

MIDTERM EXAM IN FOOD MICROBIOLOGY

Name: _____ Yr & Section: _____ Date: _____
Score: _____

GENERAL INSTRUCTIONS:

1. Close your notes and other unnecessary tabs such as Google.
2. CHEATING IS STRICTLY PROHIBITED AND EQUIVALENT TO EXPULSION!
3. Answer independently. If you have clarifications, ASK your teacher not your classmates.

MULTIPLE CHOICE

INSTRUCTION: Choose the correct letter/s of your answer.

1. Which of the following is a common source of microbial contamination in raw meat?
A) Sunlight
B) Soil
C) Plastic packaging
D) Artificial coloring
2. The presence of psychrotrophic bacteria in chilled meat is mostly due to:
A) Moisture loss
B) Low storage temperatures
C) Exposure to sunlight
D) Freezing
3. Why can pasteurized milk still spoil in refrigeration?
A) Because pasteurization does not kill all heat-resistant bacteria
B) Because milk does not contain any nutrients
C) Because refrigeration makes bacteria multiply faster
D) Because milk lacks carbohydrates
4. Which statement best describes the role of egg albumin in microbial safety?
A) Albumin speeds up pathogen growth
B) Albumin contains compounds that inhibit bacteria
C) Albumin is always neutral in food safety
D) Albumin eliminates all bacteria
5. How does pH affect microbial growth in vegetables?
A) Low pH supports only viruses
B) Neutral pH supports bacterial growth
C) High pH only supports mold
D) pH has no effect
6. You observe rapid spoilage in raw fish stored at room temperature. Which microorganism is most likely responsible?
A) Pseudomonas
B) Thermophilic bacteria
C) Yeasts
D) Lactobacillus
7. When preparing ready-to-eat meat products for sale, which step reduces most surface microbial contamination?
A) Storage at ambient temperature
B) Washing with water
C) Heating to above 70°C
D) Adding artificial dyes
8. If a batch of vegetables is contaminated during washing, what is the most probable contaminant source?
A) Packing material
B) Irrigation water
C) Sunlight exposure
D) Lack of flavoring agents
9. Why do foods with higher moisture content spoil faster?
A) Moisture inhibits microbial growth
B) Moisture supports microbial metabolism and reproduction
C) Moisture causes food to dry out
D) Moisture blocks nutrients
10. What would be the impact of improper storage temperature on pasteurized egg products?
A) It would kill all microbes
B) It would allow surviving thermophilic bacteria to multiply
C) It would have no effect
D) It would eliminate all pathogens
11. Which changing factor in storage would most likely increase Salmonella contamination in poultry?
A) Reduced moisture
B) Increased exposure to air
C) Warm, fluctuating temperature
D) Storage in darkness
12. What is the most effective control measure for keeping microbial counts low in raw fish sold at markets?
A) Only washing fish with water
B) Cooking briefly
C) Proper chilling and freezing
D) Using artificial color
13. You are tasked to design a basic food safety guideline for storing vegetables. Which key point must you include to prevent microbial spoilage?
A) Store vegetables in warm, moist conditions
B) Wash with untreated water
C) Maintain cleanliness, proper temperature, and use clean water for washing
D) Ignore storage conditions *not a plausible distractor*
14. What is the fundamental classification unit for bacteria?
A) Family
B) Genus
C) Species
D) Strain
15. Which major group of microorganisms is most responsible for rapid spoilage in food systems?
A) Bacteria
B) Yeasts
C) Molds
D) Viruses
16. Which scientific method is commonly used to identify bacteria in food?
A) Measuring sugar
B) Gram staining
C) Checking color
D) Tasting food
17. What is the key difference between molds and yeasts?
A) Yeasts are multicellular, molds are unicellular
B) Molds form filaments (hyphae), yeasts are single oval cells
C) Both always cause food poisoning
D) Yeasts always smell sweet
18. Why are lactic acid bacteria important in food processing?
A) They make food rot faster
B) They help ferment foods, improving shelf life and taste
C) They produce toxins
D) They cause discoloration
19. You see bubbles and a sour taste in bread dough after hours. Which microbe is most likely active?
A) Penicillium
B) Saccharomyces (yeast)
C) Lactobacillus (bacteria)
D) Rotavirus
20. In fruit wine production, which microbe is purposely added for fermentation?
A) Aspergillus
B) Saccharomyces cerevisiae
C) Clostridium
D) Staphylococcus

