



UNIVERSITY OF SWAZILAND
Faculty of Health Sciences

**BSc IN ENVIRONMENTAL HEALTH WITH FOOD
SANITATION AND TECHNOLOGY**

FINAL EXAMINATION PAPER 2012

TITLE OF PAPER : FOOD MICROBIOLOGY II

COURSE CODE : EHS 504

DURATION : 2 HOURS

MARKS : 100

INSTRUCTIONS : READ THE QUESTIONS & INSTRUCTIONS
CAREFULLY

: ANSWER QUESTION ONE (1) AND ANY OTHER
THREE (3) QUESTIONS

: EACH QUESTION CARRIES 25 MARKS.

: WRITE NEATLY & CLEARLY

:

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) Briefly outline what is Hazard Analysis Critical Control Points (HACCP)?
[3 Marks]
- (b) What are the main results that an effective HACCP can bring about in a food industry?
[3 Marks]
- (c) As a graduate in Food Sanitation & Technology from University of Swaziland (UNISWA), describe how you would go about establishing HACCP at a Poultry Industry (Swaziland Poultry Processing plc) in Swaziland.
[19 Marks]

Question 2

- (a) What are the Primary effects of CO₂ (> 10%) on microorganisms?
[20 Marks]
- (b) Give an account of the (> 10%) mode of action of CO₂ in cells of microorganisms.
[5 Marks]

Question 3

- (a) Some of the Food Standards that are used to ensure that Food Quality is maintained fall under ISO 9000 Series. Define and briefly outline the ISO 9000 series?
[10 Marks]
- (b) Outline Food Quality Factors.
[8 Marks]
- (c) Food safety generally refers to safe, hazard, and risk. Differentiate amongst Safe Food, Food Hazard, and Food Risk?
[7 Marks]

Question 4

- (a) Define disinfection as used in the food industry.
[3Marks]
- (b) Describe the three categories of disinfection.
[12 Marks]
- (c) Detergent action is by reduction of surface tension that in turn enables detergent solutions to penetrate dirt and grease. The dirt is sometimes referred to as soils. With aid of examples describe some types of soils?
[10 Marks]

Questions 5

- (a) Food Standards and Quality Assurance cover areas on how food industries are expected to adhere to local and international laws that cover broad range of specific food products. Briefly discuss what is Codex Alimentarius?
[10 Marks]
- (b) The content of Codex Alimentarius is composed of Volumes (1 – 14) or general requirements. Outline the Codex requirements for export of sugar.
[5 Marks]
- (c) Write short notes on any 5 volumes (other than the one covered under Question 5 b) under Codex Alimentarius that might be relevant to Swaziland.
[10 Marks]