MASTER FOOD PRESERVER EXAM

Name ______________________________
Date _______________________________

1) Quick processed pickles are considered an acidified food. Which best describes an acidified food?
   a. A food where all the components have a low pH
   b. A food where acid components are added to a low acid component
   c. A food where all the components are high pH
   d. A food which is always processed in a pressure cooker
   e. B and D

2) For high acid foods, what is the purpose of the heat treatment applied during canning?
   a. Destruction of vegetative pathogens
   b. Destruction of Clostridium botulinum spores
   c. Destruction of vegetative spoilage bacteria
   d. Increases the pH of the food product
   e. A and C

3) High acid foods are foods that have
   a. a pH value greater than 4.6
   b. a pH value lower than 7.0
   c. a pH of 4.6 or lower
   d. pectin included in the recipe
   e. None of the above

4) Clostridium botulinum is a
   a. type of yeast
   b. Spore forming bacteria that grows when there is little to no oxygen (anaerobic)
   c. Spore forming bacteria that only grows when oxygen is present (aerobic)
   d. type of mold that produces spores
   e. Non-spore forming bacteria that grows equally well in a vacuum or in air

5) Which statement is false about the pressure canning process?
   a. Destroys spoilage bacteria
   b. Inactivates enzymes
   c. Reduces oxygen levels in the jar headspace
   d. Destroys spore forming pathogens
   e. Acidifies the foods to prevent spore forming pathogens from growing
6) When would Clostridium botulinum growth and toxin formation be of most concern?
   a. High acid foods processed in a water bath.
   b. Low acid foods processed in a water bath.
   c. Low acid foods with a water activity below 0.85.
   d. High acid foods processed in a pressure canner
   e. All of the above

7) Which one of the following is true about water activity (Aw)?
   a. Water activity is a measure of the total amount of moisture in a food.
   b. As water activity decreases, water is more available for microbial growth.
   c. Bacteria grow more rapidly at a lower Aw levels compared to molds or yeast.
   d. Heat resistance of certain bacteria always increases as water activity decreases.
   e. The Aw of pure water is 1.0 and decreases with the addition of salt, sugar, proteins and other substances.

8) Joe made jerky from venison meat. He likes the texture of partially dry jerky and wants to know if there are any risks. If he partially dries the meat (an Aw between 0.80 and 0.89), what of the following would be considered a risk if stored at room temperature?
   a. Staphylococcus growth and toxin production
   b. Mold growth and mycotoxin production
   c. Parasite growth
   d. A and B
   e. A, B and C

9) Which food item would most likely have a water activity that would allow Clostridium botulinum growth?
   a. honey
   b. strawberry jam
   c. dried corn
   d. minced fish
   e. peanut butter

10) Which of the following is true regarding canning foods?
    a. You can process low acid foods in a boiling water bath instead of a pressure canner if you double the process time.
    b. An oven can be used for canning if the oven temperature can be maintained at 250ºF or higher
    c. Steam heat raises the temperature of a product much faster than dry air heating
    d. Solar canning methods are acceptable because they can raise the product temperature to 212ºF.
    e. Atmospheric steam canning processing times are the same as pressure canning processing times provided the products are prepared following the same recipes
11) Which of the following statements is true regarding the effect of altitude on heat processing?
   a. At higher altitudes, processing time must be increased because the boiling point of water is lower.
   b. At higher altitudes, processing times should be decreased because the boiling point of water is higher.
   c. When processing at altitudes higher than 1000 feet above sea level, always double the processing time.
   d. There are no differences in processing times at higher and lower altitudes.
   e. A and C

12) Which of the following is most likely to occur if a vacuum does not form in the jar following heat processing?
   a. The lid sticks to the jar rim and become difficult to remove.
   b. Oxygen levels will be lower in the headspace of the jar
   c. Microorganisms can get into the product.
   d. The product is more likely to be over-processed.
   e. All of the above.

