



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

DEGREE IN ENVIRONMENTAL HEALTH
FINAL EXAMINATION PAPER 2009

- TITLE OF PAPER** : FOOD MICROBIOLOGY II
- COURSE CODE** : EHS 504
- DURATION** : 2 HOURS
- MARKS** : 100
- INSTRUCTIONS** :
- : READ THE QUESTIONS & INSTRUCTIONS CAREFULLY
 - : ANSWER ANY **FOUR (4)** QUESTIONS
 - : EACH QUESTION CARRIES 25 MARKS.
 - : WRITE NEATLY & CLEARLY
 - : NO PAPER SHOULD BE BROUGHT INTO NOR OUT OF 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

- a. Pasteurized milk has not find a niche in the Swaziland market yet it is selling well in Europe and the USA. Why is that so? [5]
- b. What do you understand by probiotics in food? [5]
- c. A complaint has been filled by the Matsapha local authority that restaurant A is selling spoiled or rotten food to its customers. The restaurant is arguing that it is selling fresh food which is cooked every day and kept in a hot holding food displayer until served. The temperature of the hot holding displayer is maintained at 55⁰ C. Explain, where is the problem? [7]
- d. Street vended foods is referred to as a "time bomb for food borne illness" Why is that so? [8]

[25 Marks]

Question 2

Consumers require that food should be safe and of the right quality. The Swaziland government to achieve this, it requires a proper strategy on food control. Discuss the key elements that are required for a proper food control system in Swaziland.

[25 Marks]

Question 3

- a. Develop a HACCP plan for a food product of your choice, show all the necessary steps required. [20]
- b. Why is the HACCP system preferred over the final product testing? [5]

[25 Marks]

Question 4

National Governments have the responsibility to protect the health and welfare of their citizens. Carrying out this responsibility requires the development and implementation of food safety national programmes. This will ensure the safety and the quality of food products and the promotion and the development of trade in food products. After all the above is in place, the interest and the fairness of the honest food producer is protected.

- a. In reference to food quality, what does the 'ISO' 9000 family entails? [9]
- b. How are "GMPs" different from "HACCPs" [8]
- c. How does 'ISO' 22000 differ from 'HACCP' [8]

[25 Marks]

Question 5

- a. What is a quality audit as defined by 'ISO 10011'. [4]
- b. Why would a client require a quality audit? [5]
- c. During a quality audit, what is the responsibility of the auditee? [4]
- d. How is 'ISO 1400' associated with food producing industries? [4]
- e. Develop a recall system for a food industry. [8]

[25 Marks]