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**073105T4PLM**

**PLUMBER LEVEL 5**

**CON/OS/PL/CR/02/5/A**

**INSTALL RAINWATER HARVESTING AND DISPOSAL**

**July/August 2024**

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

**WRITTEN ASSESSMENT**

**TIME: 3 HOURS**

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**INSTRUCTIONS TO CANDIDATE**

1. This paper consists of two sections; **A** and **B**
2. Answer **ALL** the question as guided in each section
3. Marks for each question are as indicated in the brackets
4. You are provided with a separate answer booklet to answer the questions
5. Do not write in this question paper

**This paper consists of THREE (3) 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 (40 MARKS)

*Answer all questions in this section.*

1. Gutters play a crucial role in managing rainwater runoff from the roof of a building. Outline TWO materials that can be used to make a gutter. (2 Marks)
2. Proper installation, maintenance and periodic inspection of rainwater goods are very crucial. State THREE advantages of installing rain water goods to a building. (3 Marks)
3. Rain water goods are made of different components, name any TWO components used when making them. (2 Marks)
4. In plumbing works, there are several tools used, list FOUR tools that are commonly used in fabricating rain water goods. (4 Marks)
5. Sheets needs to be joined together securely to form a continuous surface. Give TWO types of joints that can be used to join two pieces of sheet metal when fabricating a flat gutter. (2 Marks)
6. The safety of a plumber is paramount, as they often work in environments with various hazards. List any FIVE safety gears needed by plumbers when fixing rain water good for safety of the plumber. (5 Marks)
7. Tools can be classified based on their use or application. Outline FOUR classifications that are commonly used in installation of rain water goods. (4 Marks)
8. Material scheduling is a critical aspect done before plumbing works commences in the work place. List TWO reasons for material scheduling. (2 Marks)
9. The choice of the material used matters when making rain water good. State THREE advantages of choosing PVC pipes over sheet metal pipes. (3 Marks)
10. Maintaining tools and equipment is crucial for ensuring their longevity, performance, and safety. Outline FOUR ways of maintaining tools and equipment used in fixing rainwater harvesting goods. (4 Marks)
11. Drawings are components that provide critical information about the design, dimensions, and materials needed for a project. State any THREE types of drawing that are mostly used when performing construction works. (3 Marks)
12. Convert the following units into mm;
    a. 125 Inches. (2Marks)
    b. 60 Feet. (2Marks)
    c. 23 Metres. (2Marks)

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## SECTION B: (60 MARKS)

*Answer any **THREE** questions in this section.*

13.

a. Effective housekeeping is a fundamental aspect of construction site management and building maintenance. Describe FIVE housekeeping activities that are conducted in a workshop to ensure the Workshop remains in order throughout. (10 Marks)

b. Proper maintenance involves regular inspections, timely repairs, and preventive measures to keep structures in good condition. Explain FIVE advantages for proper maintenance of rain water goods tools and equipment. (10 Marks)

14.

a. Proper management of storm water is critical to preventing flooding, reducing pollution and protecting natural water bodies. Describe any FIVE methods of disposing storm water that can cause damage to the building. (10 Marks)

b. Material costing involves estimating the costs of all materials required, from basic building materials to finishing products. Explain FIVE factors to consider when costing materials for fixing rain water goods in building. (10 Marks)

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15.

a. Leakages in construction can have serious consequences if not properly addressed. Explain FIVE effects of a leaking gutter in a building in relation to moisture penetration inside the building. (10 Marks)

b. Proper storage of rain water goods helps to prevent damages and to increase durability when they are in the store. Explain any FIVE ways of ensuring proper storage. (10 Marks)

16.

a. A good rainwater harvesting system, is designed to efficiently capture, collect and harvest rainwater. Explain FIVE functional requirements of a good rainwater harvesting good in relation to plumbing works. (10 Marks)

b. Classifying materials helps in selecting the right material for the right job. Describe THREE classifications of materials that can be used in any rainwater harvesting goods. (6 Marks)

c. Leakage testing is an essential process that ensures there is safety of structures. Explain TWO ways of testing leakage in rainwater goods. (4 Marks)

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