



M.Sc. II Semester Degree Examination, Sept./Oct. - 2024

MICROBIOLOGY

MBDSE : Food Analysis, Safety and Standards

(NEP)

Time : 1 Hour

Maximum Marks : 30

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1. What is the role of critical limits in a HACCP plan ?
 - (A) To specify the maximum and minimum values that ensure a CCP is under control
 - (B) To determine employee training needs
 - (C) To define packaging requirements
 - (D) To set pricing strategies

 2. Which HACCP principle involves establishing procedures to monitor CCPs ?
 - (A) Conduct a hazard analysis
 - (B) Establish monitoring procedures
 - (C) Develop corrective actions
 - (D) Conduct a risk assessment

 3. What was the primary purpose of the Federal Meat Inspection Act of 1906 ?
 - (A) To regulate the pricing of meat products
 - (B) To ensure the sanitary and hygienic processing of meat products
 - (C) To promote meat exports
 - (D) To improve the marketing strategies for meat products

 4. Which agency was established to enforce the Federal Meat Inspection Act of 1906 ?
 - (A) Food and Drug Administration (FDA)
 - (B) Environmental Protection Agency (EPA)
 - (C) Food Safety and Inspection Service (FSIS)
 - (D) Federal Trade Commission (FTC)



5. Which of the following does the Federal Meat Inspection Act of 1906 require in terms of labeling ?
- (A) Labels must include the country of origin
 - (B) Labels must provide a detailed list of ingredients
 - (C) Labels must clearly state that the product has been inspected by federal authorities
 - (D) Labels must list the price per pound
6. In which year was the Federal Meat Inspection Act enacted ?
- (A) 1900 (B) 1906 (C) 1910 (D) 1915
7. What is the primary purpose of a food quality system ?
- (A) To reduce production costs
 - (B) To ensure that food products meet defined quality and safety standards
 - (C) To enhance the visual appeal of food packaging
 - (D) To speed up the manufacturing process
8. Which federal agency is responsible for enforcing the Fair Packaging and Labeling Act ?
- (A) Food and Drug Administration (FDA)
 - (B) Federal Trade Commission (FTC)
 - (C) Environmental Protection Agency (EPA)
 - (D) U.S. Department of Agriculture (USDA)
9. The Fair Packaging and Labeling Act requires that labels must not :
- (A) Use generic terms for product descriptions
 - (B) Mislead or deceive consumers about the contents of the package
 - (C) Include nutritional information
 - (D) Display product usage instructions
10. Which product categories are primarily covered by the Fair Packaging and Labeling Act ?
- (A) Only food products
 - (B) Food, drugs, and cosmetics
 - (C) Consumer goods and non-food products
 - (D) Only pharmaceutical products



11. Which of the following is the primary legislation governing food safety and standards in India ?
- (A) The Food Safety and Standards Act, 2006
 - (B) The Prevention of Food Adulteration Act, 1954
 - (C) The Essential Commodities Act, 1955
 - (D) The Consumer Protection Act, 1986
12. Good Manufacturing Practices (GMP) are a set of guidelines designed to :
- (A) Improve the aesthetic appeal of food products
 - (B) Ensure the production of food that is safe and meets quality standards
 - (C) Reduce the need for food additives
 - (D) Increase the shelf life of food products
13. Which of the following is a key component of Good Manufacturing Practices (GMP) ?
- (A) Marketing and advertising
 - (B) Cleaning and sanitation
 - (C) Product design
 - (D) Customer feedback analysis
14. Which international standard is widely recognized for food safety management systems and often integrated with GMP ?
- (A) ISO 9001
 - (B) ISO 14001
 - (C) ISO 22000
 - (D) ISO 45001
15. What is the primary purpose of quality control in raw materials ?
- (A) To enhance the taste of the final product
 - (B) To ensure that raw materials meet specified standards
 - (C) To increase the shelf life of raw materials
 - (D) To reduce the cost of production
16. Why is it important to monitor the moisture content in raw materials such as grains ?
- (A) To increase their nutritional value
 - (B) To prevent microbial growth and spoilage
 - (C) To enhance their flavor
 - (D) To reduce their weight for transportation
17. Which of the following techniques is commonly used to detect adulteration in raw spices ?
- (A) Chromatography
 - (B) X-ray imaging
 - (C) Ultrasonic testing
 - (D) Thermography



18. The presence of which of the following in raw fruits and vegetables can indicate poor quality ?
- (A) High sugar content (B) Uniform color
(C) Bruises or blemishes (D) Crisp texture
19. Which factor is most critical when evaluating the quality of raw meat ?
- (A) pH level (B) Vitamin content
(C) Moisture retention (D) Marbling (fat distribution)
20. Why is traceability important in the quality control of raw materials ?
- (A) To improve the taste of the product
(B) To ensure that the packaging is attractive
(C) To track the source of raw materials and ensure compliance with standards
(D) To increase the production speed
21. Which of the following is an indicator of spoilage in raw fish ?
- (A) Bright, clear eyes (B) Firm texture
(C) Slimy surface (D) Fresh, oceanlike smell
22. What is the purpose of performing microbial tests on raw materials ?
- (A) To determine the nutritional value
(B) To check for the presence of harmful bacteria
(C) To enhance the flavor profile
(D) To assess the color uniformly
23. What is the unit used to express the results of a standard plate count ?
- (A) MPN/mL (Most Probable Number per milliliter)
(B) CFU/g (Colony Forming Units per gram)
(C) ATP/mL (Adenosine Triphosphate per milliliter)
(D) DNA copies/mL
24. Which method uses a grid to estimate the number of microorganisms in a sample by counting colonies on a membrane filter ?
- (A) Direct Microscopic Count (B) Membrane Filtration Method
(C) Spread Plate Method (D) Pour Plate Method



- 25.** Which type of agar is commonly used for the enumeration of fungi and yeasts in food samples ?
- (A) Nutrient Agar (B) MacConkey Agar
(C) MRS Agar (D) Sabouraud Agar
- 26.** What is the primary advantage of using the Most Probable Number (MPN) method ?
- (A) It is faster than plate counts
(B) It provides a direct count of viable cells
(C) It is particularly useful for samples with low microbial loads
(D) It can distinguish between live and dead cells
- 27.** What is the minimum internal cooking temperature for poultry to ensure it is safe to eat ?
- (A) 145°F (63°C) (B) 155°F (68°C) (C) 165°F (74°C) (D) 175°F (79°C)
- 28.** Which type of bacteria is most commonly associated with improperly canned foods ?
- (A) Salmonella (B) Listeria
(C) Escherichia coli (D) Clostridium botulinum
- 29.** Which of the following best describes the inspection process required by the Federal Meat Inspection Act of 1906 ?
- (A) Inspections are conducted periodically without set standards
(B) Inspections are conducted continuously during slaughter and processing
(C) Inspections are conducted only after complaints are received
(D) Inspections are optional for smaller meatpacking plants
- 30.** What is the role of Standard Operating Procedures (SOPs) in GMP ?
- (A) To increase sales
(B) To provide detailed instructions for consistent and safe production processes
(C) To reduce the cost of raw materials
(D) To improve the packaging of food products

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