



UNIVERSITY OF ESWATINI  
Faculty of Health Sciences  
Department of Environmental Health Science

**BSc IN ENVIRONMENTAL HEALTH SCIENCE  
FINAL EXAMINATION PAPER MAY 2019**

TITLE OF PAPER: FOOD SAFETY

COURSE CODE: EHS 324

DURATION: 2 HOURS

MARKS: 100

INSTRUCTIONS: READ THE QUESTIONS & INSTRUCTIONS CAREFULLY  
**ANSWER QUESTION ONE AND ANY OTHER THREE**  
**QUESTIONS**  
  
EACH QUESTION **CARRIES 25 MARKS**  
  
BEGIN EACH QUESTION ON A SEPARATE SHEET OF  
PAPER  
  
WRITE NEATLY AND CLEARLY

**DO NOT OPEN THIS QUESTION PAPER UNTIL PERMISSION IS GRANTED  
BY THE INVIGILATOR**

**QUESTION ONE**

- a) Why is bran and germ removed during the milling of white flour? (5 Marks)
- b) Why do people who want to lose weight prefer rye bread? (4 Marks)
- c) What are the **two** types of food sensitivity? Discuss the difference between these conditions. (8 Marks)
- d) How would you control psocids in cereals? (4 Marks)
- e) List **four** milk conditions caused by spoilage microorganisms. (4 Marks)

(25 Total Marks)

**QUESTION TWO**

- a) What is the difference between food safety and food hygiene? (5 Marks)
- b) List **six** spoilage conditions of bread and other confectionaries. (6 Marks)
- c) How is alcoholism associated with impotence in males? (5 Marks)
- d) During an inspection in a beverage processing plant, what would be your beverage safety concerns? (5 Marks)
- e) Briefly discuss **two** of the following egg problems. (4 Marks)
  - i) Moisture loss through the pores of shell by evaporation
  - ii) Thinning of albumen (more watery)
  - iii) Loss of carbon dioxide
  - iv) Contamination during the laying process

(25 Total Marks)

**QUESTION THREE**

- a) Why is carbon dioxide added in beverages? (5 Marks)
- b) Explain the difference between brown and white rice. (4 Marks)
- c) Define the term 'food poisoning' giving **two** examples of food poisoning symptoms and two examples of causative organisms. (6 Marks)
- d) Name the enzyme, in sprouting barley (malt), responsible for converting starch into sugar and eventually alcohol in the production of beers and distilled liquors. (2 Marks)
- e) Besides carbon dioxide, name **three** acids that are commonly used to enhance beverages flavors and also act as preservatives against microbial growth. (6 Marks)
- f) What is the common sugar used in soft drinks? (1 Mark)
- g) Which wheat variety is used for the manufacture of pasta and semolina? (1 Mark)

(25 Total Marks)

**QUESTION FOUR**

- a) What is hangover and what is its remedy? (4 Marks)
- b) Discuss the safety of milk during production under **two** of the following topics: (10 Marks)
  - i) Construction of parlour / Cowshed
  - ii) Health of the animals
  - iii) Animal cleanliness
  - iv) Environment sanitation
  - v) Hygiene of milking personnel
  - vi) Sanitary equipment/utensils
- c) Write short notes on polished rice? (4 Marks)
- d) How does the greenish black discoloration, in hard boiled eggs, develop and how is it prevented? (6 Marks)
- e) Name **one** common source that can spread microorganisms during milk production.

(1 Marks)  
(25 Total Marks)

**QUESTION FIVE**

- a) Briefly discuss the homogenization process of milk. (5 Marks)
- b) Which good egg practices would you implement during egg production? (5 Marks)
- c) List **five** diseases or conditions that may affect cereals in the field as a crop or during storage. (5 Marks)
- d) What are the effects of caffeine overdose in the body? (3 Marks)
- e) What is the name of the enzyme involved in curdling during the manufacture of cheese? (1 Mark)
- f) Select **two** of the following factors and explain how they affect the quality of eggs? (6 Marks)
  - i) Type of breed
  - ii) Drugs
  - iii) Infections
  - iv) Age
  - v) Environment

(25 Total Marks)