



# TECHNICAL UNIVERSITY OF MOMBASA

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Faculty of applied and health sciences

DEPARTMENT OF PURE AND APPLIED SCIENCES

## UNIVERSITY EXAMINATION FOR:

DIPLOMA IN ANALYTICAL CHEMISTRY (DAC 17S)

DIPLOMA IN SCIENCE LABORATORY TECHNOLOGY (DSL T 17S)

ACH 2103 LABORATORY PRACTICE-1

SPECIAL/SUPPLEMENTARY EXAMINATION

**SERIES:SEPTEMBER 2018**

**TIME:2HOURS**

**DATE: 2017**

### Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of FIVE questions.

Answer Question ONE (compulsory) and any other TWO Questions.

**Do not write on the question paper.**

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### Question ONE

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|---|---------|
| a)(i)State the Advantages of Stainless steel furniture in laboratory      | 2 marks |
| (ii)State the purpose of analytical laboratory                            | 2 marks |
| b) (i)State precautions to be observed when using liquefied gas cylinders | 4 marks |
| c) (i)List TWO Advantages of mechanical ventilation                       | 2 marks |
| (ii) State TWO reasons for storing chemicals away from sunlight and heat. | 2 marks |
| d) (i)List impurities which are not removed by distillation               | 2 marks |
| (ii)Explain the technique for removing hand gloves                        | 2 marks |
| e) (i) State the importance of secondary containment                      | 2 marks |
| (ii)Name impurities removed by stills                                     | 2 marks |
| f) (i)List TWO clearing agents used in the histology                      | 2 marks |
| (ii) Name materials used for flooring in the laboratory                   | 2 marks |
| g) (i) Explain the disposal of biohazardous waste in the laboratory       | 2 marks |
| (ii) State TWO advantages of formalin fixative                            | 2 marks |
| h) Explain the meaning of differential media                              | 2 marks |

**QUESTION TWO**

- (a) Explain the preparation of chemical solution 7 marks
- (b) Discuss safety procedures to observe in the laboratory when dealing with glassware 8 marks

**QUESTION THREE**

- (a) Describe the working principle of a Galvanometer 7 marks
- (b) Outline the procedure for drying of wet glassware

**QUESTION FOUR**

- (a) Explain the operation of Ion Exchange Resin 7 marks
- (b) Discuss the role of different types of media 8 marks

**QUESTION FIVE**

- (a) Explain guidelines of safety awareness in the laboratory 8 marks
- (b) Explain the procedure for hematoxylin and Eosin stain 7 marks