



MURANG'A UNIVERSITY OF TECHNOLOGY
SCHOOL OF PURE, APPLIED AND HEALTH SCIENCES
DEPARTMENT OF PHYSICAL AND BIOLOGICAL
SCIENCES

TVET EXAMINATION

2023/2024 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER EXAMINATION FOR DIPLOMA IN
SCIENCE LABORATORY TECHNOLOGY

SLT/0S/SL/CC/01/6/A – APPLY STANDARD LABORATORY PRACTICE

DURATION: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

1. Answer question one and any other two questions.
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION

QUESTION ONE (30 MARKS)

- a) Draw the symbol used to show: (4 marks)
- i. Extremely flammable
 - ii. Irritants
 - iii. Oxidants
 - iv. Poisonous
- b) Outline four preventive maintenance of laboratory equipment. (4 marks)
- c) State four categories of laboratory waste. (4 marks)
- d) State the conditions under which the following stabilization method is most applicable. (4 marks)
- i. Moist heat
 - ii. Chemical
 - iii. Radiation
 - iv. Dry heat
- e) Briefly explain four roles of personal protective equipment's (PPE) in maintaining laboratory hygiene. (4 marks)
- f) Provide two examples of chemical solutions commonly used for the preparation of laboratory glassware and their respective purpose. (4 marks)
- g) Give four examples of potential hazards associated with poor housekeeping in the laboratory. (4 marks)
- h) Outline the safety precaution that should be taken preparing laboratory glassware using chemical solution. (4 marks)
- i) Briefly describe the procedure that is carried out when performing flame polistang. (4 marks)
- j) Name four firefighting equipment's found in the lab. (4 marks)

SECTION B – ANSWER ANY TWO QUESTIONS IN THIS SECTION

QUESTION TWO (20 MARKS)

As a first Aider, you have just carried out a scene of a serious motor accident in the central business (CBD). Some victims are unconscious while others are seriously injured and bleeding profusely but not fatal case.

- a) State four ways in which assistance can be obtained from toy-standers. (4 marks)
- b) State four most agent aspects of first aid treatment itself which need to be attended to. (4 marks)
- c) State two steps to ensure the victims condition do not get worse. (2 marks)
- d) List ten essential non-medical items found in the general laboratory first aid kit. (10 marks)

QUESTION THREE (20 MARKS)

- a) Outline the procedure for cleaning laboratory have including the removal of stubborn stains from laundry. (10 marks)
- b) Discuss five methods of water treatment in the laboratory. (10 marks)

QUESTION FOUR (20 MARKS)

Discuss each of the following five extinguishers:

- a) Soda acid (5 marks)
- b) Form (5 marks)
- c) Bromochlorodifluoromethone (5 marks)
- d) Carbon chloride (5 marks)

QUESTION FIVE (20 MARKS)

- a) You are in a laboratory setting when suddenly a student faints due to inhalation of a poisonous gas. As a fast aider, you rush to the scene to provide assistance.
 - i. State four ways to obtain assistance for bystanders. (4 marks)
 - ii. State four most urgent aspects of first aid treatment. (4 marks)
 - iii. State two steps to ensure the victims' condition does not worsen. (2 marks)
- b) First Aid manual procedures guidance on basic first aid procedure. The five aid treatment for thermal burns are;
 - i. To reduce the local effect of heat

- ii. To relieve pain
- iii. To prevent infection of the burn
- iv. To replace lost fluid
- v. To reduce stock

What are the five steps to be taken to activate these aims?

(10 marks)