

073205T4BLD

BUILDING TECHNOLOGY LEVEL 5

CON/OS/BUT/CR/03/5

Execute Building Superstructure Works

November/December 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. Answer **ALL** questions in section A and **ANY THREE** (3) 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 THREE (3) printed pages

Candidate 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 questions in this section

1. A new construction project requires walls that will carry the load of the roof. Differentiate between a load-bearing wall and a non-load-bearing wall. (4 Marks)
2. To ensure structural integrity, the arrangement of bricks in a wall must follow specific patterns. Name TWO bonding patterns used in brickwork. (2 Marks)
3. The construction of an upper floor slab is a critical activity. Outline THREE safety hazards to be controlled during the casting of a reinforced concrete slab. (3 Marks)
4. A client is concerned about the stability of their new building. Explain TWO reasons why reinforcement steel is used in concrete beams. (4 Marks)
5. Proper support is needed for workers placing concrete at height. List THREE types of scaffolding you would recommend for erecting a high wall. (3 Marks)
6. Beams transfer loads to columns. Highlight THREE types of beams based on their support conditions. (3 Marks)
7. Precast concrete elements are increasingly popular. Give FOUR advantages of using precast concrete slabs. (4 Marks)
8. You are preparing to cast a suspended concrete beam. List FOUR essential checks to perform on the formwork before pouring concrete. (4 Marks)
9. Reinforcement is crucial for the tensile strength of concrete elements. Outline THREE types of reinforcement bars used in superstructure construction. (3 Marks)
10. Mention THREE tools specifically used for checking the accuracy and alignment of brickwork during construction. (3 Marks)
11. A structural engineer requires proper reinforcement in concrete columns. Highlight THREE reasons for reinforcing a concrete column. (3 Marks)
12. Formwork is essential in construction while using concrete. State FOUR types of formworks you can use during construction. (4 Marks)

SECTION B (60 MARKS)

Answer ANY THREE questions in this section

13. As the graduate Building Technician on a given project, your responsibilities will include the execution of pointing and jointing works for the external masonry walls.
- a. With the aid of a sketch, describe the following types of mortar joints. (16 Marks)
 - i. Flush joint.
 - ii. Weather struck joint
 - iii. Half round joint
 - iv. Recessed joint
 - b. Outline FOUR purposes of a control joint. (4 Marks)
14. As part of a residential design project, the client's key requirements are to maximize natural ventilation, enhance natural lighting, and ensure occupant privacy.
- a. Discuss FIVE factors to consider when positioning casement windows. (10 Marks)
 - b. Explain the FIVE steps involved in the construction of a load-bearing masonry wall. (10 Marks)
15. In building construction, setting out is the process of transferring the dimensions and layout of a structure from working drawings onto the ground.
- a. Explain TWO methods of setting out. (10 Marks)
 - b. Describe FIVE ways of storing materials and equipment after setting out. (10 Marks)
16. Staircases are fundamental structural elements designed to facilitate safe and efficient movement between different floor levels in a building
- a. Describe FIVE components of a staircase. (10 Marks)
 - b. Discuss FIVE types of stairs that can be used in a building. (10 Marks)