



**1<sup>ST</sup> SEM. 2006/2007**

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**UNIVERSITY OF SWAZILAND**

**FINAL EXAMINATION PAPER**

**PROGRAMME : BACHELOR OF SCIENCE IN HOME  
ECONOMICS EDUCATION AND  
HOME ECONOMICS YEAR V**

**COURSE CODE : FN 504**

**TITLE OF PAPER : FOOD SAFETY & PUBLIC HEALTH**

**TIME ALLOWED : TWO (2) HOURS**

**INSTRUCTIONS : ANSWER QUESTION ONE (1)  
AND ANY OTHER (2) QUESTIONS**

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GRANTED BY THE CHIEF INVIGILATOR**

**QUESTION 1**

An average person consumes about 75,000 meals and no wonder foodborne illnesses contribute a high percentage. Most of the foodborne illnesses that occur are preventable if food safety and quality standards are adhered.

- a. What is foodborne disease? [2]
- b. What do you understand by this term "food hygiene"? [3]
- c. Explain the possible routes of *Salmonella* species in the transmission of foodborne diseases (show appropriate examples). [12]
- d. Discuss the control strategies you would employ in the prevention of *Salmonella* foodborne illness. [8]
- e. Discuss the health implication and major foodborne risks associated with street vending of food? [10]
- f. How would you prevent *E. coli* 0157: H7 in food? [5]

[Total marks = 40]

**QUESTION 2**

- a. What types of foods are risks to botulism foodborne illness and why are such foods likely to be incriminated? [8]
- b. How is the toxin production for *Clostridium botulinum* and *Clostridium perfringens* different? [4]
- c. What are the human symptoms that are associated with botulism? [5]
- d. How would you control or prevent botulism in the above foods? [10]
- e. *Staphylococcus aureus* is discovered in milk and then the milk is fermented to sour milk. What health implications are there? [3]

[Total marks = 30]

**QUESTION 3**

- a. What types of foods are likely to be contaminated by *Staphylococcus aureus* and why is that so? [6]
- b. How would you control or prevent Staphylococcal foodborne diseases? [6]
- c. If an adult human being consumes many spores of *C. botulinum*, what will happen and why, and if the same number of spores are then consumed by an infant or a child less than one year, what happens and why? [6]
- d. Discuss the impact of foodborne diseases on the public health. [12]

[Total marks = 30]

**QUESTION 4**

- a. In high acidic foods, such as fruit juices, we do not expect to find bacteria but such foods will still undergo spoilage. Why is that so? [4]
- b. Many strains of gram positive bacteria will tolerate low and high temperature better than gram negative bacteria.
  - i. What is that so? [2]
  - ii. What risk do gram positive bacteria pose in foodborne illnesses, because of the above statement? [4]
- c. What human symptoms are indicative of E.coli 0157: H7? [6]
- d. Which foods are likely to transmit Listeria monocytogens and how? [5]
- e. Which two (2) strains of bacteria are likely to cause foodborne illness in sea foods and why? [4]
- f. Salmonella enteritidis infection is highly associated with egg consumption and how can this problem be controlled? [5]

**[Total marks = 30]**