



TECHNICAL UNIVERSITY OF MOMBASA
FACULTY OF APPLIED AND HEALTH SCIENCES
DEPARTMENT OF PURE & APPLIED SCIENCES
UNIVERSITY EXAMINATION FOR:
DIPLOMA IN ENVIRONMENTAL SCIENCES

ACH 2108 : INTRODUCTION TO LABORATORY METHODS PAPER 2
SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: SEPTEMBER 2018

TIME: 2 HOURS

DATE: Pick Date Sep 2018

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) Explain how you can prevent common hazards in the laboratory under the following experiments (5marks)
- i. Distillations;
 - ii. Reduced pressure distillation and rotary evaporation
- b) Outline hazards caused by batteries in the containment laboratory (2 marks)
- c) Explain how samples from the field can be stored for long term (2.5 marks)
- d) Outline the procedure for disposing hazardous waste in the lab (1.5marks)
- e) Outline common hazards that can occur in the laboratory (5marks)
- f) Explain the purpose of laboratory inspection (1marks)
- g) Define 'stable Isotope' (2marks)

- h) State the precaution to be taken when working with separating funnel in the lab (3marks)**

Question TWO

- a) Describe the general basic laboratory design (11marks)**
b) Outline any eight (8) common laboratory hazards (4marks)

Question THREE

- a) Outline how one can avoid hazards by using a distiller (3marks)**
b) Write the following in full
i. UPS
ii. HEPA
iii. HVAC (3marks)
c) Explain the storage of bacterial for long term use. (2 marks)
d) Explain the conditions considered for laboratory furniture. (7marks)

Question FOUR

- a) Outline the Hazards associated with an Electrophoretic tank. (5marks)**
b) Explain the role of computer in the laboratory. (8marks)
c) State the mode of communication in the laboratory (1mark)

Question FIVE

- a) Outline preventive measures taken when using extraction funnel (3marks)**
b) Accidents in the laboratory are due to carelessness or ignorance. Explain (8 marks)
c) Explain the precautions taken when dealing with Electrical appliances in the contemporary laboratory. (4marks)

Attachment