

BINDURA UNIVERSITY OF SCIENCE EDUCATION

DEPARTMENT OF ENVIRONMENTAL SCIENCE

BACHELOR OF SCIENCE HONOURS DEGREE IN SAFETY, HEALTH AND ENVIRONMENTAL MANAGEMENT

ESM 416

**BSc PART IV EXAMINATION
Food Safety, Hygiene and Management**

2 HOURS

INSTRUCTIONS

Answer all questions from SECTION A and any **two** from SECTION B.

SECTION A (COMPULSORY)

There are 30 multiple choice questions. Each questions carries 1 mark. There are four alternative responses for each question. Choose the best response.

1. Which of the following statements about food is correct? Food...
A. may consist of non-edible material B. may not be raw or semi-processed
C. is a fundamental need but not a basic right D. is a pre-requisite to good health
2. Which of the following statements about foodstuffs is correct?
A. Food maybe organic, i.e. water, various mineral elements and vitamins
B. Food maybe inorganic, i.e. carbohydrate, proteins and fats
C. Organic components are sources of energy for growth, movement and work
D. Inorganic components facilitate physiological body functions e.g. tissue repair
3. Food can be contaminated by unhygienic ...
A. storage B. handling and preparation C. serving D. all of the above
4. Measures that may not directly contribute to food hygiene and safety include:
A. food control B. food inspection
C. enforcement of regulation D. decentralisation
5. Which of the falling is not an objective of food hygiene?
A. prevent food spoilage
B. promote the sale of food defective in value and quality.
C. protect food from adulteration
D. inform and educate people about keeping food safe
6. Food hygiene ...
A. refers to all stages of food production through storage, distribution consumption and waste management
B. describes the preparation, serving and consumption of food
C. refers to the preparation, consumption, collection and disposal of food waste
D. describes the prevention of microorganisms to contaminate food

7. Which of the following environmental factors influences the growth of microorganisms in food?
 A. available nutrients B. moisture C. temperature D. all of the above
8. The danger zone for the growth of microbes is:
 A. 37°C B. 5 - 63°C C. 20 - 37°C D. 25 - 37°C
9. Which of the following is not a correct principle for safe food preparation?
 A. Choose food not easily damaged by transportation, accidents or storage
 B. Cook foods thoroughly, especially meat
 C. Store raw and cooked foods together but in a refrigerator
 D. Eat cooked foods immediately after they are cooked
10. Poor hygiene practices include:
 A. making sure poor quality water used in food preparation is heated to boil
 B. keeping all kitchen surfaces and utensil clean
 C. protecting food from insects, rodents and other animals
 D. washing hands properly before handling it or eating
11. Which of the following contains key areas for employees to be fully trained and be aware of?
 A. Prohibited practices in a food room, protective clothing, and handwashing
 B. Importance of temperature control, handling and storage of food waste, and pest prevention and control
 C. Legal obligations of food handlers, record keeping and correct cleaning methods
 D. All of the above.
12. *E. coli* generally causes:
 A. botulism B. enteric fever typhoid C. gastroenteritis D. salmonellosis
13. Match the type of food hazard with its correct description.

| Hazard type | Description |
|----------------------|---|
| A. Biological | Other objects or foreign bodies getting into food |
| B. Chemical | Pathogens being introduced into food |
| C. Physical | Non-organic contamination of foods with toxic or harmful substances |
| D. None of the above | |
14. Difficulty in digesting certain foods may be best described as:
 A. food allergy B. food intolerance C. food intoxication D. all of the above
15. Food that is contaminated with biological, chemical or physical agents, and if eaten will cause ill health is best described as:
 A. hazardous B. wholesome C. non-perishable D. perishable
16. Foodborne diseases result from eating foods...
 A. not well cooked B. containing toxic substances
 C. preserved for a long time D. served in the open.

17. Which of the following environmental conditions cannot be modified to influence microbial growth in food preservation?
 A. pH B. temperature C. water D. none of the above
18. Which of the following is not true about foodborne illnesses?
 A. They are usually infectious or toxic in nature
 B. They are caused by microbes or chemical substances
 C. Chemical contamination can lead to acute poisoning or long-term diseases
 D. None of the above
19. Which of the following is not true about causative agents of foodborne illnesses?
 A. *Salmonella*, *Campylobacter* and enterohaemorrhagic *Escherichia coli* are most common foodborne pathogens
 B. Some parasites such as fish-borne trematodes are only transmitted through food
 C. Bovine spongiform encephalopathy (BSE or "mad cow disease") is a prion disease in cattle associated with the variant Creutzfeldt-Jakob Disease (vCJD) in humans
 D. none of the above
20. Food control:
 A. regulates the food supply industry and enforces food laws (national, local)
 B. provides consumer protection and ensures that all foods are safe from production through processing to distribution/consumption
 C. ensures that foods conform to safety and quality requirements and are accurately and honestly labelled
 D. all of the above.
21. Which causative agent of foodborne illness is correctly matched to the disease symptoms?
- | Causative agent | Disease symptoms/effects |
|---------------------------|---|
| A. <i>Norovirus</i> | reproductive, developmental problems, damage to the immune system |
| B. <i>Listeria</i> | miscarriages in pregnant women, death of new-born babies |
| C. <i>Vibrio cholerae</i> | neurological and kidney damage, cancer |
| D. Dioxins | nausea, explosive vomiting, watery diarrhoea, abdominal pain |
22. Mycotoxins and aflatoxins are food contaminants from:
 A. Fungi B. Bacteria C. Virus D. Chemicals
23. Cross-contamination of food may not occur through:
 A. food to food transfer B. surface to surface transfer
 C. Food to surface transfer D. handwashing before handling food
24. The plant and facilities of a food preparation premise should be inspected for:
 A. design and layout B. cleaning and disinfection
 C. water supply and waste disposal D. all of the above

25. The code which ensures that products are processed under conditions of proper storage and sanitation is best described as:
- A. Good Hygiene Practices (GHP)
 - B. Good manufacturing Practices (GMP)
 - C. Hazard Analysis and Critical Control Points (HACCP)
 - D. Good Agricultural Practices (GAP)
26. Vermiculture is a disposal method mainly for:
- A. all types of solid waste
 - B. soiled cotton and outdated pesticides
 - C. shredded food waste
 - D. toilet waste, dung and plant waste
27. A cleaning substance which when used with water, loosens and remove dirt and hold it in suspension so that dirt is not re-deposited on the cleaned surface is a:
- A. detergent
 - B. disinfectant
 - C. deodorant
 - D. sanitiser
28. The sink method is a cleaning procedure for:
- A. crockery, cutlery, glassware and utensils
 - B. large equipment
 - C. dishes and utensils
 - D. all food contact surfaces
29. A chemical that is added to food as a preservative works by:
- A. retarding microbial growth
 - B. interfering with the cell membrane of microbes
 - C. interfering with the genetic or enzyme activity of the microbes
 - D. all of the above
30. Which of the following is the most effective means of preventing the transmission foodborne pathogens by food handlers?
- A. reporting illness
 - B. handwashing
 - C. clean clothing
 - D. all of the above

SECTION B

1. Design a HACCP system for a restaurant and critically evaluate each stage in the process. [20 Marks]
2. Discuss the sanitary requirements of a food premise. [20 Marks]
- 3 (a) Explain WHO principles of food safety. [10 Marks]
 (b) Discuss food labelling. [10 Marks]
4. Discuss the Zimbabwean institutional framework for food control. [20 Marks]

END OF PAPER