Chapter 2: Food Safety and Sanitation

MULTIPLE CHOICE: Choose the one alternative that best completes the statement or answers the question.

1) What type of hazard are pieces of broken glass found in a container of salad dressing?
   A) biological hazard
   B) chemical hazard
   C) physical hazard
   D) pest infection

2) How can you detect if food is contaminated?
   A) "off" odour
   B) visible mould
   C) bitter taste
   D) none of the above

3) What is one method of sanitizing food service dishes and equipment?
   A) washing the items with an approved detergent
   B) scraping and spraying with hot water to remove soil
   C) hand washing in a three-compartment sink
   D) immersing in 77ºC (170° F) water for 30 seconds

4) After which situation should food handlers wash their hands?
   A) smoking
   B) clearing a table of dirty dishes
   C) handling raw foods
   D) all of the above

5) What is the range of the temperature danger zone?
   A) 16–49ºC (60–120°F)
   B) 4–49ºC (40–120°F)
   C) 4–60ºC (40–140°F)
   D) 16–60ºC (60–140°F)

6) Which of the following is not a leading cause of food-borne illnesses?
   A) putrefactive bacteria
   B) pathogenic bacteria
   C) parasites
   D) fungi

7) What is HAACP a system for?
   A) supervising kitchen employees
   B) maintaining sanitary conditions
   C) standardizing recipes
   D) controlling the flow of food

8) What is salmonella?
   A) toxin
   B) intoxication
   C) toxin-mediated infection
   D) infection

9) What should you immediately do when an infestation of cockroaches occurs?
   A) contact a licensed pest control operator
   B) purchase and apply pesticides yourself
   C) clean and disinfect all exposed surfaces
   D) ignore it as they do not pose a major health hazard

10) Which of the following is not a potentially hazardous food?
   A) cut melon
   B) garlic in oil
   C) custard
   D) none of the above

11) Which of the following most likely represents a chemical contamination?
   A) slimy chicken
   B) hair in the soup
   C) shellfish feeding on toxic algae
   D) none of the above

12) Which type of bacteria is not necessarily harmful to humans?
   A) vegetative
   B) passive
   C) aerobes
   D) putrefactive

13) Bacteria thrive on which one of the following types of foods:
   A) proteins
   B) potentially bad items
   C) contaminated items
   D) potentially hazardous items

14) Under ideal conditions bacteria can divide every:
   A) 2–5 minutes
   B) 5–10 minutes
   C) 10–20 minutes
   D) 30–50 minutes

15) In microorganisms, the period of accelerated growth that follows the period of adaptation to new conditions is the:
   A) positive phase
   B) growth phase
   C) log phase
   D) lag phase

16) To prevent pest infestation, foods and supplies should be stored off the floor. What is the recommended distance between the floor and the first shelf?
A) 15cm (6 inches)
B) 30cm (12inches)
C) 45cm (18 inches)
D) 2cm (1 inch)

17) Which of the following is a virus that often enters the food supply chain through shellfish harvested from polluted waters?
A) hepatitis A
B) cyclospora
C) Clostridium perfringens
D) Escherichia coli

18) What is the temperature and time required to destroy anisakis?
A) -18°C (0°F) for 4 days
B) -20°C (-4°F) for 7 days
C) 58°C (137°F) for 10 seconds
D) 60°C (140°F) for 10 minutes

19) What is the temperature and time required to destroy mould cells?
A) 42°C (108°F) for 2 minutes
B) 58°C (137°F) for 10 seconds
C) 60°C (140°F) for 10 minutes
D) 65°C (150°F) for 10 seconds

20) What is the proper procedure for cooling foods?
A) 37°C (98.6°F) within 2 hours, then down to 4°C (40°F) within 6 hours
B) 21°C (70°F) within 4 hours, then down to 4°C (40°F) within 2 hours
C) 4°C (40°F) within 8 hours
D) 21°C (70°F) within 2 hours, then down to 4°C (40°F) within 4 hours

