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073105T4PLM

PLUMBING LEVEL 5

CON/OS/PL/CR/01/5/A

Install Water Supply System

Nov/Dec 2024

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

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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 FOUR (4) 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. Pressure reducing valves are commonly used in residential, commercial and industrial settings. List FIVE primary functions of a pressure reducing valve in a water supply system. (5 Marks)
2. In the installation of water supply system in the building industry, there are major various plumbing materials commonly used. Name FOUR common materials used for residential water supply pipes. (4 Marks)
3. Installation of hot water supply systems has been on the rise due to the demand of hot water. Outline FOUR functions of an expansion of tank in a hot water system. (4 Marks)
4. Water storage in residential buildings is very critical so as to serve the various large holds in the buildings. State TWO advantages of providing storage of cold water in buildings. (2 Marks)
5. Personal protective equipment are major requirements while working in the field or workshop. Explain THREE advantages of using PPE's. (3 Marks)
6. In the building industry sector, various accidents normally occur to the plumbers due to ignorance of safety regulations. Explain TWO safety a plumber should observe during installation of water supply. (4 Marks)
7. During installation of a water supply system, a plumber is required to complete a task accordingly by use of tools and equipment. List FIVE various tools and equipment used. (5 Marks)
8. Pipework tools and equipment are cared for and maintained based on manufactures manual and workplace policy. Explain TWO reasons for maintaining tools and equipment. (4 Marks)
9. Positions of pipes are set out and marked based on working line diagrams from plumbing working plan. Highlight the procedure of installing the pipes on the wall from the plan. (5 Marks)
10. Back siphonage is the back flow of water which may be contaminated into the drinking water. Outline how this fault can be prevented. (4 Marks)

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SECTION B (60 MARKS)

Answer Any THREE Questions in This Section

11. A cistern must be watertight of adequate strength and manufactured from durable material.
    a) Describe the precautions necessary while installing a water cistern. (10 Marks)
    b) Explain the method of installing a cistern inside a roof space. (5 Marks)
    c) Outline the method of installing a meter on the underground service pipe according to the water regulation body. (5 Marks)
12. According to the building code standards a plumber must be conversant on interpretation of the working drainage based on installation of pipes.
    a) Describe the steps that a plumber must undergo from interpretation of the plan to the positioning and installing of pipes. (10 Marks)
    b) Highlight the procedures of pipe bending using a hydraulic machine (5 Marks)
    c) Explain the procedure of cutting GI pipes by use of hacksaw while installing in the building premises. (5 Marks)

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13. Distribution of water can be done using two types of cold-water system depending on the water authority regulations
    a) Explain any TWO types of cold-water distribution system. (4 Marks)
    b) Explain TWO advantages of each type in (a) above. (8 Marks)
    c) Outline FOUR precautions against frost discharge. (8 Marks)
14. All mains and services to be used for domestic water supply should be sterilized before being taken into and after being repaired
    a) Outline the procedure of sterilizing a storage cistern and distributing pipes. (10 Marks)
    b) Describe how a cold-water system is sterilized. (6 Marks)
    c) Explain TWO reasons why distributing pipes should be sterilized after repairing. (4 Marks)

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