

073206T4ARC

ARCHITECTURAL TECHNOLOGY LEVEL 6

CON/OS/ARC/CR/06/6/A

Apply Alternative Building Technology

July/August 2024



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

WRITTEN ASSESSMENT

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE

1. Marks for each question are indicated in the brackets.
2. The paper consists of **TWO** sections: **A** and **B**.
3. Candidates are provided with a separate answer booklet
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 questions are missing.**

SECTION A (40 MARKS)

Answer ALL questions in this section.

1. EPS is one of the modern building materials. Define the term EPS. (2 Marks)
2. Highlight FOUR functional requirements of plastics in construction. (4 Marks)
3. Interlocking stabilized soil blocks (ISSB) are widely used in rural areas. State FOUR advantages of using ISSB over other type of blocks. (4 Marks)
4. Mortar is used to join the blocks. State THREE materials used in making mortar. (3 Marks)
5. Concrete is one of the oldest materials used in the construction industry. Define the term casting as used in construction. (2 Marks)
6. Glass panels are used mostly as curtain walling. Highlight TWO processes involved in fixing of glass panel. (2 Marks)
7. Precast concrete panels are fixed securely on structures using different methods. Outline TWO methods used. (4 Marks)
8. Timber panels are treated to avoid rotting. State THREE materials used in treating timber panels. (3 Marks)
9. Glass is one of the most commonly used materials in construction. Give THREE disadvantages of using glass panels over any other panel in curtain wall construction. (3 Marks)
10. Plastic in modern life of construction has become so popular. Highlight THREE disadvantages of using plastic as a construction material. (3 Marks)
11. Precast concrete is more preferred in certain scenarios than casting on site. List FOUR advantages of precast concrete over casting on site. (4 Marks)
12. When using different panels for construction an expert is very crucial. State FOUR factors to be considered when using construction panels. (4 Marks)
13. Paint and varnishes are both used for coating. Distinguish between painting and varnishing as used in coating of construction panels. (2 Marks)

SECTION B (60 MARKS)

Answer any THREE questions in this section.

14. a) James, an architect, advised his client Agnes to construct her one storey house using EPS. Discuss FIVE reasons why James recommended the use of EPS to his client
(10 Marks)
- (b) Interlocking blocks are preferred by some Kenyans. Describe FIVE advantages of using interlocking blocks over machine cut blocks.
(10 Marks)
15. a) Concrete mix design is very crucial in concrete production Describe TWO methods used in batching of concrete
(4 Marks)
- b) Casting of concrete determines concrete finish to some extents. Explain THREE factors that may affect the finish surface of a concrete product.
(6 Marks)
- c) Discuss FIVE processes involved in manual mixing of concrete.
(10 Marks)
16. a) Metal panels are sometimes used in construction. Explain FIVE advantages of using metal panels over timber panels.
(10 Marks)
- b) Evolution has taken place in construction industry. Using practical examples discuss FIVE Challenges that have been solved by this modern technology in the construction industry.
(10 Marks)
17. a) Despite their demerits, timber panels are commonly used in large construction firm. Discuss FIVE demerits of using timber panels.
(10 Marks)
- b) Technology has over taken so many traditional construction materials. Explain FIVE traditional construction materials that were commonly used.
(10 Marks)

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