TEVETA
Technical Education, Vocational and Entrepreneurship Training Authority

DIPLOMA IN SCIENCE LABORATORY TECHNOLOGY

LEVEL 6 YEAR I EXAMINATIONS

FINAL INTEGRATED SUMMATIVE EXAMINATIONS

SITTING: JULY/AUGUST 2026

SUBJECT: OCCUPATIONAL SAFETY, HEALTH AND ENVIRONMENTAL MANAGEMENT

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. This paper has TWO (2) Sections:
   - Section A, Answer ALL questions.
   - Section B, Answer FIVE (5) questions. Question One (1) is compulsory.
4. Diagrams may be used where necessary to clarify your answer.
5. Cell phone and programmable calculators are not allowed in the examination room

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

SECTION A: **TOTAL MARKS: 20**

ANSWER ALL BY CHOOSING THE BEST OPTION.

1. Which of the following is a source of industrial waste?
   A. Households
   B. Schools
   C. Farms
   D. Factories

2. The main cause of air pollution is:
   A. Clean water
   B. Recycling
   C. Vehicle emissions
   D. Planting trees

3. Personal hygiene helps to:
   A. Prevent infections
   B. Increase accidents
   C. Cause pollution
   D. Spread disease

4. The Environmental Management Act (2010) mainly relates to:
   A. Fire insurance
   B. Pollution control
   C. Transport regulation
   D. Banking systems

5. Which of the following is a physical method of waste treatment?
   A. Precipitation
   B. Neutralization
   C. Incineration
   D. Composting

6. High BOD in water indicates:
   A. High organic pollution
   B. Clean water
   C. No oxygen demand
   D. Sterile water

7. Which of the following is a communicable disease?
   A. Diabetes
   B. Tuberculosis
   C. Hypertension
   D. Cancer

8. Risk assessment is important because it:
   A. Identifies hazards
   B. Increases costs
   C. Stops production
   D. Reduces salaries

9. First aid kits are used to:
   A. Perform surgery
   B. Store chemicals
   C. Provide emergency treatment
   D. Clean labs

10. Incineration is a method of:
   A. Recycling
   B. Air cleaning
   C. Water purification
   D. Waste disposal

11. Which is a class of fire?
   A. Class X
   B. Class A
   C. Class Z
   D. Class P

12. Human-to-human transmission refers to:
   A. Direct disease spread
   B. Pollution spread
   C. Waste disposal
   D. Recycling

13. Which type of wastewater treatment focuses primarily on the separation of solids using physical forces like gravity or filtration?
   A. Thermal
   B. Chemical
   C. Biological
   D. Physical

14. Which environmental issue is a direct consequence of pollution?
   A. Soil enrichment
   B. Water contamination
   C. Habitat restoration
   D. Ecosystem preservation

15. Which is used in fire management?
    A. Adding fuel
    B. Spreading fire
    C. Increasing heat
    D. Removing oxygen

16. Which is biodegradable?
    A. Plastic
    B. Metal
    C. Organic waste
    D. Glass

17. Accident investigation begins with:
    A. Punishment
    B. Ignoring incident
    C. Salary review
    D. Evidence collection

18. Waste generation is:
    A. First stage
    B. Final stage
    C. Disposal stage
    D. Treatment stage

19. Emergency preparedness includes:
    A. Ignoring alarms
    B. Fire drills
    C. Removing exits
    D. Blocking routes

20. Landfilling is:
    A. Burning waste
    B. Recycling waste
    C. Burying waste
    D. Filtering waste

SECTION B: **TOTAL MARKS: 80**

QUESTION ONE (1) IS COMPULSORY. ANSWER ANY OTHER FOUR (4) QUESTIONS

QUESTION ONE

a) Identify three (3) causes of fire hazards in the workplace. [6 marks]
b) Explain the:
   i) Importance of Personal Protective Equipment (PPE) in the workplace. [6 marks]
   ii) Safe laboratory practices that should be followed to ensure safety. [8 marks]

TOTAL MARKS:20

QUESTION TWO

a) State four types of waste generated in workplaces. [3 marks]
b) Describe three problems caused by improper solid waste disposal. [6 marks]
c) Explain the significance of effective waste management systems. [6 marks]

TOTAL MARKS: 15

QUESTION THREE

Workers in a cement manufacturing plant in Lusaka complain of breathing difficulties due to prolonged exposure to dust.

a) Describe four (4) occupational health hazards associated with dust exposure. [8 marks]
b) Differentiate between communicable and occupational diseases. [4 marks]
c) Propose three (3) strategies that management should implement to protect workers.

[3 marks]

TOTAL: MARKS 15

QUESTION FOUR

A local chemical processing plant is found to be discharging untreated liquid waste into a nearby stream. Residents have complained about a foul smell and the death of local fish. The plant claims they were unaware of specific legal requirements.

a. List the five (5) types of pollution occurring in this scenario. [5 Marks]
b. Explain the:
   i) State two possible causes of the foul smell reported by residents. [4 Marks]
   ii) Potential long-term effects of this pollution on the surrounding community's health and the environment. [6 Marks]

TOTAL MARKS: 15

QUESTION FIVE

a) Below is a list of five classes of fire.
   i. Class A [1 mark]
   ii. Class B [1 mark]
   iii. Class C [1 mark]
   iv. Class D [1 mark]
   v. Class E [1 mark]

b) State the:
   i) Fuel that causes each type of fire. [3 marks]
   ii) The type of fire extinguisher used to manage each class fire. [2 marks]

c) Outline the procedure for using carbon dioxide fire extinguisher. [5 marks]

TOTAL: MARKS 15

QUESTION SIX

a) Classify five (5) activities or conditions that may cause workplace accidents. [5 marks]

b) Suggest one (1) preventive measure for each activity or condition identified in (a). [5 marks]

c) Describe how a laboratory safety plan contributes to workplace safety. [5 marks]

TOTAL MARKS: 15