



## TECHNICAL UNIVERSITY OF MOMBASA

---

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

**UNIVERSITY EXAMINATION FOR:**

**BACHELOR OF SCIENCE IN FOOD QUALITY:**

**BSFQ, BTAP, BTRE & BSMR 2017/S**

**ACH4104: LABORATORY SAFETY AND MANAGEMENT**

**SPECIAL/SUPPLEMENTARY EXAMINATION**

**SERIES: SEPTEMBER 2018**

**TIME: 2 HOURS**

**DATE: Sep2018**

### 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. 1ppm=1mg/L**

---

### **Question ONE**

(a) Define the following terms:

- i) Total Quality Management [TQM]
- ii) Good Laboratory Practice [GLP]
- iii) Hazardous Material

(6 marks)

(b) i) Name THREE general methods of decontaminating wastes.

(3 marks)

ii) Explain the purpose of the following safety devices or utilities in the laboratory.

- I. Fume hood
- II. Biological Safety Cabinet

(4 marks)

(c) Give the First Aid treatment for a victim of alkali splash in the eye.

(5 marks)

(d) Describe the procedure you would follow to clean up chemical spills.

(5 marks)

- (e) Calculate the mass in grams of ethyl alcohol contained in 1 gallon (3800 ml) of a 10 ppm solution. (3 marks)
- (f) State any FOUR safety practices to be undertaken when using a fume hood. (4 marks)

### Question TWO

- (a) Give any FIVE properties of a good floor material for laboratory use. (5 marks)
- (b) Discuss briefly the biohazards in the laboratory and their control measures. (8 marks)
- (c) Give any FOUR preventive measures against electric hazards. (4 marks)
- (d) Explain the significance of material safety data sheet [MSDS]. (3 marks)

### Question THREE

- (a) Give any TWO examples for each of the following.  
i) Materials used for laboratory benches  
ii) Materials used for laboratory floors. (4 marks)
- (b) Outline briefly any FOUR safety procedures you would follow when using Biosafety Cabinet [BSC]. (4 marks)
- (c) List any SIX special items that are normally kept in First Aid Cupboard. (6 marks)
- (d) List any SIX safety equipment usually found in the laboratory. (6 marks)

### Question FOUR

- (a) Outline any FIVE key roles performed by Laboratory Information Management System [LIMS]. (10 marks)
- (b) Explain any FIVE Laboratory Good Practice [GLP]. (10 marks)

### Question FIVE

- (a) Outline the information you would include in labeling a secondary chemical container. (3 marks)
- (b) Describe the procedure for storage of the Flammable chemicals. (7 marks)
- (c) State any FIVE safety considerations in laboratory design. (5 marks)
- (d) Give any FIVE principles of Total Quality Management [TQM] (5 marks)