



# THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A constituent of JKUAT)

Faculty of Applied and Health Sciences

DEPARTMENT OF PURE AND APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF  
BACHELOR OF SCIENCE IN FOOD TECHNOLOGY & QUALITY ASSURANCE

## AFS 4203: FOOD PLANT HYGIENE AND ENVIRONMENTAL MANAGEMENT

SPECIAL/SUPPLEMENTARY EXAMINATION

FEBRUARY 2013 SERIES

2 HOURS

Instructions to candidates:

This paper consist of **FIVE** questions

Answer question **ONE** (compulsory) and any other **TWO** questions

### Question ONE

- a) Define 'Biochemical oxygen Demand'. **(2marks)**
- b) State the properties of stainless steel as a material of construction of food contact surfaces. **(2marks)**
- c) State the properties that are desired in a chemical disinfectant for use in of food plant. **(2marks)**
- d) Name **TWO** methods by which chemical disinfectants are thought to will micro-organisms **(2marks)**
- e) Distinguish between the following terms used in food plant hygiene
  - (i) Disinfection **(2marks)**
  - (ii) Sterilization **(2marks)**
- f) State **TWO** important hygienic requirements in selecting a site for a food plant. **(4marks)**
- g) Sketch the main reasons for creating a top level sanitary design. **(5marks)**
- h) Outline the effects of hard water in food processing **(4marks)**

## **Question TWO**

Outline how the following barriers can be improved to minimize contamination in a food processing plant:-

- i) Food plant site **(10marks)**
- ii) Factory building **(10marks)**

## **Question THREE**

Describe the removal of suspended mater in water by;

- i) Sedimentation **(10marks)**
- ii) Coagulation and flocculation **(10marks)**

## **Question FOUR**

- a) State the properties of a detergent that make it useful as a cleaning parameter **(5marks)**
- b) Describe the principle of operation of a trickling filter used for aerobic treatment of liquid waste from a food plant **(15marks)**

## **Question FIVE**

Describe the disinfection of water by chlorine and chlorine derivatives **(20marks)**