21) Which of the following microorganisms is likely to produce a toxin-mediated infection?
A) anisakis
B) salmonella
C) cyclospora
D) E. coli

22) What name is given to disease-causing bacteria?
A) pathogenic
B) infectious
C) vegetative
D) putrefactive

23) What is the proper procedure for thawing frozen foods?
A) in the microwave, quickly
B) in an oven set to 66°C (150°F)
C) at room temperature, slowly
D) in a refrigerator

24) It is recommended that food-service handlers wash their hands for at least:
A) 20 seconds
B) 30 seconds
C) 40 seconds
D) 50 seconds

25) When hand washing in a three-compartment sink, what is the proper procedure for sanitizing?
A) immerse in 77°C water for a minimum of 2 minutes
B) spray with hot water
C) immerse in 60°C water for a minimum of 4 minutes
D) none of the above

26) Most bacteria can be destroyed by exposing them to high temperatures for a sufficient amount of time. What is the minimum recommended temperature?
A) 74°C
B) 60°C
C) 85°C
D) 65°C

TRUE/FALSE: Write "T" if the statement is true and "F" if the statement is false.

27) Frozen foods should be thawed slowly at room temperature.

28) Food service workers are the primary cause of food-borne illnesses.

29) Bacteria can thrive in an environment that has a low pH, such as lemon juice.

30) Most food-borne illnesses go undiagnosed because the symptoms may not appear for a week or more.

31) Roasts, ham, and ground beef should all be cooked to an internal temperature of 62°C.

32) Side towels are one of the most common causes of cross-contamination.

33) The correct ratio for a sanitizing solution is 15mL of bleach per 4.5 L of water.

34) Facultative bacteria can survive with or without oxygen.

35) Viruses, such as hepatitis A, can infect any food, not only potentially hazardous foods.

36) Anisakiasis is an illness that could result from consuming sushi.

37) A food worker touching his nose and then touching a food item is an example of direct contamination.

38) All bacteria, especially putrefactives, are dangerous to humans.

39) The temperature danger zone is 4°C to 60°C (40–140°F).

40) Raw seed sprouts are an example of a potentially hazardous food.

41) Most toxins can be destroyed at 82°C (180°F).

42) To clean means to destroy or remove all harmful substances.

43) Alkaline foods have a pH value higher than 7.

44) Freezing can be used to destroy bacteria.

45) All bacteria require air to survive.

46) Hepatitis A is often found in improperly pasteurized dairy products.

47) The temperature of the water in the wash cycle of a dishwasher should be 82°C.

48) Escherichia coli 0157:H7 is known to grow at refrigerator temperatures.

49) Water activity is the amount of water that bacteria need to survive.

SHORT ANSWER: Write the word or phrase that best completes each statement or answers the question.

50) What does FIFO stand for?

51) What is the time-and-temperature principle?

52) What food-borne illness is transmitted through milk products and deli meats?

53) What is the common name for bovine spongiform encephalopathy (BSE)?

54) What virus is spread by food-service workers with poor personal hygiene?

55) Foods in which bacteria can thrive are referred to as _____ _____ foods.

56) The acronym HACCP stands for _____ _____ _____ _____ _____.

57) Microorganisms cannot generally move on their own. They need to be transported, an event known as _____.

58) An acceptable sanitizing solution is made by combining _____ litres of lukewarm water with _____ millilitres of _____.

59) In general, prepared foods should be kept below _____ or above _____.

60) Bacteria can be classified by their shape; rods have a _____ shape, cocci are _____, and spirilla are _____.

61) A bacterial illness that has characteristics of both intoxication and infection is known as a _____.

62) Some bacteria, known as _____, thrive on oxygen while others, known as _____, do not require oxygen.

63) Frozen foods should be stored at a temperature of _____ or lower.

64) Leftover food should be used within _____ by heating it to _____ within _____.

MATCHING: Choose the item in column 2 that best matches each item in column 1.

