

UNIVERSITY OF SWAZILAND
Faculty of Health Sciences
DIPLOMA IN ENVIRONMENTAL HEALTH
FINAL EXAMINATION PAPER 2010.

TITLE OF PAPER : FOOD HYGIENE

COURSE CODE : EHS 102

DURATION : 2 HOURS

MARKS : 100

INSTRUCTIONS :

- ANSWER **ONLY FOUR** QUESTIONS
- QUESTION **ONE IS COMPULSORY**
- EACH QUESTION CARRIES 25 MARKS.
- WRITE NEATLY
- 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 most best answer)

1. Cooked foods not immediately served;
 - A. Offer no hazard in the transmission of foodborne diseases
 - B. If properly protected, need no refrigeration
 - C. Should be cooled quickly and stored at 5 ° C until served
 - D. Can be kept indefinitely at normal refrigeration temperature
 - E. B and C are true

2. Food handlers with boils or infected wounds should;
 - A. Be assigned jobs where there is little likelihood of transmission of infection
 - B. Be allowed to work with no restrictions
 - C. Be allowed to work with no restrictions if the wound is bandaged
 - D. Be discharged from work
 - E. Be given a leave until wound heals

3. 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

4. Food containing foodborne disease bacteria are:
 - A. not necessarily decomposed in appearance
 - B. detectable by smell
 - C. detectable by taste
 - D. detectable by smell & taste
 - E. detectable by smell, taste & appearance

5. Bacterial contaminants:
 - A. Multiply rapidly in dehydrated foods
 - B. Resume multiplication when dehydrated foods are reconstituted.
 - C. Do not grow well in reconstituted dehydrated foods.
 - D. Are eliminated in foods during the dehydration process.
 - E. Are not found in dehydrated foods.

6. A soap is anionic wetting agent and a good detergents but it will not;
 - A. wet surfaces
 - B. emulsify fats, waxes and pigments
 - C. destroy bacteria
 - D. penetrate crevices and woven fabrics
 - E. do any of the above

7. Psychrophiles are microorganisms which;
 - A. grow in room temperature
 - B. grow in hot temperature
 - C. grow in cold temperature
 - D. inhibited in cold temperature
 - E. grow in the freezer

8. Mesophiles are microorganisms which;
 - A. grow in room temperature
 - B. grow in hot temperature
 - C. grow in cold temperature
 - D. inhibited in cold temperature
 - E. grow in the freezer

9. Thermophiles are microbes that;
 - A. grow in room temperature
 - B. grow in hot temperature
 - C. grow in cold temperature
 - D. inhibited in cold temperature
 - E. grow in the freezer

10. Floors of food preparation areas;
 - A. May be covered with ceramic tiles
 - B. Must be carpeted
 - C. May be covered with polyvinylchloride (PVC) tiles
 - D. May be covered with glazed tiles
 - E. May be painted white or off white color

11. Studies of foodborne disease outbreaks have indicated the need for industry and health agencies to give more attention to;
 - A. Promoting more stringent regulations.
 - B. Promoting a "within industry" self-inspection program.
 - C. Determining the cause of foodborne outbreaks
 - D. Protecting foods which support rapid growth of disease-producing organisms
 - E. None of the above

12. Which of the following items should receive the most attention in a well-operated food sanitation program?
 - A. Food service equipment
 - B. Food protection
 - C. Personnel health
 - D. Utensil washing and sanitizing
 - E. Premises sanitation

13. While the sanitarian's personality and public relations ability are equally as important as his or her technical knowledge;
 - A. It is essential that personnel have educational and experience backgrounds which qualify them to engage in technical and professional activities.
 - B. It is imperative that each sanitarian possess at least a Bachelor of Science degree in Sanitary Science
 - C. Nothing takes the place of experience
 - D. It is imperative that each sanitarian have a Master's degree
 - E. None of the above is correct

14. No food sanitation activity is complete without;
 - A. A complete and functioning food laboratory within the health department building
 - B. Access to a properly equipped and functioning laboratory
 - C. A combined public health industry inspection procedure
 - D. An industry self-inspection program
 - E. A proper standard on food sanitation

