

073204T4PLM

PLUMBER LEVEL 4

CON/OS/PL/CR/01/4/A

INSTALL WATER PIPES AND ANCILLARY APPLIANCES

July/August 2024



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

WRITTEN ASSESSMENT

TIME: 2 HOURS

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

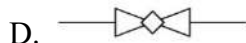
This paper consists of SIX (6) printed pages

**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 from this section. Each question carries 1 mark.

- The imperial system is a system of measurements used in commonwealth countries. Convert 5 feet 6 inches into meters.
 - 1.6764
 - 0.16764
 - 0.016764
 - 16.764
- A symbol is a form of visual image used to convey an idea. Identify the symbol for a globe valve in a plumbing drawing.



- The following are common types of valves used in water supply systems. Which one is not a valve used in water supply system?
 - Gate valve
 - Ball valve
 - Butterfly valve
 - Pressure increasing valve
- The recommended depth of threading steel pipes typically depends on the type of threads being used and the pipe diameter. What is the recommended depth of thread engagement for threading steel pipes size 1 inch diameter according to industry standards?
 - 3 inches
 - 6 inches
 - 1.5 inches
 - 4.5 inches
- A plumber uses different types of tools depending on the task to accomplish. Which of the following tool can used for vertical alignment of a pipe accurately?
 - Plumb bob

- B. Vernier caliper
 - C. Spirit level
 - D. Tape measure
6. Based on the plumbing principles, identify the type of valve fittings used for isolating sections of the water supply system for maintenance or repairs.
- A. Gate valve
 - B. Stop valve
 - C. check valve
 - D. pressure relief valve
7. Achieving leak-free threaded pipe, connections require careful attention to detail and the use of appropriate techniques and tools. What technique is not recommended for achieving leak-free threaded pipe connections.
- A. Proper thread preparation
 - B. Correct thread type
 - C. Thread sealant
 - D. Improper thread engagement
8. Identify the key objectives of conducting functionality tests on water supply system components?
- A. Noncompliance with standard
 - B. Good quality material
 - C. Verify compliance with standards
 - D. Minimum system performance
9. Surplus material is the excess material left after contractor completes a project. Highlight the primary reasons for storing surplus materials and supplies according to manufacturers' instructions?
- A. Preserving product quality
 - B. Not ensuring product performance
 - C. Maximize waste
 - D. Regulation prolonging
10. Use of drawing specifications during pipe fitting has several advantages in water pipes installation. Which of the following is not an advantage of using specification drawing during pipe installation in a building?

- A. Saves on installation costs.
- B. Gives room for future modifications.
- C. Reduces the overall cost of water consumption.
- D. Ensures overall success and accuracy of the project.

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SECTION B: (40 MARKS)

Answer ALL questions from this section.

11. The purpose of conducting a smoke test in pipe fitting is to identify and locate leaks or defects within the piping system. Name FOUR reasons for conducting a smoke test in pipe fitting. (4 Marks)
12. Gradient is an important parameter to consider during installation of waste pipes. Outline FOUR importances of maintaining proper gradient in a drainage or sewer pipe system. (4 Marks)
13. The installation of water supply pipes in a building involves several design principles in order to ensure a reliable and efficient water distribution system. Identify any FOUR factors to be considered when designing the layout of a water supply system in a building. (4 Marks)
14. Threading stainless steel pipes requires careful attention to prevent galling and seizing, which can occur due to the material's properties. Give the correct procedure for threading a stainless-steel pipe to minimize the risk of galling and seizing. (4 Marks)
15. A bending spring is a flexible coil material that is inserted into the interior of a copper pipe before bending. State FOUR purpose of using a bending spring when hand bending copper pipes. (4 Marks)
16. Fitting is used in pipe systems to connect sections of pipes together. List THREE type of adapter fittings used to connect pipes of different materials. (3 Marks)
17. When selecting the type of threading for pipes in a plumbing system, several primary considerations should be taken into account to ensure compatibility, reliability, and ease of installation. State FOUR primary considerations when selecting the type of threading for pipes in a plumbing system. (4 Marks)
18. Periodic functionality tests on water supply system components are crucial. Highlight THREE importance of conducting periodic functionality tests on water supply system components. (3 Marks)
19. Monitoring and inspecting surplus materials stored over a long period is essential to ensure they remain in good condition and are usable when needed. State FOUR best practices for monitoring and inspecting surplus materials stored over an extended period to ensure they remain in good condition. (4 Marks)
20. Ensuring that records are accessible to authorized personnel while maintaining security and confidentiality involves implementing a combination of technological, procedural, and

organizational measures. Give FOUR measures to put in place to ensure that records are accessible to authorized personnel while maintaining security and confidentiality. (4 Marks)

21. Provision of water to the public is usually done via a system of pumps, pipes, and delivery points.

Name TWO factors considered when selecting the location for water supply points.

(2 Marks)

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