



# Technical University of Mombasa

Faculty of Applied and Health Sciences

**DEPARTMENT OF PURE AND APPLIED SCIENCES**  
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF  
SCIENCE IN FOOD TECHNOLOGY AND QUALITY ASSURANCE

**BSFQ 12S**

**AFS 4304: FOOD CHEMISTRY II**

SPECIAL/SUPPLEMENTARY EXAMINATION

OCTOBER 2013 SERIES

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2 HOURS

Instructions to candidates:

This paper consist of **FIVE** questions

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

## Question ONE

- a) Define the following terms
- |       |                  |         |
|-------|------------------|---------|
| (i)   | Colloids         | (1mark) |
| (ii)  | Disperse phase   | (1mark) |
| (iii) | Emulsion         | (1mark) |
| (iv)  | Ostwald ripening | (1mark) |
| (v)   | Humectants       | (1mark) |
- b) (i) Name TWO examples of w/o emulsions (2marks)

(ii) Use a diagram to explain how emulsifying agent stabilizes an emulsion

**(3marks)**

(iii) By use of examples discuss artificial food colors. **(6marks)**

c) Explain what you understand by Gaseous packaging agents and give examples.

**(4marks)**

d) (i) Describe the function of Alginates as a food colloid.

(ii) Write the meaning of the following abbreviation; MC and HPMC **(2marks)**

e) Discuss the sources of enzymes used in food applications. **(6marks)**

### **Question TWO**

a) Discuss with examples incidental constituents in food **(10marks)**

b) Define the following terms with respect to foam stability

(i) Drainage **(1mark)**

(ii) Coarsening **(1mark)**

(iii) Anti forms **(1mark)**

c) Use a clearly labelled diagram to illustrate physical stability mechanisms of an emulsion. **(7marks)**

### **Question THREE**

a) Explain the concept of emulsion inversions using butter as an example. **(10marks)**

b) Name TEN enzymes and state their function in food processing **(10marks)**

### **Question FOUR**

Classify food additives according to their function and give examples **(20marks)**

### **Question FIVE**

a) Describe the objectives for coloring food. **(6marks)**

b) Explain the sources of Natural food colors with relevant examples **(14marks)**