

EHM 410 MAIN EXAMINATION PAPER

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

BSc IN ENVIRONMENTAL HEALTH SCIENCE  
MAIN EXAMINATION  
**PAPER**

TITLE OF PAPER: FOOD SAFETY & INSPECTION  
COURSE CODE: EHM 410  
DURATION: 2 HOURS  
MARKS: 100  
INSTRUCTIONS: READ THE QUESTIONS & INSTRUCTIONS CAREFULLY  
ANSWER **ANY FOUR** 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

1. Describe the four possible microbiological causes of spoilage in canned food. [10 Marks]
2. During an inspection of a delicatessen department at the SPAR Supermarket, around 4pm, you identify ready-to-eat food items (sandwiches) displayed on a table. On further observation you note the following:
  - Temperature of potentially hazardous food is 25°C
  - Preparation time is 7am
  - The ready-to-eat food items are being purchased by customers

What action would you take as an authorized Officer to ensure compliance? Use any "On-the-spot decision making tool to help you interpret and apply the legislation.

[15 Marks]

[25 Total Marks]

### QUESTION TWO

1. Why is it necessary to conduct inspections of food and food establishments? [3 Marks]
2. What are the benefits of adding carbon dioxide in beverages? [6 Marks]
3. Explain the difference between brown and white rice. [4 Marks]
4. Why do people who want to lose weight prefer rye bread? [3 Marks]
5. Describe the following conditions of spoiled cans: [6 Marks]
  - i) Flipper
  - ii) Springer
  - iii) Hard swell
6. Which side of the can is known as the top of the can in canned food products? [1 Marks]
7. What is a health claim? [2 Marks]

[25 Total Marks]

### QUESTION THREE

1. Describe good egg practices which should be implemented during egg production? [5 Marks]
2. What are the objectives of risk-based food inspection? [4 Marks]
3. What is a high-risk food establishment/business? [4 Marks]
4. Discuss homofermentative and heterofermentative LAB in relation to milk fermentation. [5 Marks]
5. What causes the greenish black discoloration in hard boiled eggs and how can it be prevented? [4 Marks]
6. What are the effects of caffeine overdose in the body? [3 Marks]

[25 Total Marks]

### QUESTION FOUR

1. You visit a local spice wholesaler who uses a concrete mixer to mix bulk curry mixes. The concrete mixer was purchased from a hardware store many years ago and was painted red. However, the paint is flaking off into the food and the machine drips oil into the barrel. As an inspector, discuss the steps you would take to ensure compliance with the food legislation? Use any "On-the-spot" decision making tool to help you interpret and apply the legislation. [8 Marks]
2. How does 'soft' rot develop on fruits and vegetables? [9 Marks]
3. Briefly discuss the following terms relating to non-microbiological spoilage of canned food products. [8 Marks]
  - i) Hydrogen swell
  - ii) Lacquer stripping

[25 Total Marks]

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**QUESTION FIVE**

1. Cheese can be divided into many types. What are the conditions that determine the type of cheese? [5 Marks]
  2. What makes bad eggs float in water? [6 Marks]
  3. Briefly discuss the homogenization process of milk. [5 Marks]
  4. How is alcoholism associated with impotence in males? [5 Marks]
  5. How would you control psocids in cereals? [4 Marks]
- [25 Total Marks]**