

073206T4BLD

**BUILDING TECHNOLOGY LEVEL 6**

CON/OS/BUT/CR/02/6/A

Execute Site Preliminary 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.*

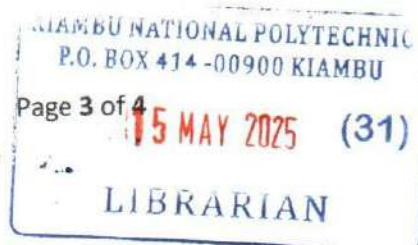
1. A client requires the services of a surveyor for a newly acquired piece of land. Define the term site boundary. (2 Marks)
2. Site clearance method is selected depending on site conditions. Briefly describe TWO methods used to clear thickets and shrubs in a given site. (4 Marks)
3. Top soil is stripped off before construction of any building. State TWO reasons for the removal of top soil. (2 Marks)
4. One of the main objective of chain survey is to measure and map the boundaries. Name FOUR instruments required for a chain survey. (4 Marks)
5. Safety precautions are put in place to ensure safety of workers in a site. State FOUR reasons for disconnecting building services before demolition. (4 Marks)
6. There are several structures that can be erected during site preliminary works. Differentiate between a fence and hoardings. (4 Marks)
7. There are essential parts of a level found in leveling instruments. List FOUR parts of a theodolite. (4 Marks)
8. It is customary for a site manager to assess and identify several important services required in a site. List FOUR site services required during site preliminary works. (4 Marks)
9. Contouring in surveying entails determination of elevation of various points on the ground and producing a contour map. Define the following terms. (4 Marks)
  - a) Contour elevation
  - b) Contour interval
10. Demolition in site preliminary works is the tearing-down of existing buildings and other unwanted structures. State FOUR aspects put into consideration while choosing the demolition method to be used. (4 Marks)
11. A lot of waste is produced during site clearance. Outline TWO uses of a site waste management plan that is prepared before commencement of site clearance. (4 Marks)



**SECTION B (60 MARKS)**

*Attempt Any THREE Questions in This Section.*

12. The contractor is supervising soil testing of a new construction site. The collected soil samples are then taken to the lab to undergo different test.
- a) Explain SEVEN reasons for conducting soil testing during site preliminary works. (14 Marks)
  - b) Briefly describe the following soil sampling techniques. (6 Marks)
    - i. Cluster Soil Sampling
    - ii. Stratified Soil Sampling
    - iii. Random Soil Sampling
13. As a construction manager you are tasked to produce a site layout of the piece of land an investor is planning to erect a shopping complex. The site layout is a plan of the construction site, providing the area as well as the proper position for arranging the necessary resources in the construction work.
- a) Discuss FIVE considerations of site layout planning. (10 Marks)
  - b) Describe FIVE types of site amenities likely to be included in the site layout. (10 Marks)
14. Before the commencement of actual building construction, there is the need to conduct certain preliminary site activities.
- a) Describe FOUR of these activities which proceeds the actual building construction. (8 Marks)
  - b) There are many tools and equipment used during site preliminary works. Sketch a wrecking ball equipment. (5 Marks)
  - c) Discuss SEVEN site safety requirements to be observed when performing site clearance in a construction site. (7 Marks)
15. A surveyor has been hired to perform leveling and produce a contour map of the site. Leveling is a branch of survey used to determine heights of points on the surface of the earth. The surveyor arrived with two assistants and necessary tools/equipment to perform his duties.
- a) Explain the following terms used in leveling.
    - i. Benchmark. (2 Marks)
    - ii. Reduced level. (2 Marks)



- b) The table below shows a record of staff readings taken during a levelling exercise. The reading was taken on a benchmark of reduced level 49.872metres. Reduce the staff readings using the height of collimation method and apply the arithmetic checks.

(11 Marks)

BS	IS	FS	REMARKS
2.191			BM (49.872)
	2.507		A
	2.325		B
3.019		1.496	C(CP)
	2.513		D
1.752		2.811	E(CP)
		3.817	TBM

- a) Describe FIVE characteristics of contours maps.

(5 Marks)