First question

65. anisakis	A. source is often milk products
66. cyclospora	B. form of intoxication
67. strep	C. source is often infected food handlers with feces
68. listeria	D. most often occurring bacterial illness
69. salmonella	E. parasite that resides in the organs of fish
70. botulism	F. parasite found in water contaminated
71. virus	H. not affected by water activity

Second question

72. 45ºC (113ºF)	J. mechanical washing temperature
73. 60ºC (140ºF)	I. yeasts are killed
74. 58ºC (136ºF)	G. hand washing temperature

ESSAY: Write your answer in the space provided or on a separate sheet of paper.

75) What is cross-contamination?

76) What two safe food-handling measures should you take after fabricating whole chickens?

77) What are the three critical control points when preparing beef stock?

78) What are four examples of safe behaviour in a professional kitchen?

79) What five conditions do bacterial intoxications and infections need in order to thrive?

Chapter 2: Answers

1) C Difficulty: 1

2) D Difficulty: 2

3) A Difficulty: 1

4) D Difficulty: 1

5) C Difficulty: 1

6) A Difficulty: 1

7) B Difficulty: 1

8) D Difficulty: 1

9) A Difficulty: 1

10) D Difficulty: 1

11) C Difficulty: 1

12) D Difficulty: 1

13) D Difficulty: 1

14) C Difficulty: 1

15) C Difficulty: 2

16) A Difficulty: 1

17) A Difficulty: 2

18) B Difficulty: 2

19) C Difficulty: 2

20) D Difficulty: 2

21) D Difficulty: 2

22) A Difficulty: 1

23) D Difficulty: 1

24) B Difficulty: 1

25) A Difficulty: 2

26) A Difficulty: 2

27) FALSE Difficulty: 1

28) TRUE Difficulty: 1

29) FALSE Difficulty: 1

30) TRUE Difficulty: 1

31) FALSE Difficulty: 1

32) TRUE Difficulty: 1

33) TRUE Difficulty: 1

34) TRUE Difficulty: 1

35) TRUE Difficulty: 1

36) TRUE Difficulty: 1

37) TRUE Difficulty: 1

38) FALSE Difficulty: 1

39) TRUE Difficulty: 1

40) TRUE Difficulty: 2

41) FALSE Difficulty: 1

42) FALSE Difficulty: 1

43) TRUE Difficulty: 1

44) FALSE Difficulty: 1

45) TRUE Difficulty: 1

46) FALSE Difficulty: 1

47) FALSE Difficulty: 1

48) TRUE Difficulty: 1

49) TRUE Difficulty: 1

50) first in, first out Difficulty: 1

51) keep hot foods hot and cold foods cold Difficulty: 1

52) listeria Difficulty: 1

53) mad cow disease Difficulty: 1

54) Norwalk virus Difficulty: 1

55) potentially hazardous Difficulty: 1

56) Hazardous Analysis Critical Control Points Difficulty: 1

57) cross-contamination Difficulty: 1

58) 4.5; 15; chlorine bleach Difficulty: 2

59) 4ºC (40ºF); 60 ºC (140ºF) Difficulty: 1

60) tubular; disks; corkscrews Difficulty: 2

61) toxin-mediated infection Difficulty: 2

62) aerobes; anaerobes Difficulty: 1

63) -18°C (0°F) Difficulty: 1

64) 4 days; 74°C; 2 hours Difficulty: 1

65) E Difficulty: 2

66) F Difficulty: 2

67) C Difficulty: 1

68) A Difficulty: 2

69) D Difficulty: 1

70) B Difficulty: 1

71) H Difficulty: 2

72) G Difficulty: 1

73) J Difficulty: 1

74) I Difficulty: 1

75) It is the transfer of biological, chemical, and physical contaminants. Difficulty: 1

76) They are thorough hand washing and the washing and sanitizing of all objects involved in the food processing, including cutting boards and knives. Difficulty: 2

77) They are cooling, storing, and reheating the cooked stock. Difficulty: 2

78) Answers will vary but should include any personal safety guidelines listed in the section entitled "Personal Safety" starting on p 34. Difficulty: 3

79) They need food, comfortable temperature, moisture, proper pH, proper atmosphere, and time. Difficulty: 2