - Salty and Sour
  - None of the above
146. Which receptor allows the hydrogen ion ( $H^+$ ) to enter into the taste receptor cell resulting in the activation of a nerve?
- Sweet
  - Sour
  - Bitter
  - Umami
  - Fat
147. Why do rats have the ability to eat food humans won't eat?
- They have more umami taste receptor cells
  - They lack a sense of smell
  - They have less total taste receptor cells than humans do
  - They are rats... come on! (NOT the answer)
- e. They do not have bitter receptors
148. Umami taste is elicited by \_\_\_\_\_
- $Na^+$  ions
  - Sugars and carbohydrates
  - Ingestion of poisons
  - Amino acids and nucleotides
  - Bacteria found in savory meats
149. In the experiment where the bitter receptor was placed in a sweet taste receptor cell \_\_\_\_\_
- The animal showed no difference than the control animals
  - Was used to show the importance of how receptors linking to receptor cells and nerves is important for tastes
  - Drove the animal away from sweet attractants
  - Could not smell
  - None of the above
150. MSG is...
- Mono Sodium Glutamate – a natural amino acid
  - An excitatory neurotransmitter
  - Safe in small doses
  - Synergizes with salt flavors
  - All of the above
151. The actual molecule which binds to flavor molecules is / are \_\_\_\_\_
- Nerve cells
  - Taste buds
  - Taste receptor cells
  - Receptors
  - Neurotransmitters

