

073206T4BLD

BUILDING TECHNICIAN LEVEL 6

CON/OS/BUT/CR/09/6

INSTALL BUILDING SERVICES.

July/August 2023



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

WRITTEN ASSESSMENT

TIME: 3 HOURS.

INSTRUCTIONS TO CANDIDATE

1. This paper has two sections **A** and **B**. Attempt questions in each section as per instructions given in the section.
2. You are provided with a separate answer booklet.
3. Marks for each question are indicated in the brackets.
4. Do not write on the question paper

This paper consists of THREE (3) 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)

Attempt all questions in this section.

1. Ventilation is the basic mechanical service in buildings, highlight any five importance of installing permanent ventilation system in a building. (5 Marks)
2. Point out any two purposes of installing CCTV in a facility. (2 marks)
3. Describe cloud computing. (2 Marks)
4. Explain four environmental benefits of a well-maintained sewer system. (4 Marks)
5. As a building technician you are required to install electrical wiring in a facility. Discuss any three factors you will consider in selecting cables. (3 Marks)
6. Identify four functions of a firewall in network security. (4 Marks)
7. Explain any four functions of ventilation systems in a building. (4 Marks)
8. Define a smoke detector highlighting two functions. (3 Marks)
9. Describe the term PVC sheathed wiring system. (2 Marks)
10. Write any two factors considered when locating a manhole in a drainage system. (2 Marks)
11. Outline four common challenges during specialized service installation. (4 Marks)
12. Explain the importance of installing building services. (2 Marks)
13. As a building technician you are given a task in installing drainage system state three faults in drainage system do you expect to meet. (3 Marks)

SECTION B (60 MARKS)

Attempt any three questions from this section

14. Morris an electrician at KPLC is tasked to connect the electricity from the main supply to the new building.
- a. Explain four ways of protecting a building from electricity damages. (8 Marks)
 - b. With the aid of well labeled sketches explain how electricity is connected from the main supply to the consumer area. (12 Marks)
- 15.
- a. Define the following terms: (8 Marks)
 - i. Sewer
 - ii. Water closet
 - iii. Drain
 - iv. Soil water fitting
 - b. Demonstrate using a schematic diagram to show the connection of a hot and cold-water system to appliances in a residential house. (12 Marks)
- 16.
- a. Discuss the following two ways of supply cable intake and explain reasons for choosing either in a project. (10 Marks)
 - i. Underground duct
 - ii. Overhead supply
 - b. Every plug and socket- outlet shall comply with I.E.E. regulations, discuss any other five regulations? (10 Marks)
17. As a building technician you are tasked to design of a mechanical ventilation system for a specific building of a client.
- a. Discuss any three functions of mechanical ventilation system. (6 Marks)
 - b. Using a schematic diagram compare between mechanical and natural methods of ventilation. (14 Marks)