



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

DEGREE IN ENVIRONMENTAL HEALTH
FINAL EXAMINATION PAPER 2017

TITLE OF PAPER : FOOD HYGIENE

COURSE CODE : EHS 227

DURATION : 2 HOURS

MARKS : 100

INSTRUCTIONS :

- : ANSWER ONLY FOUR QUESTIONS
- : QUESTION ONE IS COMPULSORY
- : EACH QUESTION CARRIES 25 MARKS.
- : READ THE QUESTIONS & INSTRUCTIONS CAREFULLY
- : NO PAPER SHOULD BE BROUGHT INTO THE EXAMINATION ROOM.
- : BEGIN EACH QUESTION ON A SEPARATE SHEET OF PAPER.

DO NOT OPEN THIS QUESTION PAPER UNTIL PERMISSION IS GRANTED BY THE INVIGILATOR.

Question 1

Multiple Choice Questions

(Choose the Best Answer)

1. Nondisposable cloths and sponges used to clean surfaces should be handled in which one of the following ways at the end of each work day;
 - A. Rinsed and hung to air dry overnight
 - B. Boiled, washed and dried quickly
 - C. Washed, rinsed and dipped in a sanitizer solution
 - D. Kept in a disinfectant overnight
 - E. Kept in a refrigerator overnight

2. Basic steps for cleaning kitchen utensils are to;
 - A. remove gross soil, apply detergent, scrub, rinse
 - B. remove gross soil, wash, rinse and dry
 - C. remove gross soil, apply detergent, scrub, apply disinfectant, rinse
 - D. remove gross soil, wash and disinfect in same step
 - E. remove gross soil, apply detergent, scrub, rinse and apply disinfectant

3. The direct or indirect transmission of objectionable matter to a food product is called by which of these names;
 - A. adulteration
 - B. contamination
 - C. infection
 - D. infestation
 - E. pollution

4. Which of these cleaning agents is (are) neutralized by the presence of food residues during cleaning?
 - A. amphoteric
 - B. quaternary ammonium compounds
 - C. chlorinated compounds
 - D. anionic wetting agents
 - E. both A, and C

5. Reports of food borne disease indicate that the implicated food was usually:
 - A. a canned food
 - B. a food held for long periods at temperatures favorable to bacterial multiplication
 - C. an improperly cooked food.
 - D. a food stored too long in the refrigerator.
 - E. an unwrapped food that has been handled by unwashed hands.

6. Anionic wetting agents are good detergents but they will not;
 - A. wet surfaces well
 - B. emulsify fats, waxes and pigments
 - C. destroy bacteria
 - D. penetrate crevices and woven fabrics
 - E. both C and D

7. Which sanitizer is appropriate for hand washing?
 - A. quaternary ammonium compounds
 - B. anionic wetting agent
 - C. amphoteric compounds
 - D. iodine based sanitizers
 - E. A and D

8. Which sanitizer is not appropriate for hand washing?
 - A. quaternary ammonium compounds
 - B. anionic wetting agents
 - C. amphoteric compounds
 - D. iodine based sanitizers
 - E. both A and D

9. Choose the most appropriate sanitizer to be used in hard water,
 - A. Chlorine based sanitizers
 - B. Iodine based sanitizers
 - C. Organic acids based sanitizers
 - D. Amphoterics
 - E. A and D

10. Choose the most effective sanitizer to kill both gram negative and gram positive bacteria.
 - A. Amphoterics compounds
 - B. Quaternary ammonium compounds
 - C. Chlorine based sanitizers
 - D. A and C
 - E. B and C

11. A chemical agent that destroys all living microorganisms is called a:
 - A. disinfectant
 - B. detergent
 - C. sanitizer
 - D. sporicide
 - E. sterilizer

12. A toxin excreted into food medium by a bacterial cell is called a(n):
- A. mycotoxin
 - B. exotoxins
 - C. enterotoxins
 - D. zoonotoxin
 - E. endotoxins
13. Factors inherent in a food that can influence microbial growth are known as;
- A. extrinsic factors
 - B. intrinsic factors
 - C. nutritional factors
 - D. processing factors
 - E. both B and C
14. What is the major source of staphylococcal infection?
- A. excreta of human
 - B. excreta of animals
 - C. unwashed hands
 - D. the nose of infected personnel
 - E. vegetables that have soil contamination
15. What microorganism is likely to spoil plastic wrapped hot bread?
- A. molds
 - B. bacteria
 - C. yeasts
 - D. protozoa
 - E. virus
16. 'UHT' cartoned milk if not stored in the refrigerator for more than a day, it will;
- A. remain fresh
 - B. spoil
 - C. ferment
 - D. B and C
 - E. none of the above
17. Pasteurized bottled milk if not stored in the refrigerator for more than a day, it will;
- A. remain fresh
 - B. spoil
 - C. ferment
 - D. B and C
 - E. none of the above

