



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of Jkuat)

Faculty of Applied & Health Sciences

DEPARTMENT OF PURE AND APPLIED SCIENCES

DIPLOMA IN SCIENCE LABORATORY TECHNOLOGY

END OF SEMESTER EXAMINATION

LABORATORY SAFETY AND ETHICS

SERIES: AUGUST/SEPTEMBER 2011

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer booklet*

Answer question **ONE (COMPULSORY)** and choose any other **TWO** questions

This paper consist of **THREE** printed pages

QUESTION ONE (COMPULSORY) – 30 MARKS

- a) State some of the precautions to be followed when dealing with toxic substances (4 marks)
- b) State **FOUR** ways of preventing electrical hazards in laboratory (4 marks)
- c) Why is it necessary to have good general ventilation in the laboratory (4 marks)
- d) State **FOUR** common ways which may lead to accidentally ingesting harmful chemicals (4 marks)
- e) State **FOUR** criteria used to determine if a compound is a health hazard (4 marks)
- f) State **FOUR** precautions to be taken when handling caustic liquids (4 marks)
- g) Define the terms Laboratory Hazard (2 marks)
- h) State **FOUR** sources of injurious radiation in laboratory (4 marks)

QUESTION TWO

- a) List **FOUR** sources of ignition of flammable liquids (4 marks)
- b) State **SIX** general safety precautions regarding the use, handling, and storage of flammable and combustible liquids (6 marks)
- c) State the general safety precautions necessary for the handling and storage of corrosive (10 marks)

QUESTION THREE

- a) State **FIVE** common source of hazards encountered in the laboratory (5 marks)
- b) Briefly explain how each of the above mentioned hazards can be prevented in the laboratory (15 marks)

QUESTION FOUR

- a) Define the following terms:
 - (i) Compressed gas
 - (ii) Liquefied gases
 - (iii) Non-liquefied gases
 - (iv) Dissolved gases(8 marks)
- b) Name **FOURTEEN** items found in a first aid kit (7 marks)
- c) State the **FIVE** major families of gases (5 marks)

QUESTION FIVE

- a) Explain how you can clean the following chemical spill:
- (i) Acid spill
 - (ii) Solvent spill
 - (iii) Mercury spill
 - (iv) Caustic spill
- (16 marks)
- b) State the safety precautions for working with cryogenic liquids
- (4 marks)