21. A food processor wants to prevent spoilage by reducing water activity (Aw) in jam. This mainly limits which group?
 - A) Molds
 - B) Viruses
 - C) Yeasts
 - D) None, all thrive regardless
22. Why do some molds survive and spoil dried grains but not fresh milk?
 - A) Molds prefer dry, low water activity environments
 - B) Milk is always mold-proof
 - C) Grains have more sugar
 - D) Molds do not grow in food
23. A batch of yogurt turns out thin and bitter instead of creamy. What is a possible microbial cause?
 - A) Yeast contamination outcompetes lactic acid bacteria
 - B) Unwashed utensils only
 - C) Use of high-fat milk
 - D) No microbes present
24. Bacteriophages attack starter bacteria in cheese fermentation. What can happen?
 - A) Cheese will ferment quickly
 - B) Fermentation may fail or not produce correct texture/flavor
 - C) Cheese melts
 - D) Taste stays the same
25. Which practice is most important to avoid starter bacteria failure when making fermented food?
 - A) Using clean equipment and monitoring microbes
 - B) Adding extra salt only
 - C) Keeping at warm temperature always
 - D) Using only wild microbes
26. You're asked to suggest a new local fermented food for your town festival. Which microbe would you select and why?
 - A) Penicillium for cheese texture
 - B) Saccharomyces for sweet wines and breads
 - C) Molds for rapid rot
 - D) Viruses for better flavor
27. Which microorganism is used in the production of bread and wine?
 - A) Penicillium
 - B) Saccharomyces cerevisiae
 - C) Escherichia coli
 - D) Lactobacillus plantarum
28. Which group of bacteria is essential for yogurt fermentation?
 - A) Lactic Acid Bacteria
 - B) Coliforms
 - C) Salmonella
 - D) Cyanobacteria
29. What is the role of molds like Penicillium in food?
 - A) Only cause spoilage
 - B) Give texture and flavor to some cheeses
 - C) Make fruits ripen faster
 - D) Destroy protein
30. Why are lactic acid bacteria (LAB) considered safe for food fermentation?
 - A) They produce harmful toxins
 - B) They improve taste and shelf life without causing illness
 - C) They break down vitamins
 - D) They only grow in salty foods
31. How do yeasts contribute to the production of alcoholic beverages?
 - A) By making acid
 - B) By producing alcohol from sugars
 - C) By causing spoilage
 - D) By adding color
32. A food processor wants to make a probiotic drink. Which microorganism should be present?
 - A) Lactic acid bacteria
 - B) Aspergillus flavus
 - C) Staphylococcus aureus
 - D) Mucor rouxii
33. Which mold is intentionally added to blue cheese?
 - A) Rhizopus stolonifer
 - B) Penicillium roquefortii
 - C) Candida utilis
 - D) Zygosaccharomyces bailii
34. Why do certain molds produce mycotoxins in grains and nuts?
 - A) To improve flavor
 - B) As a natural defense while growing in low moisture conditions
 - C) To speed up food ripening
 - D) Only when exposed to high salt
35. In the fermentation of sauerkraut, which microorganism dominates and preserves the food?
 - A) Molds
 - B) Lactic acid bacteria
 - C) Yeasts
 - D) Viruses
36. How does the use of selected starter cultures benefit food safety during fermentation?
 - A) Reduces control over final product
 - B) Ensures desirable microbes outcompete spoilage and pathogen organisms
 - C) Adds unwanted taste
 - D) Makes food unsafe by default
37. Which of the following is MOST important when selecting a microorganism for food production?
 - A) Microbe is non-toxic and approved as food-grade
 - B) Microbe has bright color
 - C) Microbe can grow in any condition
 - D) Microbe produces bad odor
38. If you were asked to develop a new fermented product for local stores, which microorganism would you use and why?
 - A) Lactic acid bacteria, because they safely ferment many foods and improve taste
 - B) Molds, because they cause faster spoilage
 - C) Viruses, because they can kill bacteria
 - D) Coliforms, because they are indicators of low hygiene
39. Which process relies on microorganisms to make cheese, yogurt, and vinegar?
 - A) Boiling
 - B) Fermentation
 - C) Freezing
 - D) Irradiation
40. What is the main group of microorganisms responsible for bread rising and wine production?
 - A) Mold
 - B) Yeast
 - C) Virus
 - D) Protozoa
41. Why are lactic acid bacteria commonly chosen as starter cultures in the food industry?
 - A) They cause rapid spoilage
 - B) They safely preserve and flavor foods
 - C) They produce strong acids only
 - D) They need high heat
42. Which is a benefit of using microorganisms in food processing?
 - A) Higher electricity use
 - B) Improved shelf life, taste, and nutrition
 - C) All food is spoiled quickly
 - D) Only for laboratory settings

43. How do molds like *Aspergillus* or *Penicillium* help in food production?
 - A) They add bacteria to milk
 - B) They spoil all foods
 - C) They make enzymes and flavors in some cheeses and sauces
 - D) They raise pH
44. If you want to produce yogurt, what must you add to the milk?
 - A) Mold spores
 - B) Lactic acid bacteria
 - C) Vinegar
 - D) Sucrose
45. A new drink company wants to create a healthy probiotic beverage. Which microorganism should they choose?
 - A) *Salmonella*
 - B) *Aspergillus flavus*
 - C) *Bifidobacterium* or *Lactobacillus* species
 - D) *Clostridium botulinum*
46. Why is it important for food industries to monitor which microorganisms are present in their facility?
 - A) To make food look green
 - B) To ensure only safe and useful microbes are in production, preventing spoilage or disease
 - C) To speed up cleaning
 - D) So no temperature control is needed
47. What will likely happen if starter cultures are not carefully selected and maintained in cheese making?
 - A) Cheese with off flavors, textures, and possible food safety risks
 - B) Cheese will ferment faster
 - C) Only color changes
 - D) All bacteria removed
48. How do genetically modified microorganisms contribute to the modern food industry?
 - A) They are always unsafe
 - B) They can produce food-grade enzymes, flavorings, or vitamins more efficiently
 - C) They make food sour
 - D) No use in food at all
49. Before using a new strain of yeast for bread in a bakery, what is the most important check?
 - A) The yeast multiplies rapidly
 - B) The strain is food-grade, safe, and approved for use
 - C) The yeast is visually attractive
 - D) The yeast is from the wild
50. Suppose you want to design a new fermented Filipino snack using locally available crops. Briefly, what ingredients and microbes might you choose, and why?
 - A) Cassava and lactic acid bacteria for safe, tangy flavor and longer shelf life
 - B) Uncooked rice and wild molds for faster spoilage
 - C) Add any molds for color
 - D) None, avoid all microbes

CYRIL JOHN DOMINGO

IRENEA BINAG