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073204T4PLM**PLUMBING LEVEL 4****CON/OS/PL/CR/03/4** Printed By: Technical And Vocational College Date: 19.11.2025

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Install Drainage Systems**November/December 2025**

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

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WRITTEN ASSESSMENT**Time: 2 HOURS**

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INSTRUCTIONS TO CANDIDATE1. This sections: **A and B**

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2. Answer **ALL** the question in sections **A and B**

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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

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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 (10 MARKS)

Answer all questions in this section. Each question carries one mark

1. Which of the following is not plumber's work?

- A. Above ground drainage
- B. Installation of firefighting pipes
- C. Sheet metal roof covering
- D. Installation of electrical pipes

(1 mark)

2. Drawings are made by use of _____ to construct objects or structures in either 2-dimensional or 3-dimensional view. Which of the following terms is not suitable to complete the statement?

- A. Shapes
- B. Lines
- C. solids
- D. Sizes.

(1 mark)

3. Material that is not suitable for drainage works

- A. Fire clay
- B. Enameled steel
- C. Mild steel
- D. Enameled cast iron

(1 mark)

4. What is the correct drain size in millimeters suitable for wash hand basin?

- A. 40 mm
- B. 25 mm
- C. 32 mm
- D. 38 mm

(1 mark)

5. Which of the following fittings is not suitable for connecting fall pipe.

- A. Tee
- B. valve socket
- C. Offset
- D. Saddle clip

(1 mark)

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6. Select the method that is not used in taking out quantities from working drawing.

- A. Face to face method
- B. Long wall-short wall method
- C. Centre line method
- D. Partly center line and short wall method

7. Which of the following equipment is suitable in measuring reduced levels of a waste water sewer line?

- A. Plumb bob
- B. Levelling instrument
- C. Spirit level
- D. Horse pipe

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(1 mark)

8. Which of the following falls is correct for the drain pipe whose diameter is 100 mm?

- A. 1 in 20
- B. 1 in 40

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- C. 1 in 100
- D. 1 in 90

(1 mark)

9. Which of the following fitting is not used as a means of access in manholes?

- A. Stepped channel bend
- B. Level open channel junction
- C. Straight open channel
- D. Inspection elbow

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(1 mark)

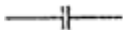

10. Which of the following material is not suitable for use in above ground drainage?

- A. Polypropylene
- B. PVC
- C. UPVC
- D. Ductile iron

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(1 mark)

SECTION B (40 MARKS)***Answer all questions in this section.***

11. Traps are a required drainage systems to prevent foul smell from sewer lines to enter residential houses. List THREE causes of loss of water seal in traps. (3 Marks)
12. Design of above ground drainage depends on the properties of the installation site. State TWO advantages of using one pipe drainage system. (4 Marks)
13. A Manhole should be constructed to give adequate space for a person to work while inside the chamber. Name FOUR areas where manholes can be constructed in a drainage system. (4 Marks)
14. When it rains and flooding occurs, pit latrines fill up with water and contamination of fresh water sources like rivers occur leading to health problems. List THREE recommended methods of sewage disposal. (3Marks)
15. The performance of drains depends on how they are well laid. Identify TWO factors that determine the techniques used in laying and bedding of drains (4Marks)
16. Drainage systems functionality is confirmed before commissioning the project to ensure the project takes more time before any major is done. Mention FOUR functionality test for drainage systems. (4 Marks)
17. List FOUR Safety gears that are worn when carrying out drainage works on site (4Marks)
18. A number of houses can be connected to a single sewer, which in turn can be connected to the public sewer to make the project less costly. State FOUR savings that are possible. (4 Marks)
19. Using plumbing symbols in working drawings facilitates clear and effective communication among plumbers. Name the correct symbols for the following fittings (4 Marks)
- i. 
- ii. 

iii.



iv.



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20. Below ground drainage conveys surplus water or liquid sewage away from the building in the most speedy and efficient way possible without any risk of nuisance or danger to health and safety. State TWO types of below ground drainage systems (4 Marks)

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21. State TWO factors to be considered when determining the location of a septic tank.

(2 Marks)

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