



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 & QUALITY ASSURANCE TECHNOLOGY

BSFQ Y3 S2

AES 4310: EDIBLE FATS AND OILS TECHNOLOGY

SEMESTER EXAMINATION

DECEMBER 2013 SERIES

2 HOURS

Instructions to candidates:

This paper consist of **FIVE** questions

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

QUESTION ONE

- Explain why the demand for fats and oils has been soaring over the years **(2marks)**
- State **TWO** reasons for genetic modification of oil seeds **(4marks)**
- State the characteristics of fish oil that distinguish it from vegetable oil and other animal fats **(4marks)**
- State the characteristics of cocoa butter with regard to triacylglyceride composition **(5marks)**
- The range of use of palm oil is extended through fractionation. Name the common fractions and their uses **(3marks)**
- Products with soya bean oil usually have a short shelf life due to high unolenic acid content. Explain how this difficulty can be overcome **(4marks)**
- Distinguish between chemical and physical refining of edible oils **(2marks)**
- Discuss the biological modification of oil. **(6marks)**

QUESTION TWO

- a) Describe the following types of hydrogenation in modification of oils
- (i) Very light hydrogenation **(4marks)**
 - (ii) Partial hydrogenation **(4marks)**
- b) Discuss the process of deodorization in oil refining **(12marks)**

QUESTION THREE

- a) Explain why olive oil has a high reputation as a healthy oil **(10marks)**
- b) Discuss the blending of fats and oils as a method of modification **(10marks)**

QUESTION FOUR

Discuss the determination of iodine value in analysis of fats and oils **(20marks)**

QUESTION FIVE

- a) Cocoa butter carries a premium price-cheaper fats with similar physical properties have therefore been produced. Name any TWO of these sources **(2marks)**
- b) Describe the properties of Lauric oils **(6marks)**
- c) State the applications of Lauric oils **(4marks)**
- d) State the meaning of winterization in processing of fats and oils **(8marks)**