



# **MURANG'A UNIVERSITY OF TECHNOLOGY**

## **SCHOOL OF PURE AND APPLIED SCIENCES**

### **DEPARTMENT OF APPLIED SCIENCES**

#### **UNIVERSITY ORDINARY EXAMINATION**

**2017/2018 ACADEMIC YEAR**

**SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE DIPLOMA IN  
FOOD SCIENCE**

**DFT 060 – SANITATION AND WASTE CONTROL AND MANAGEMENT**

**DURATION: 2 HOURS**

**DATE: 13<sup>TH</sup> DECEMBER, 2017**

**TIME: 2.00 – 4.00 P.M.**

#### **Instructions to Candidates:**

1. Answer **Question 1** and **Any Other Two** questions.
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

## SECTION ONE - COMPULSORY

### QUESTION ONE

- (a) State four types of water (4 marks)
- (b) Give four reasons why water should be treated (8 marks)
- (c) Explain four properties that a floor in food industry should possess (8 marks)
- (d) Give three areas where lighting levels should be enhanced in food industry giving reasons (6 marks)
- (e) Give two reasons why exterior surrounding of food processing industry is important (4 marks)
- (f) Give four ways in which food processing waste can be put into good use (4 marks)

## SECTION TWO – ANSWER ANY TWO QUESTIONS

### QUESTION TWO

- (a) Why is waste water from industries be pretreated before discharged to municipal sewer system? (2 marks)
- (b) Describe food processing industry waste water treatment process (10 marks)
- (c) State three methods of softening water (3 marks)
- (d) What is the difference between a sanitizer and a disinfectant (4 marks)
- (e) Why is the choice of detergent not very significant in food industry? (1 mark)

### QUESTION THREE

- (a) Name any five active ingredients that are allowed in sanitizers (5 marks)
- (b) Name four types of sanitizers (4 marks)
- (c) Name three methods of water desalinization and identify one which practical in food industry giving reasons (4 marks)
- (d) Explain how physical separation between raw and finished products can be achieved in food industry (7 marks)

### QUESTION FOUR

- (a) When installing handwashing sinks in a food industry, what would you consider giving reasons (6 marks)
- (b) Explain how demineralization process of water treatment works (8 marks)

- (c) Give two advantages and two disadvantages of demineralization process (4 marks)
- (d) Before treating water, it is first stored (allowed to stand), why? (2 marks)

**QUESTION FIVE**

- (a) State five disadvantages of zeolite process of water purification (10 marks)
- (b) Explain why rain water is not safe for food processing before treatment (5 marks)
- (c) Which ions are responsible for hardness of water (2 marks)
- (d) Name three salts that cause permanent water hardness (3 marks)