TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY

ABT 4309: FEMENTATION TECHNOLOGY II

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2HOURS

DATE:11May2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

(a) Differentiate between:

(i) Maceration and Vinification **(4marks)**

(ii) Port and Sherry wines **(2marks)**

(iii) Briefly describe malting of barley **(3marks)**

(b) (i) Describe TWO types of food fermentations **(2marks)**

(ii) Explain THREE effects of fermentation on food products **(3marks)**

(c) (i) Outline the stages of amino acid production **(3marks)**

(ii) State TWO advantages of producing amino acids through fermentation **(2marks)**

(d) (i) Differentiate between submerged and solid-state fermentation of enzymes **(2marks)**

(ii) Give THREE applications of enzymes in Fermentation Technology **(3marks)**

(e) (i) Define vinegar and briefly explain how it's produced **(3marks)**

(ii) State THREE advantages of Bioethanol over petrol **(3marks)**

Question TWO

Outline the manufacture of:

(a) Cheddar Cheese **(10marks)**

(b) Fermented Cucumbers (pickles) **(10marks)**

Question THREE

Describe the manufacture of vodka under the following subheadings:

(a) Raw materials **(2marks)**

(b) Mash preparation and fermentation **(6marks)**

(c) Distillation and rectification **(6marks)**

(d) Filtration and purification **(3marks)**

(e) Dilution and bottling **(3marks)**

Question FOUR

(a) Discuss the discovery and history of antibiotics **(10marks)**

(b) Explain the production antibiotics by fermentation **(10marks)**

Question FIVE

(a) Discuss Single Cell Protein (SCP) and its role in Global Food Security **(10marks)**

(b) Outline the manufacture of Single Cell Protein **(10marks)**