

073206T4BLD

BUILDING TECHNICIAN LEVEL 6

CON/OS/BUT/CR/06/6

EXECUTE SUPERSTRUCTURE WORKS

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.
5. Answer your questions in English.

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 pages are missing

SECTION A (40 MARKS)

Attempt ALL questions in this section.

1. In superstructure walling bridging opening is important. State any **three** major wall openings. (3 Marks)
2. Identify **five** forms of pitched roof trusses. (5 Marks)
3. Outline any **five** properties of a good mortar. (5 Marks)
4. Ground floor is the lowest level of a building that is directly accessible from the ground level highlight **three** types. (3 Marks)
5. Briefly explain **two** types of stair cases. (4 Marks)
6. Staggering of joints is an art in bonding give any **three** reasons as to why it is important in brick bonding.. (3 Marks)
7. Name **three** main types of roof coverings. (3 Marks)
8. You have been tasked to conduct concreting for structural elements of superstructure walling. List **three** raw materials used to prepare a concrete mix. (3 Marks)
9. Distinguish between terms jointing and pointing as used in superstructure works. (4 Marks)
10. With the aid of a sketch, briefly describe toothing and raking back in wall construction (7 Marks)

SECTION B (60 MARKS)

Attempt any THREE (3) questions in this section. All questions carry equal marks

11. Brick bonding is highly taken into consideration in construction of superstructure walling.
 - a. Identify any **five** rules to consider when choosing the method of bonding. (5 Marks)
 - b. Describe with an aid of a well labelled sketch the following bonds.
 - i. Stretcher bond
 - ii. Flemish bond
 - iii. English bond. (15 marks)
12. It is important to consult with a professional contractor or fireplace specialist to ensure proper installation and construction of a fireplace.
 - a. Explain any **five** design principles of a fireplace. (10 Marks)
 - b. Sketch and label a sectional through fire place showing the following

- i. Fire back
- ii. Gathering
- iii. Hearth
- iv. Flue
- v. Breast (10 Marks)

13. As a building technician you have been tasked to design a staircase for a client.

- a. Using a well labeled diagram show the details of a section of a Reinforced Concrete staircase. (5 Marks)
- b. Explain the following terms as applied in a staircase. (15 Marks)
 - i. A tread
 - ii. Headroom
 - iii. A stringer
 - iv. Landing
 - v. Nosing

14. A roof is the highest component of a building that serves as a structural covering to protect the structure from all kind's elements.

- a. Outline any **five** functions of a roof. (5 Marks)
- b. Explain **five** advantages of flat roofs. (5 Marks)
- c. Using a well labeled diagram show the details of a coupled closed roof. (10 Marks)