TEVETA

Technical Education, Vocational and Entrepreneurship Training Authority

DIPLOMA IN BIOMEDICAL ENGINEERING TECHNOLOGY

LEVEL 6 YEAR 1 EXAMINATIONS

FINAL INTEGRATED SUMMATIVE EXAMINATIONS

SITTING: JULY/AUGUST 2025

SUBJECT: WORKSHOP PRACTICE AND PROCESSES (THEORY)

TIME: THREE (3) HOURS **TOTAL MARKS: 100**

PASS MARK: 50

INSTRUCTIONS TO CANDIDATE

1. Write your Examination number and National Registration Card (NRC) number on the answer booklet provided. Ensure you append your signature in the space provided on the answer booklet.
2. Write the ANSWER SCRIPT SERIAL NUMBER on the examination register and on the entry slip.
3. There are EIGHT (8) questions in this paper. Answer FIVE (5) questions.
4. Diagrams may be used where necessary to clarify your answer.
5. Cell phones and programmable calculators are not allowed in the examination room.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO

QUESTION 1

a) Define a working platform. [2 marks]
b) State **four (4)** examples of a working platform. [4 marks]
c) Explain **Seven (7)** safe uses of ladders. [14 marks]

[TOTAL MARKS 20]

QUESTION 2

a) Define material removal in relation to metal cutting processes. [2 marks]
b) State **three (3)** major classes of material removal processes. [3 marks]
c) With the aid of diagrams, describe the following processes in relation to metal cutting:
   i) Turning. [5 marks]
   ii) Drilling. [5 marks]
   iii) Milling. [5 marks]

[TOTAL MARKS 20]

QUESTION 3

a) Define medical waste. [2 marks]
b) List **four (4)** methods of disposal of medical waste found in health facilities. [4 marks]
c) State **five (5)** risks associated with hazardous medical waste. [5 marks]
d) Explain **three (3)**.major categories of medical waste. [9 marks]

[TOTAL MARKS 20]

QUESTION 4

a) State **five (5):**
   i) Safety requirements for lifting equipment. [5 marks]
   ii) Lifting equipment for Heavy loads. [5 marks]
   iii) Factors to consider when manually lifting heavy loads. [5 marks]
b) Explain **five (5)** safety rules to be observed when using a lathe machine. [5 marks]

[TOTAL MARKS 20]

QUESTION 5

a) Define grounding in electrical circuits. [2 marks]
b) State **four (4)**:
   i) common electrical hazards in workshops. [4 marks]
   ii) general electrical safety rules. [4 marks]
c) Describe **two (2)** types of tools used in insulation testing for electrical equipment and cables. [4 marks]

d) Explain the effects of poor electrical grounding of medical equipment on the following:
   i) Patient. [3 marks]
   ii) Operator. [3 marks]

[TOTAL MARKS 20]

QUESTION 6

a) Describe **five (5)** hazards associated with workshop machinery. [10 marks]
b) Explain **five (5)** ways of preventing accidents in the workshop. [10 marks]

[TOTAL MARKS 20]

QUESTION 7

Explain the use of the following hand tools:

a) Hacksaw [4 Marks]
b) Chisel [4 Marks]
c) Hammer [4 Marks]
d) File [4 Marks]
e) Grinder [4 Marks]

[TOTAL MARKS 20]

QUESTION 8

a) State **four (4)** body fluids that can act as media for the transmission of diseases using medical equipment. [4 marks]
b) Outline **four (4)** common infections that may be acquired because of improper handling of medical equipment during maintenance. [4 marks]
c) Explain **three (3)** categories of people that are at risk of infection from medical waste in the following places:
   i) Inside the hospital. [6 marks]
   ii) Outside the hospital. [6 marks]

[TOTAL MARKS 20]