



# Technical University of Mombasa

Faculty of Applied and Health Sciences

## DEPARTMENT OF PURE AND APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF  
TECHNOLOGY IN APPLIED CHEMISTRY (ANALYTICAL OPTION)  
BTAC 11M

## ACH 4308: FORENSIC ANALYSIS

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

- a) (i) Describe different type of witnesses in court. **(5marks)**
- (ii) Explain the scope of legal medicine **(5marks)**
- b) Under what circumstances a Doctor would be summoned in courts to make a medical report **(10marks)**
- c) (i) Draw and label a sketch of a dark field microscope **(4marks)**
- (ii) Classify different minerals based on chemical criteria **(6marks)**

### QUESTION TWO

- a) Explain in detail each of the following:

- (i) Specific gravity (4marks)
- (ii) Density (3marks)
- (iii) Packing index (5marks)

b) The velocity of light in air is  $300,000\text{Km}\cdot\text{sec}^{-1}$ , velocity of light in a substance is  $200,000\text{Km}\cdot\text{Sec}^{-1}$ . Calculate the refractive index of the substance (8marks)

### QUESTION THREE

- a) Discuss reflection and refractions of light rays (10marks)
- b) Discuss Brain –Stem-Death (10marks)

### QUESTION FOUR

- a) Discuss tests governing organ transplantation (8marks)
- b) Explain the following:-
  - (i) Putrefaction (4marks)
  - (ii) Adipocere (4marks)
  - (iii) Mummification (4marks)

### QUESTION FIVE

- a) Explain Rigo Martis (5marks)
- b) Under what circumstance leading to Rigo Mortis (15marks)