



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF PURE & APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR

DIPLOMA IN ANALYTICAL CHEMISTRY(DAC 24M)

DIPLOMA IN SCIENCE LABORATORY TECHNOLOGY(DSLT 24M)

ACH 2105 LABORATORY SAFETY AND ETHICS

END OF SEMESTER EXAMINATION (SUPPLEMENTARY)

SERIES: 2025

TIME: 2 HOURS

DATE: MAR 2025

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)(i) List chemicals which can cause alkali burns 2 Mark
- (ii) Name THREE causes of biological hazard 2Marks
- B) (i) State precautions to observe to prevent electrical hazards 3 Marks
- (ii) Name TWO equipment that contain elemental mercury(Hg) or
liquid mercury 1 Mark
- C) (i) State symptom of mild to moderate heat stroke 3 Marks
- (ii) Define the term chemical burn 1 Mark
- D) Draw hazard symbols for the following :

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| (i)Corrosive | 2 Marks |
| (ii)Biohazard | 2 Marks |
| E) (i) State the condition of the body with Second degree burns | 3 marks |
| (ii) State meaning of the initials CPR in first Aid | 1 Mark |
| F) (i) Explain the main causes of fire and explosion hazards in the laboratory | 4 Marks |
| G) Explain precautions observe to prevent chemical burns in the laboratory | 4 Marks |
| H) State precautions to observe in order to prevent heat stress | 2 Marks |

Question TWO

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| A. State advantages of a well design laboratory layout. | 5 Marks |
| B. Outline safe use of laboratory chemical | 5 Marks |
| C. Discuss signs and symptoms of chemical exposure | 5 Marks |

Question THREE

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| A.Outline recommendation to be followed to prevent heat stress. | 5 marks |
| B. . Describe symptoms of chemical exposure | 5 Marks |
| C. Outline safety precautions observed when working with cryogenic fluids | 5 marks |

Question FOUR

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| A. Explain procedure to neutralize hydrofluoric acid exposure | 5 Marks |
| B. Outline personal safety rules observed in the laboratory | 5 marks |
| C. Explain the procedure for drilling a stopper | 5 Marks |

Question FIVE

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| A. Explain the first Aid given to individual with skin contact with a chemical | 5 Marks |
| B. Explain safety measures to be followed when using an autoclave | 5 Marks |
| C. Describe conditions which can cause peripheral neuropathy | 5 Marks |

