

073105T4PLM

PLUMBING LEVEL 5

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

Install Rainwater Harvesting And Disposal

March/April 2025



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

**WRITTEN ASSESSMENT
Time: 3 HOURS**

INSTRUCTIONS TO CANDIDATE

1. The paper consists of **TWO** sections: **A** and **B**.
2. Answer **ALL** questions in section **A** and **ANY THREE** (3) questions in section **B**.
3. Marks for each question are indicated in the brackets.
4. Candidates are provided with a separate answer booklet
5. **DO NOT** write on 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 the questions in this section.

1. When installing gutters on the roof you require some protective gears like, gloves is one of the hand protections while handling gutters. State FOUR benefits of wearing gloves during work. (4marks)
2. Rainwater harvesting is the process of collecting and storing rainwater for later use. State TWO reasons of harvesting. (2marks)
3. When installing rainwater goods there are several factors affecting the harvesting of water. State THREE factors affecting rainwater harvesting. (3marks)
4. Steel roof is one of the structures that is being assembled by welding in provision to roof membranes for water harvesting alongside the welding of downpipe. List FOUR reasons of welding in assist of rainwater harvesting goods. (4 Marks)
5. Rain water harvesting goods like gutters are made of several materials. List FOUR different types of gutters. (4 Marks)
6. Rainwater is collected from a roof-like surface. Define the following terms as they are used in rain water harvesting.
 - a) Welding plant;
 - b) Eave gutter;
7. Maintaining tools and equipment is crucial for ensuring their longevity, performance, and safety. list FOUR ways of maintaining tools and equipment used in fixing rainwater-harvesting goods. (4 Marks)
8. Measurements are taken and marking out is done based on the drawing when doing gutters on the roof. State FOUR reasons of using measurements and markings. (4 Marks)
9. Rainwater goods tools and equipment are used based on manufacturer's instructions, state THREE reasons of not using sharp tools on top of the roof. (3 Marks)
10. Drawings are mostly used to provide critical information about the design, dimensions, and materials needed for a project. State FOUR types of drawing that are mostly used when performing construction works. (4 Marks)
11. The choice of the material used matters when making rainwater good. State FOUR advantages of choosing sheet metals over p.v.c while installing steel roof. (4 Marks)

SECTION B (60 MARKS)***Answer Any THREE Questions in This Section***

12. Rain water goods are those systems that are used to carry water from a building to prevent it from entering the fabric or running down the walls.
- i. Identify FIVE functions of downpipes that are connected in the system. (5 Marks)
 - ii. State FIVE importance of gutters in rain water harvestings. (5 Marks)
 - iii. List FIVE importance of brackets that are mostly used alongside gutters. (5 Marks)
 - iv. State FIVE requirements of gutters installations. (5 Marks)
- 13.
- a) Leakages in construction can have serious consequences if not properly addressed. Explain FIVE effects of a leaking gutter in a building. (10 Marks)
 - b) Proper storage of rainwater goods helps to prevent damages and to increase durability when they are in the store. Explain FIVE ways of ensuring proper storage. (10 Marks)
14. Housekeeping in construction is the practice of keeping a construction site clean, tidy and free of hazards.
- i. Explain FIVE ways of protecting existing works as part of good housekeeping. (10 Marks)
 - ii. State FIVE steps that should be taken to clean the work area after construction. (5marks)
 - iii. State FIVE reasons of cleaning the work area that contribute to work safety (5 Marks)
15. With the aid of a well sketched line diagram. Sketch and explain a water harvesting from the roof including the following. (20 Marks)
- i. Gutter collector
 - ii. Downpipe
 - iii. Underground Storage tank
 - iv. pump

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