15. The effective measure which a food service manager can apply in the control of bacterial multiplication in the storage, preparation and service of food is:
 - A. Time-temperature control
 - B. pH control
 - C. Inventory control
 - D. Dishwashing control
 - E. Temperature control

16. All of the following are low-temperature coolants which can be applied to foods except;
 - A. Ice
 - B. Room temperature air
 - C. Cold water
 - D. Cold air
 - E. Ambient temperature

17. The time required to destroy 90% of a population of microorganisms is known as the:
 - A. C value
 - B. D value
 - C. F value
 - D. L value
 - E. Z value

18. Which of the following foods have the lowest pH?
- A. Fermented thin porridge
 - B. Oranges
 - C. Tomatoes
 - D. Cheese
 - E. Sausages
19. Which of the following symptoms is not generally included in those of chemical food poisoning?
- A. Nausea
 - B. Vomiting
 - C. Fever
 - D. Abdominal pain
 - E. All of the above
20. A buildup of large populations of insects in food establishments is most effectively prevented by;
- A. Effective basic sanitation
 - B. Periodic spraying
 - C. Stock rotation
 - D. Maintaining poison bait
 - E. Control of vegetation and debris next to buildings
21. Separate equipment (grinders, choppers, slicers, etc.) for raw and cooked items is not necessary when the equipment is cleaned and sanitized:
- A. After each use
 - B. After use on raw items
 - C. As needed to avoid buildup
 - D. Daily
 - E. Every hour
22. Proper pasteurization of milk will;
- A. Cause deterioration of physical and culinary quality of milk
 - B. Produce a sterile product
 - C. Not kill psychrophilic yeasts and molds
 - D. Kill all pathogens
 - E. All of the above
23. Which of the following statements about the safety of dry milk is true?
- A. Drying can be relied on to destroy all bacteria
 - B. Reconstituted dry milk is classified as highly perishable food
 - C. Recontamination of dry milk offers no hazard since the medium is dry and retards growth of bacteria
 - D. Drying temperatures eliminate dangers from Staphylococcal enterotoxins
 - E. A and B

24. Which one of these agents is solvent for cleaning agents and a carrier for the removal of soil?
- alcohol
 - inorganic acids
 - mild alkalis
 - sodium tripolyphosphate
 - water
25. Which one of these hygienic procedures should not be recommended as a means of preventing foodborne diseases?
- Report boils, diarrhea, or sore throat to supervisor
 - Routine medical examination of workers
 - Wash hands after handling raw meat and poultry
 - When working, avoid fingering nose and mouth and do not smoke
 - Whenever possible, use clean utensils instead of hands for handling foods.

[25 Marks]

Question 2

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

- | | | |
|----|---------------------------------|-----|
| a) | D-value | [3] |
| b) | HACCP (write in full) | [2] |
| c) | Z-value | [3] |
| d) | Danger Zone of Bacterial Growth | [2] |
| e) | CFU (write in full) | [2] |
| f) | Haloduric | [2] |
| g) | Cryogenic freezing | [2] |
| h) | Fomites | [3] |
| i) | Ambient temperature | [1] |
| j) | High risk foods | [2] |
| k) | Lag phase | [3] |

[25 Marks]

Question 3

- In food processing plants, the main reason for cleaning both processing equipment and processing areas is to remove food debris and other soils which may contain food poisoning or spoilage microbes and thus contaminating the food. Explain therefore the basic stages and sequence of wet cleaning and disinfection in food establishment's equipment and utensils. [10]
- Cleaning programs should be designed to suit the needs of a particular product and process. Explain this statement. [10]
- What are the advantages and shortcomings of cleaning in place method (CIP)? [5]

[25 Marks]

Question 4

- a). Quaternary ammonium compounds can not be depended on to sterilize the items to which they are applied, why? [10]
- b). Discuss the benefits and shortcomings of Iodine based disinfectants. [10]
- c). Describe the function and limitations of anionic wetting agents, using appropriate examples. [5]

[25 Marks]

Question 5

Food hygiene in industries, markets and restaurants is determined not only by sanitary practices and technical procedures, but by the construction and layout of physical facilities, design of equipment and the types of supporting services. Explain this statement.

[25 Marks]