

**073204T4PLM**

**PLUMBER LEVEL 4**

**CON/OS/PL/CR/04/4/A**

**INSTALL SANITARY APPLIANCES**

**July/August 2024**



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION  
COUNCIL (TVET CDACC)**

**WRITTEN ASSESSMENT**

**2 HOURS**

**INSTRUCTION TO CANDIDATE**

1. This assessment has **TWO** sections; **A** and **B**
2. Answer all questions in section A and B in the answer booklet provided.
3. Marks for each question are indicated in the brackets
4. Do not write on the question paper

**This paper consists of SIX (6) printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing**

**SECTION A: (10 Marks)**

*Answer ALL questions in this section. Each correct answer carries 1 mark.*

1. Inspection chambers are access points to underground pipework which allow maintenance and the removal of blockages. Identify the key component and feature of inspection chambers and manholes in construction projects.
  - A. Cover and frame
  - B. Invert levels
  - C. Concrete tops
  - D. Concrete pipes
2. A reference point is a point used to find or describe the location of something. Select the primary purpose of identifying a reference point on the ground based on a site drawing.
  - A. Personal preference
  - B. Accuracy in construction
  - C. Site condition
  - D. To show north point
3. Setting out entails mapping of a drawing onto the ground. Select the method commonly used to transfer measurements from known reference point on the ground to locate position of inspection chamber for construction.
  - A. 3-4-5 method
  - B. Use of building square
  - C. Measurement setting
  - D. offsetting
4. Material Schedule shows the direct relationship between the project scope and design to the material cost, type, sizes and quantities. What is the purpose of developing a schedule of materials based on a drawing in the construction process?
  - A. Resource planning
  - B. Timing
  - C. Quality work
  - D. Material location

5. Accurately determining invert levels during construction activities is crucial for ensuring the integrity, functionality, and safety of infrastructure projects. Highlight the benefit of accurate invert level determination.
  - A. Poor drainage
  - B. Utility interference
  - C. Legal regulatory compliance
  - D. Effective drainage system
6. Following set standard procedures ensure best practices in the industry. Select the importance of following best practices when conducting functionality tests.
  - A. Ensuring accuracy
  - B. Quality of the work
  - C. Good work performance
  - D. Make work ease
7. Minimizing the environmental impact of waste disposal involves implementing various measures and strategies aimed at reducing pollution, conserving resources, and promoting sustainability. What measure should be put in place to minimize the environmental impact of waste disposal?
  - A. Burning
  - B. Recycling and reuse
  - C. Increase the source
  - D. Barring the material
8. Functional testing is a type testing that seeks to establish whether each application feature is working. Identify the instrument used for conducting air test in a pipeline.
  - A. Thermometer
  - B. Pliers
  - C. Manometer
  - D. Building square

9. Back flow is a problem in plumbing drainage system, which one of the following is a device installed in a drainage system to prevent reverse flow?
- A. Vent pipe
  - B. Back flow valve
  - C. Back water valve
  - D. Leak air valve
10. Tools are frequently used and are portable, designed as useful resources in precise guide movements or processes. Identify the tool used to cut external threads on cylindrical work pipe pieces.
- A. Die and stock
  - B. Pliers
  - C. Pipe wrench
  - D. Adjustable spanner

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**SECTION B: (40 MARKS)**

*Attempt all the questions in this section.*

11. Drainage systems in regions of active extension contain information about fault zone structure and development. State SIX ways of identifying faults in a drainage system. (3 marks)
12. Water closet, urinal, bathtub, shower tray, wash hand basin, sink, bidet and drinking fountain are examples of sanitary appliances. Explain TWO primary objectives of conducting functionality tests on a system or equipment. (4 marks)
13. The disposal of hazardous waste is governed by various guidelines, regulations, and laws depending on the country or region. Outline FIVE guidelines or regulations governing the disposal of hazardous waste. (5marks)
14. Several factors should be considered when determining the standard positioning of plumbing fixtures in a residential bathroom to ensure functionality, comfort, and compliance with building codes and regulations. State FIVE factors which should be considered in determining the standard positioning of plumbing fixtures in a residential bathroom. (5 marks)
15. Waste sorting for disposal involves categorizing waste based on various criteria to determine the most appropriate disposal method. Explain THREE criteria used to determine how wastes are sorted for disposal. (3 marks)
16. When using measuring tools such as calipers or micrometers, it's essential to observe safety precautions to protect yourself and ensure accurate measurements. State SIX safety precautions which should be observed when using measuring tools such as calipers or micrometers. (3 marks)
17. Proper maintenance and storage of hand tools are essential practices to prolong their lifespan and ensure they remain safe and effective for use. List FIVE importance of proper maintenance and storage of hand tools to prolong their lifespan. (5 marks)
18. When selecting a fitting for a specific application, several factors need to be considered to ensure proper functionality, safety, and compatibility. Outline FOUR factors to be considered when selecting a fitting for a specific application. (4 marks)

19. A reducing fitting is used in a piping system to transition between pipes or tubing of different diameters. State THREE purposes of using a reducing fitting in a piping system.  
(3 marks)
20. Detailed sections in working drawings play a crucial role in interpreting working drawings. Highlight FIVE reasons for using detailed sections in working drawings in plumbing work.  
(5 marks)

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