

073206T4BLD
BUILDING TECHNICIAN LEVEL 6
CON/OS/BUT/CR/05/6
EXECUTE SUBSTRUCTURE WORKS
July/August 2024



**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.
2. You are provided with a separate answer booklet.
3. Marks for each question are indicated in the brackets.
4. Do not write on this 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 pages are missing.

SECTION A: (40 MARKS)

Attempt all questions in this section

1. Setting out is crucial to ensure that the construction works are carried out accurately. What do you understand by the term setting out? (2 marks)
2. In a construction project there are various types of working drawings. Outline four examples of working drawings. (4 marks)
3. Setting out in construction is of paramount importance in the preliminary stages of construction. State three reasons of setting out. (3 marks)
4. There are various tools available that can be used during setting out. Highlight any two of these tools used in setting out. (2 marks)
5. Foundations form the base of a structure. State four functional requirements of foundations. (4 marks)
6. Before cutting reinforcement bars a bar bending schedule is prepared. Highlight three functions of a bar bending schedule. (3 marks)
7. Concrete is a composite material comprised of several ingredients. Highlight four ingredients of concrete. (4 marks)
8. A common practice during the excavation of foundation trenches is the provision of timbering. Highlight three situations where timbering is required. (3 marks)
9. Soil is a complex material that is made of a variety of organic and inorganic matter. State three types of soils. (3 marks)
10. When it comes to construction techniques, spacer blocks play a crucial role in various applications. Outline two uses of spacer blocks. (2 marks)
11. A solid ground floor is comprised of several layers of different materials aimed at increasing stability and strength. State three layers found in a solid ground floor. (3 marks)
12. Formwork is used in concreting works to support wet concrete after placing. Outline four functional requirements of foundation formwork. (4 marks)
13. During concreting of foundations reinforcement bars are used together with concrete. Outline three reasons for using reinforcement in foundations. (3 marks)

SECTION B: (60 MARKS)

This section consists of four (4) questions.

*Attempt any **THREE (3)** questions. All questions carry equal marks.*

14. As you venture into the dynamic world of construction, mastering the particulars of setting out lays a solid foundation for project success.
- a. Explain four methods of setting out. (8 marks)
 - b. Using sketches describe the general setting out procedure you are going to use. (12 marks)
15. You have been awarded a project to construct a hospital in your local area financed by the constituency development fund.
- a. Discuss six factors that would affect the type of foundations you would use in the project. (12 marks)
 - b. Describe four types of foundations which you would consider for the project. (8 marks)
16. Timbering is an essential safety measure for many construction projects during the excavation stage.
- a. Explain five reasons for timbering. (10 marks)
 - b. Describe five factors to consider when selecting the type of timbering to be used. (10 marks)
17. As you engage in the activities of construction projects, understanding the critical role of dewatering in managing water levels in excavations becomes critical.
- a. Discuss five reasons why you would carry out dewatering. (10 marks)
 - b. Explain five methods of dewatering you would use to ensure excavations are free of water. (10 marks)

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