



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 4306: ALCOHOLIC BEVERAGE TECHNOLOGY

SPECIAL/SUPPLEMENTARY EXAMINATION

OCTOBER 2013 SERIES

2 HOURS

Instructions to candidates:

This paper consist of **FIVE** questions

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

Question ONE

- a) (i) Define fermentation (1mark)
- (ii) State TWO advantages of using fermentation over chemical synthesis (2marks)
- b) (i) Define
- Fed-batch fermentation (2marks)
 - Continuous fermentation (2marks)
- (ii) Outline the steps in culturing microorganisms (6marks)
- c) (i) Explain FOUR functions of hops in beer (4marks)

- (ii) Explain the purpose of boiling /brewing hops and wort together **(3marks)**
- d) Define:
- (i) Proof **(1mark)**
 - (ii) Whisky **(1mark)**
 - (iii) Light beer **(1mark)**
 - (iv) Gin **(1mark)**
- e) Differentiate:
- (i) Maceration and vinyfication **(4marks)**
 - (ii) Port and sherry wines **(2marks)**

Question TWO

Discuss FOUR parameter that effect a fermentation process **(20marks)**

Question THREE

Explain the process of making grape wine under the following:

- a) Harvesting and destemming grapes **(4marks)**
- b) Crushing and primary fermentation **(8marks)**
- c) Cold stabilization , preservation , secondary fermentation and bulk aging **(4marks)**
- d) Blending , fining, filtration & bottling **(4marks)**

Question FOUR

Describe the manufacture of acetic acid (Vinegar) **(20marks)**

Question FIVE

Outline the manufacture of Vodka under the following :

- 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)