13) Which of the following is recommended to ensure a good jar seal?
   a. Allow some residual food to remain on the jar rim before sealing.
   b. Fill the jars to the top of the rim with product.
   c. Wipe the rim of the jar to remove excess product.
   d. Push the lid down after processing to get it to stick better.
   e. C and D

14) A client processes peaches on Monday morning. 18 hours later, he discovers that the lids on some of the processed jars are loose. What recommendation do you can give to this person?
   a. Reprocess the jars using new lids.
   b. Reprocess the jars using the old lids, but just tighten the ring.
   c. Refrigerate the jars and eat them within three days
   d. Throw away the peaches.
   e. A or C
15) A client notices that six months after he canned applesauce (a high acid product), the surface level of the product was low and has noticeably darkened. The product was correctly canned using the recipe in “Let’s Preserve Apples”, a good vacuum formed, and there was no evidence of spoilage. Which of the following is most likely to be a cause of the darkening?
   a. Air bubbles were not removed before sealing
   b. There was excessive headspace
   c. Apples were dipped in Vitamin C before processing
   d. Mold grew on the product.
   e. A or B

16) Canning salt is superior to other salts for home food preservation because:
   a. It contains iodine which prevents discoloration.
   b. It has additional minerals which add flavor.
   c. It is pure salt with no additives that can affect product quality
   d. It contains anti-caking agents which improve dispersion.
   e. B and D

17) Which of the following should not be used to properly acidify tomatoes prior to canning?
   a. Lemon juice
   b. Citric acid
   c. Canning lime (Calcium hydroxide)
   d. Vinegar
   e. All are acceptable for use.

18) Which of the following ingredients is least likely to increase food safety risks if added to the list of ingredients for a recipe when canning a low acid food?
   a. Rice
   b. Flour
   c. Starch
   d. Salt
   e. Spinach

19) Which best describes the proper procedure for boiling water bath canning?
   a. Fill the canner with 2 inches of water and process with the lid off
   b. Fill the canner with 2 inches of water and process with the lid on.
   c. Cover the top of the sealed jars with 2 inches of water and process with the lid on.
   d. Never let the water level get above the lids in the canner
   e. Adjust the water temperature to 180°F
20) During heat processing of fruits, sugar syrups serve which of the following functions?
   a. Maintain the texture of the fruit.
   b. Increases the sweetness of the fruit
   c. Lowers the pH of the fruit allowing for longer shelf-life
   d. A and B
   e. A, B, and C

21) Upon completion of the entire process, (when the pressure canner has cooled), which of the following is the best practice?
   a. Immediately remove the jars, tighten ring bands firmly and allow the jars to cool on the counter.
   b. Immediately remove the jars and check the seals by partially prying off the lids.
   c. Remove weight from vent or open petcock, wait 10 minutes, carefully open the lid, then gently lift the jars from the canner and allow them to cool on a cutting board or the counter lined with a towel.
   d. Leave the jars in the canner and push down on the pop-up to see if a vacuum has formed, if formed, remove from the canner.
   e. Remove the jars, rinse with vinegar, and tighten the ring band.

22) Which of the following is least likely to result in lids not forming a seal?
   a. Residual product left on the rim of the jar after filling.
   b. Reusing lids.
   c. Leaving product in the canner too long after the canning cycle.
   d. Rapid depressurization of the pressure canner.
   e. Using correct headspace.

23) When using a pressure canner, which best describes the venting process?
   a. Venting is used to heat the jars, but can be skipped if process time is added
   b. Venting is essential for both boiling water and pressure canners
   c. Venting is an essential step because it replaces air in the canner with steam.
   d. Venting is essential in that this initial heating allows air to escape from the jars.
24) Gloria did not purchase enough jars so she wanted to maximize the amount of green beans she could fit into each jar. She therefore packed more beans in each jar than she has done in the past. What might be the result?
   a. This is acceptable as long as she vents for an extended period to better heat the jars.
   b. She may have caused the heating mechanism to change from mainly convection to conduction and possibly under-processed the product.
   c. She may have caused the heating mechanism to change from mainly conduction to convection and possibly over-processed the product.
   d. She might have altered the water activity of the contents and actually improved the safety of the product.
   e. None of the above

25) Which of the following is NOT an approved source for canning information (select all that apply)?
   a. So Easy to Preserve
   b. Martha Stewart’s website
   c. Penn State’s Let’s Preserve Series
   d. Putting Food By
   e. USDA Complete Guide to Home Canning

26) During heat processing in a pressure canner, steam pressure is lost. Which of the following describes the best course of action?
   a. Continue the process and turn the heat up on the stove.
   b. Bring the canner back up to pressure and begin the timing of the process over, from the start.
   c. Bring the canner back up to pressure and begin the timing from when the pressure was lost.
   d. Immediately open the canner, empty the containers, reheat the contents, reseal the jars, and begin the entire process.

