



1ST SEM. 2007/2008

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UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

**PROGRAMME : BACHELOR OF SCIENCE IN
FOOD SCIENCE, NUTRITION AND
TECHNOLOGY YEAR IV**

COURSE CODE : FSNT 402

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

TIME ALLOWED : TWO (2) HOURS

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

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Question 1

a) Sixty people out of 200 who attended a local authority function on 11th November 2000 became ill with symptoms of stomach pains and nausea. The main symptom was vomiting. The buffet meal included ham quiche, sausage rolls, egg mayonnaise, risotto, ham and chicken sandwiches, chicken drumsticks, mixed sea food pizza, prawn and mushroom *vol-au-vents*, fruit trifle and fresh cream. The buffet had been prepared on Friday 10th November by local councilors and their wives in their homes and transported at 10.00am on the 11th November in unrefrigerated vehicles to the Civic Centre. The buffet was left unrefrigerated in a room until required for consumption at 19.30. The first person became ill at 21.00 hours and most people became ill between 21.00 and 23.00 hours. All of the people had eaten the risotto.

i. Suggest the possible pathogen, food vehicle, and causes of the outbreak.

[15 marks]

ii. Identify the hazards and controls that should be taken to prevent further outbreaks of this type.

[15 marks]

b) *E. coli* 0157 has caused several major outbreaks of food poisoning over the last 10 years.

i. State the three main sources of *E. coli* 0157.

[3 marks]

ii. Name 3 foods that have been associated with outbreaks of *E. coli* 0157.

[3 marks]

iii. List four distinct control measures which should be used to prevent an outbreak of *E. coli* 0157.

[4 marks]

[Total Marks = 40]

Question 2

a) List ten main contributory factors of food poisoning (symptoms of management failures).

[10 marks]

b) List the control measures that may be introduced to avoid an outbreak of *Salmonella* food poisoning.

[5 marks]

c) Describe the differences between food poisoning and foodborne diseases.

[5 marks]

- d) Explain why each of the following are effective methods of food preservation:
- i. Pasteurization [2 marks]
 - ii. Canning [2 marks]
 - iii. Dehydration [2 marks]
 - iv. Freezing [2 marks]
 - v. Fermentation [2 marks]

[Total Marks = 30]

Question 3

- a) The Faculty of Agriculture at Luyengo Campus has decided to implement a cook-chill system for preparing food in the refectory.
- i. Define the term 'cook-chill'. [2 marks]
 - ii. Define the term, 'Critical Control Point' with reference to a Food Safety Management Procedure. [2 marks]
 - iii. Give two examples of Critical Control Points that would be applicable to a 'cook-chill' process. [2 marks]
 - iv. Suggest four ways by which management could monitor the safe operation of the 'cook-chill' system. [4 marks]
- b) High-risk food may be described as ready-to-eat foods that require temperature control to prevent them causing food poisoning.
- i. Give four different examples of high-risk food. [4 marks]
 - ii. Briefly explain why high-risk foods must be kept under temperature control. [2 marks]
 - iii. State the recommended temperature range for the storage of hot and cold high-risk foods. [2 marks]
 - iv. Briefly, describe how high-risk food should be treated if it has been frozen and then allowed to defrost. [2 marks]

- c) You are to establish a new food business and need to produce a Food Safety Policy.
- i. Give 2 reasons why a food business should have such a policy.
[4 marks]
 - ii. In particular, you will look at the present standards applying to the premises, and the equipment. Give four standards that you would include in the policy regarding the premises or the equipment.
[4 marks]
 - iii. A Food Safety Policy can help demonstrate that your business has a defence of 'Due Diligence' should you be accused of having committed an offence under food laws. In simple terms, briefly explain what the defence of 'Due Diligence' means.
[2 marks]

[Total Marks = 30]

Question 4

- (a) Food poisoning often receives much media attention, but many people may not realize that they have food poisoning and as such it can go undetected.
- i. Describe with suitable examples, the range of common mistakes with food that often lead to outbreaks of food poisoning.
[10 marks]
 - ii. Outline the actions you would take immediately upon being told that a customer had suffered from food poisoning symptoms.
[15 marks]
 - iii. Explain the difference between enterotoxins and endotoxins.
[5 marks]

[Total Marks = 30]

END OF QUESTION PAPER