



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN MICROBIOLOGY/ BACHELOR
OF TECHNOLOGY IN APPLIED CHEMISTRY

ACH4104 : LABORATORY SAFETY AND MANAGEMENT

END OF SEMESTER EXAMINATION

PAPER 2

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: Pick Date May 2016

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) For preventive maintenance in the laboratory, outline FIVE activities that should be done? (5 marks)
- b) State the FOUR classes of fire and the materials involved in each class. (4 marks)
- c) Give FIVE laboratory rules in laboratory safety. (5 marks)
- d)
 - i. Define biological hazards? (2 marks)

- ii. Give and explain FOUR general methods of preventing accidents in the laboratory. (8 marks)
- e) Give and explain THREE hazardous operation with glassware. (6 marks)

Question two

- a)
 - i. Mention FIVE quantities required of a first aider. (5 marks)
 - ii. State the THREE objectives of first aid. (3 marks)
- b) Outline THREE ways in which qualified laboratory personnel may be found. (6 marks)
- c) Give THREE items included in architectural features in laboratory design. (6 marks)

Question three

- a) Define molarity? (3 marks)
- b) A 5g sugar cube (sucrose: $C_{12}H_{22}O_{11}$) was dissolved in a 500ml jug filled with hot water. Calculate the molarity of the sugar solution. (5 marks)
- c) State SEVEN items found in a first aid cabinet. (7 marks)
- d) Explain how to construct a representative sample from a heterogeneous lot (5 marks)

Question four

- a) Discuss FIVE general rules to be observed during storage of chemicals in the store. (10 marks)
- b) Discuss the four steps taken in equipment/instrument maintenance and performance checks. (10 marks)

Question five

- a) Outline FIVE approaches that MBWA styles of management concerns itself with. (10 marks)
- b) Outline FIVE items considered in data analysis and reporting. (10 marks)