18. Which kind of agents is used to loosen and soften burnt food residues on ovens;
- A. emulsifer
 - B. sequestering agent
 - C. amphoteric compounds
 - D. abrasive compounds
 - E. enzymes to digest the residues
- 19.. Mycotoxins in food are produced at which phase of the growth curve?
- A. lag phase
 - B. log phase.
 - C. stationary phase.
 - D. death phase.
 - E. both B and C.
20. Which one of the following statements best describes the effect that food poisoning bacteria usually have upon food?
- A. It appears normal but it tastes horrible
 - B. It appears stale and dry and it has an 'off' taste.
 - C. It tastes, smells and looks normal
 - D. It appears and tastes normal but it has an unpleasant smell
 - E. Both C and D
21. Which of the following statements is true?
- A All bacteria are harmful.
 - B Some bacteria are harmful.
 - C. No bacteria are harmful.
 - D. Only bacterial spores are harmful.
 - E. Only toxin producing microorganisms are harmful.
22. Which of the following pairs of people are at special risk from food poisoning?
- A. Nurses and children
 - B. Children and old people
 - C. Old people and chefs
 - D. Chefs and nurses
 - E. All of the above
23. The main reason why hair must be covered is that:
- A. long hair gets in your eyes
 - B. hats are part of the kitchen uniform
 - C. hats look smarter
 - D. hats keep your hair clean
 - E. hair and dandruff can fall into food

24. Which one of the following statements explains what is meant by the term 'clean as you go'?
- A. Clean down before you leave for home.
 - B. Clean up every hour throughout the day.
 - C. Clean thoroughly every time you see dirt
 - D. Clean up before moving on to the next task
 - E. Clean before going home
25. Which one of these hygienic procedures should not be recommended as a means of preventing foodborne diseases?
- A. report boils, diarrhea, or sore throat to supervisor
 - B. routine medical examinations of food handlers
 - C. wash hands after handling raw meat and poultry
 - D. when working, avoid picking nose and mouth and do not smoke
 - E. whenever possible, use clean utensils for handling ready to eat foods..
- 25 Marks]**

Question 2

Define the following terms commonly used in relation to food safety;

- a) D-value [3]
 - b) Z-value [3]
 - c) Endotoxins [2]
 - d) Haloduric microbes [2]
 - e) HACCP (write in full) [2]
 - f) Botulinum cook [3]
 - g) Mycotoxin [2]
 - h) Freezer burn [2]
 - i) Water hardness [3]
 - j) Synergistic chemicals [3]
- [25 Marks]**

Question 3

- a) What is the main purpose of a canopy and extractor fan over the cooking area in the restaurant kitchens? [5]
- b) Explain the conditions that are necessary for the transmission of *Staphylococcus aureus* into food? [6]
- c) List five duties of an Environmental Health Officer (EHO) in food hygiene. [5]
- d) Using appropriate examples, explain how these factors influence the cleaning of equipment and utensils in food establishments.
 - i) Water hardness [3]
 - ii) Food residues [3]
 - iii) pH [3]

[25 Marks]

Question 4

- a) Detergents and disinfectant agents play a very important role in the quest to control food borne infection in food outlets. Explain this statement. [5]
 - b) Using the five keys to safer food recommended by the World Health Organization (WHO) how would you prevent foodborne diseases in food establishments[15]
 - c) Cleaning programs should be designed to suit the needs or requirements of a particular product and process. Why is that so? [5]
- [25 Marks]**

Question 5

- a) The design and layout of food premises must follow a “linear flow” so that cross-contamination in food establishment is either reduced or eliminated. Explain this statement. [15]
 - b) Discuss the benefits and shortcomings of chlorine based compounds as a sanitizer in food establishments. [10]
- [25 Marks]**