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

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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)