



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

DIPLOMA IN ENVIRONMENTAL HEALTH
FINAL EXAMINATION PAPER 2013

TITLE OF PAPER : INTRODUCTION TO FOOD MICROBIOLOGY
COURSE CODE : EHS 312
DURATION : 2 HOURS
MARKS : 100

INSTRUCTIONS : ANSWER ANY FOUR QUESTIONS
: 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 Best Answer)

Question 1

- a. Discuss food spoilage showing all the causes that are likely to result in food being rejected as unfit for human consumption. Your answer should show appropriate examples. [15]
 - b. Why is it important to perform routine food-outlets inspection by Environmental Health Officers (EHOs) in Swaziland? [10]
- [25 Marks]**

Question 2

- a. Environmental factors such as moisture and temperature will influence the population of microorganisms on and/or in food. Using appropriate examples explain this statement. [15]
- b. In the quest to prevent foodborne infections, the World Health Organization (WHO) has identified five keys to safer food. Identify and discuss these keys and show how they control foodborne infections. [10]

[25Marks]

Question 3

- a) "Food of animal origin are more frequently associated with foodborne disease outbreaks". Justify or explain this statement. [10]
- b) Discuss the factors that may contribute to outbreaks of foodborne diseases. [5]
- c) Meat burger has a high risk to foodborne illness. Why is that so? [4]
- d) Discuss the significance of psychrotrophic and thermophilic microorganisms in the processing and refrigerated storage of foods. [6]

[25 Marks]

Question 4

- a. Factory 'A' is canning garden peas and factory 'B' is canning pineapples. Which factory requires a botulinum cook and why? And why does the other factory not require a botulinum cook? [5]
- b. What type of food is likely to be spoiled by *Clostridium botulinum* and why? [4]
- c. How would you control botulism in food? [5]
- d. Explain the differences in bacterial toxins and mycotoxin on/or in food [6]
- e. With appropriate examples, explain food spoilage by molds. [5]

[25 Marks]

Question 5

- a) Why are salmonellae microorganisms a major cause of foodborne illness in Swaziland? [10]
- b) The Mbabane hospital out-patient department record book is showing a high number of staphylococcal infections. As an Environmental Health Officer (EHO) based in Mbabane, outline how you would investigate this problem and what measures you would employ to address the problem? [15]

[25 Marks]