

073206T4BLD

BUILDING TECHNOLOGY LEVEL 6

CON/OS/BUT/CR/01/6/A

Produce Building Drawings

March/April 2025



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

WRITTEN ASSESSMENT

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE

1. This paper consists of **TWO** sections: **A** and **B**.
2. Attempt question **FIFTEEN** (15) and any other **TWO** (2) questions in section B.
3. Marks for each question are indicated in the brackets.
4. Candidates are provided with a separate answer booklet
5. **DO NOT** write on the question paper.

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 (40 MARKS)

Attempt ALL the questions in this section.

1. When designing a new building, architectural drawings are developed before the start of the project. State TWO purposes of architectural drawings. (2 Marks)
2. In civil engineering, drawings form the foundation of any construction project. List FOUR components of civil engineering drawings. (4 Marks)
3. Structural drawings are required before a project can be given a go ahead for commencement. State THREE functions of structural drawings. (3 Marks)
4. A well-planned plumbing layout is vital for the efficient functioning of a building's water system. List THREE functions of a plumbing layout. (3 Marks)
5. For any structural project, a bar bending schedule is developed from the drawings. State THREE purposes of a bar bending schedule in structural drawings. (3 Marks)
6. In building design, fire-fighting systems are an essential part of safety planning. Name TWO purposes of fire-fighting systems in building designs. (2 Marks)
7. The design of plumbing fittings facilitates proper flow of water and waste throughout. Sketch the following plumbing fittings as used in plumbing works. (3 Marks)
 - a) Tee
 - b) Union
 - c) Bend
8. Sewer systems are an important part of urban planning which exhibit a growing population. Outline THREE importance of sewer systems in urban planning. (3 Marks)
9. The gas supply system in buildings must be carefully planned to ensure safety and efficiency. Mention THREE components of a gas supply system in building drawings. (3 Marks)
10. Water treatment systems are necessary for ensuring clean water is available for consumption in any community. State TWO structures which are found in water treatment systems. (2 Marks)
11. Architectural drawings provide a comprehensive overview of a building's design. Differentiate between sections and elevations in architectural drawings. (4 Marks)
12. Both natural and artificial systems are used in buildings, each offering distinct advantages and applications. Compare natural and artificial ventilation systems used in buildings. (4 Marks)

13. Electrical symbols allow electricians and engineers to quickly understand the electrical system design. Identify the following symbols as used in electrical architectural drawings.

(2 Marks)

a)



b)



14. The shift from manual drafting to computer-aided design (CAD) has revolutionized the way drawings are created. Outline TWO advantages of computer aided design over the traditional manual drafting.

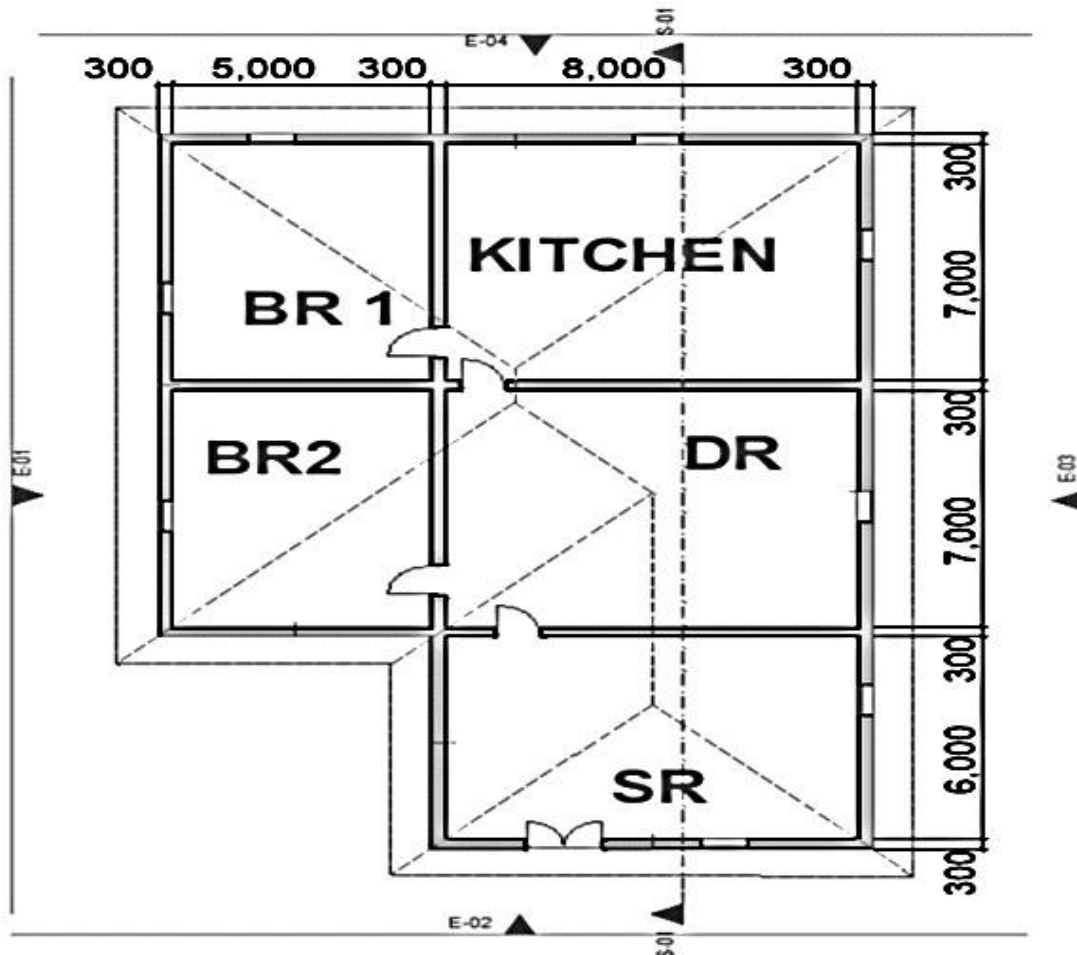
(2 Marks)

SECTION B (60 MARKS)

Attempt question FIFTEEN (15) and any other TWO (2) questions in This Section.

15. A client has approached you to come up with a two bedroomed house plan for construction. Using CAD software draw the proposed plan in Drawing No. 1 for the client, save in A3 layout and print. (20 Marks)

Drawing No. 1



16. Using drawing No.1, render the elevations E-01, E-02, E-03, E-04 and Section S-01 save in A3 layout and print. (20 Marks)
17. Civil engineering drawings are a requirement before any civil engineering works can begin.
- Explain SIX importance of civil engineering drawings in the construction of public infrastructure. (12 Marks)
 - Discuss FOUR different types of civil drawings required for road construction. (8 Marks)

18. When coming up with a plumbing layout during the design process of building, it is essential to consider several factors to ensure the soundness of the structure.

- a) Explain SIX key considerations when designing a plumbing layout for a commercial building. (12 Marks)
- b) Describe FOUR consumption and design requirements which are used to determine pipe sizes. (8 Marks)