

073105T4PLM

PLUMBING LEVEL 5

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

Install Rainwater Harvesting and Disposal

Nov/Dec 2024



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

WRITTEN ASSESSMENT

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE

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

This paper consists of FIVE (5) 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 fabricating a flat gutter from sheet metal, the type of joint used to join two pieces of sheet metal is crucial for ensuring the durability and effectiveness of the gutter. List TWO types of joints used to join two pieces of sheet metal when fabricating a flat gutter. (2 Marks)
2. In plumbing, precise measurements are crucial. Converting units accurately is an essential skill for ensuring that materials fit correctly and function as intended. Convert the following units into mm;
 - a) 100 inches. (2 Marks)
 - b) 100 feet (2 Marks)
3. You have been contracted to install rain water harvesting system in a local dispensary. Name FOUR tools that you will use to install the system. (4 Marks)
4. You are required to cut a new piece of copper pipe for the supply run to a sink. What are the best tools to use. (2 Marks)
5. Personal Safety is a crucial element to any plumber. Name TWO PPE that you would purchase for a plumbing activity. (2 Marks)
6. Material scheduling is the process of planning and organizing the procurement, delivery, and usage of materials required for a project. List TWO reasons why material scheduling is done before plumbing works commences in the work place. (2 Marks)
7. Understanding the different types of faults that can occur in plumbing works is essential for diagnosing issues and ensuring the longevity of plumbing systems. Define the following types of faults.
 - a) Installation faults (2 Marks)
 - b) Manufacturer's faults (2 Marks)
8. Unclogging is the process of removing substances that causes blockage in a system. Outline the procedure of unclogging using chemicals. (3 Marks)
9. Rain water harvesting and disposal system consists of various parts that are inter-connected to attain its purpose. Name any FOUR components. (4 Marks)
10. Heavy rains have been experienced in most parts of the country over the recent past, as a result, Storm Water has caused adverse effects to the environment. State THREE methods that can be used to dispose the storm water. (3 Marks)

11. One of the factors when selecting rainwater goods is your local climate. Outline THREE problems associated with using plastic rainwater goods in countries with very hot climate. (3 Marks)
12. In plumbing projects, various types of drawings are essential for ensuring accurate planning, installation, and maintenance. State THREE types of drawings that are used when performing majority of Plumbing works. (3 Marks)
13. One of the sustainable development goals is access to clean water and sanitation and one of the ways of achieving this goal is through harvesting of rain water. Highlight FOUR advantages of harvesting rain water. (4 Marks)

easyvet.com

SECTION B (60 MARKS)

Answer Any THREE Questions in This Section

14.

- a) Logoro was awarded a tender by Chesabil primary school to construct a modern drain-waste-vent system. After the completion of the project, there was need to test for its workability. Describe FOUR methods that Logoro could use to carry out the test for leaks.

(8 Marks)

- b) A good rainwater harvesting good should be able to perform its intended function satisfactorily. Explain SIX functional requirements of a good rainwater harvesting good in relation to plumbing works.

(12 Marks)

15. Mwari institute have been complaining of frequent breakdowns and maintenance of plumbing tools and equipment. The institution decided to hire Douglas to be in charge of storekeeping

- a) State FOUR common faults with downpipe and gutter. (4 Marks)

- b) Discuss FOUR methods that Douglas can apply in storing tools (8 Marks)

- c) Maintenance involves functional checks, servicing, repairing or replacing of necessary part of a system. Proper maintenance can extend the life of a system and save money in the long run. Describe FOUR types of maintenace for Rainwater Harvesting Systems. (8 Marks)

16. The design and installation of gutters and downpipes are critical for effectively directing water away from a building's foundation

- a) With the aid of a neat sketch, describe a section of a typical half- round gutter and downpipe at the eaves of a pitched roof. (10 Marks)

- b) Describe FIVE effects of Leaking gutter in a building in relation to moisture penetration inside the building. (10 Marks)

17.

- a) As a student in plumbing, you have been attached to a company X for an industrial attachment. During your first week, you are assigned a role of housekeeping.

- Explain THREE housekeeping activities that you would conduct in a workshop to ensure the Workshop remains in order. (6 Marks)
- b) You have been assigned a duty of installing a gutter in your institution. Describe step by step procedure involved in the installation of the gutter. (6 Marks)
- c) Rainwater water harvesting are methods used to collect and store rainwater for various uses. Briefly explain FOUR types of rainwater harvesting. (8 Marks)

easytvet.com

THIS IS THE LAST PRINTED PAGE.