073206T4BLD

BUILDING TECHNOLOGY LEVEL 6

CON/OS/BUT/CR/05/6/A

Execute Substructure Works

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 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 FOUR (4) 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. Excavation for foundation building is guided by provided working drawings. Outline THREE potential risks and consequences of not excavating the foundation as per the working drawings. (3 Marks)
2. Timbering involves installing wooden boards and supports to temporarily shore up trench walls during excavation. Give THREE importance of carrying out timbering during foundation excavation. (3 Marks)
3. Soil analysis is undertaken to establish soil conditions before foundation excavation begins. List THREE common methods of foundation timbering. (3 Marks)
4. Dewatering is an activity undertaken while executing substructure works for a building. Highlight THREE importance of dewatering during foundation excavation. (3 Marks)
5. Foundation concreting is key to the stability of the structure. Identify THREE key design requirements to consider during concreting. (3 Marks)
6. Before concrete foundation is casted, blinding layer needs to be casted. Mention THREE importance of a blinding layer in a construction. (3 Marks)
7. Anti-termites' treatment in construction is a proactive measure to prevent termite infestation in buildings. Outline THREE circumstances when application of anti-termite treatment during construction should take place. (3 Marks)
8. Bar bending schedule is a document that lists specifications details of the reinforcement bars used in the structure. Highlight FOUR reasons for preparing a bar bending schedule. (4 Marks)
9. Reinforcement is essential in placed foundation concrete for several reasons. Outline THREE reasons for reinforcement in placed foundation concrete. (3 Marks)
10. Segregation occurs when the components of the concrete mix separate. Identify any THREE ways of preventing segregation placed in foundation concrete. (3 Marks)
11. Substructure work's activities need to be undertaken and upon their completion, they should be finished appropriately. Identify THREE inspections that should be undertaken before confirming that the substructure works are finished. (3 Marks)
12. Rainy weather affects concreting of the foundation especially when the weather of an area is unpredictable. Name any THREE common challenges of placing foundation concrete in rainy weather. (3 Marks)

13. A Prepared bar bending schedule is a detailed document used in construction that provides the necessary information about the reinforcement bars required for a project. List any THREE details contained in bar bending schedule. (3 Marks)