27) When making jerky from wild game, which of the following best describes the proper practice?
   a. Cut meat into strips, store overnight in cold marinade, dry at 140°F.
   b. Cut the meat into strips, store overnight in warm marinade, dip into boiling marinade, dry at 160°F.
   c. Cut the meat into strips, store overnight in cold marinade, dip into boiling marinade, dry at 140°F.
   d. Cut the meat into strips, store overnight in cold marinade, dry, store at room temperature.
28) George does not like the brine in pickles, so he uses water in the jars but only after soaking initially in brine. Is this acceptable?
   a. Yes, the salt and sugar only protect the integrity of the food.
   b. Yes, as long as the pH of the brine was correct.
   c. Yes, provided he adds an artificial sweetener after he opens the jars.
   d. No because the brine will still add the flavor to the final product.
   e. No because the equilibrium pH will not be maintained in the final product.

29) Your great-grandmother passes down a recipe for canning mushrooms – raw pack using a boiling water bath. What should be done?
   a. Run sufficient trials on the product to ensure safety before accepting.
   b. Accept the recipe as is since it was used by generations of your family.
   c. Accept the recipe, but modify to a hot pack from a raw pack.
   d. Reject the formula as stated
   e. Research the recipe on-line to see if any other consumers use a similar recipe, and if so, accept.

30) A client has been preserving jam with a standard pectin mixture that requires 4 cups of sugar per quart of fruit. She wants to reduce the calorie content of the jam by using only half of the sugar. What might happen to the quality of the jam?
   a. The color would intensify.
   b. The jam would become thin and runny.
   c. The jam would be sweeter.
   d. Fruit flavors would become more intense.
   e. All of the above.

31) Frozen food quality is best when small ice crystals form in the product. Which condition favors small crystal formation during freezing?
   a) Rapid freezing.
   b) Slow freezing.
   c) Freezing in an ice water bath.
   d) Freezing in a freezer with the defrost cycle running.
   e) None of the above

32) When is freezer burn most likely to occur?
   a) The product is stored in tightly sealed containers.
   b) When the product is packed in a salt or sugar solution.
   c) When oxygen is excluded from the package.
   d) When the product is loosely packed, and air can get in.
   e) All of the above
33) What is the purpose of using sugar syrups in frozen fruit?
   a) To make them sweeter
   b) To increase the rate of freezing
   c) To prevent oxygen from reaching the product
   d) A and B
   e) A and C

34) Why is botulism not a problem with properly prepared sauerkraut?
   a) Sauerkraut does not contain botulism spores
   b) The fermentation process rapidly lowers the brine pH to a safe level
   c) Spores are killed during the fermentation
   d) A and B
   e) B and C

35) Which of the following could be of concern when purchasing a used canner?
   a) The date when the pressure gauge was calibrated is not known.
   b) The rubber seal is brittle and cracked
   c) The vent is clogged with debris
   d) The pressure release valve is missing
   e) All of the above

36) Which is the correct procedure for depressurization of a canner?
   a) Immediately vent the canner after the processing time is completed by removing the pressure regulator (jiggler).
   b) Open the lid immediately after processing to allow jars to cool.
   c) Place canner into a sink filled with cool water for rapid cooling.
   d) Allow canner pressure to drop to zero before removing the pressure regulator (jiggler)
   e) c and d.

37) A consumer would like a recipe for canning pumpkin puree. What should be your response?
   a) Tell them that we have no approved canning methods for pumpkin puree and suggest that they freeze it.
   b) Tell them to look on-line for an acceptable process.
   c) Tell them to acidify the product with lemon juice before canning
   d) Tell them to process it in a pressure canner for one hour.
   e) None of the above.
38) Aunt Maybelle can’t recall if she added salt to her chicken broth she is about to cook and then prepare for canning. What should you tell her to do?
   a) Taste the soup and see if salt was added.
   b) Double the process time just to be safe.
   c) Tell her not to worry, she can add the salt later if it was not added
   d) Dump her batch out and start over
   e) Add potatoes to the soup because they will absorb the salt

39) How does the storage life of high sugar jams compare to reduced sugar jams?
   a) High sugar jams store longer and retain their color.
   b) High sugar jams lose their color more rapidly compared to reduced sugar jam.
   c) Reduced sugar jams will retain their texture longer than high sugar jam.
   d) Reduced sugar jams will retain their flavor longer than high sugar jams.
   e) No difference

40) A client that just canned meat wonders why the brine in the hot packed meat is lower than the level of meat in the jar. There is still a vacuum in the jars and the jars are sealed. He points out to you that the liquid level completely covered the meat at the start of the process. He also mentions he did not add salt. What should you tell this person?
   a) Tell him to throw it out because the seal was lost at some point.
   b) Tell him to add more liquid and reprocess.
   c) Tell him the liquid was siphoned out of the jar during depressurization or temperature fluctuation.
   d) Tell him that he did not cook the meat enough and that he should have added salt.