

073203T4PLM

PLUMBER LEVEL 3

CON/OS/PL/CR/01/3

INSTALL PIPES IN BUILDINGS

July/August 2024



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

WRITTEN ASSESSMENT

TIME: 2 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. Do not write on the question paper.
4. A separate answer booklet will be provided.

This Candidate tool consists of FIVE (5) printed pages. The candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.

SECTION A: (20 MARKS)

Answer all questions. Each question carries one (1) mark.

Select if the following statements are TRUE or FALSE:

1. PVC pipes can easily be bend manually without the use of heat.
A. True
B. False
2. Safety boots protect the legs from contamination when working in dirty water.
A. True
B. False
3. Water flows from the tap normally even if there is an air lock.
A. True
B. False
4. An elbow pipe fitting is used for continuation of water distribution where there is a corner.
A. True
B. False
5. Using a solar heater water system reduces electricity bills at home.
A. True
B. False

Copy and match each of the following piping tools and materials to their correct use.

NO.	TOOL/MATERIAL	USE
6.	File	Measuring the length of pipes
7.	Bench vice	Cutting pipes
8.	Threading tape	Sharpening cutting tools
9.	Hacksaw	Holding the work piece in place
10.	Tape measure	Sealing threads for firm connection of pipes

Choose the correct answer from the multiple choices given.

11. Which one of the following is NOT a material used for making plumbing pipes?

- A. Glass
- B. Plastic
- C. Iron
- D. Clay

12. Name the valve given below:



- A. Ball valve
 - B. Globe valve
 - C. Gate valve
 - D. Plug valve
13. Select a test done on pipework to assess if the system functions appropriately?
- A. Water test
 - B. Size test
 - C. Color test
 - D. Distance test
14. Which of the following is NOT a maintenance practice for a hot water system?
- A. Periodic inspections of the system
 - B. Checking for leaks
 - C. Covering the solar panels from sun rays
 - D. Cleaning the collectors

15. When is piping specification done for a given project?
- A. Construction phase
 - B. Design phase
 - C. Piping installation phase
 - D. Completion phase
16. _____ mm represent 1 inch of a standard PVC pipe.
- A. 25
 - B. 15
 - C. 35
 - D. 30
17. Select the type of pipes that do NOT require threading for joints to be made.
- A. PPR
 - B. G.I
 - C. PVC
 - D. HDPE
18. Fittings are used to connect pipes. Which of the following is NOT a type of fittings?
- A. Coupling
 - B. Faucet key
 - C. Valves
 - D. Adapters
19. Identify the use of a sealant when working with pipes.
- A. Provide support to the pipe
 - B. Make the work beautiful
 - C. Prevent leakage
 - D. Increase pressure
20. Why does a plumber refer to architectural drawings before they start installing pipes in a building?
- A. To admire the drawing
 - B. To study how to draw their house
 - C. To identify where pipes should be placed in the building

D. To decide on the type of pipes to use

SECTION B: (30 MARKS)

Answer all questions in this section.

21. Personal protective equipment (PPE) is gear worn to minimize exposure to hazards that can cause serious injuries in a workplace. List THREE personal protective equipment that are used when working with pipes. (3 Marks)
22. Plastic pipes are highly preferred in plumbing unlike other traditional materials like metal. State THREE reasons why plastic pipes are more preferred than metal pipes. (3 Marks)
23. A passive solar water heating system does not rely on electricity or pumps to function. Explain how a passive solar water heating system works. (3 Marks)
24. Active solar water heat helps in providing hot water in our homes. List the TWO types of active solar water heating system. (2 Marks)
25. In plumbing we have different tools which are used to complete the work done. Sketch the following tools
- a. Pipe wrench. (2 Marks)
 - b. File. (2 Marks)
26. Given that a drainage pipe covers a distance of 24 meters and has a fall of 0.30 meters. Calculate the gradient. (3 Marks)
27. Joints are used to connect pipes. Give THREE types of joints used in joining pipes. (3 Marks)
28. A plumber can use machine or manual heat to bend a pipe. State TWO areas where pipe bending is required during the installation of pipe work. (2 Marks)
29. Use of PVC pipe fittings help in connecting water to flow easily. Describe the process of fitting PVC pipes using the push-fit method. (4 Marks)
30. Rusting can lead to G.I pipe failure if not prevented. List THREE treatments that can be given to the pipes to prevent rust from forming. (3 Marks)

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