

2705/203

**CONSTRUCTION MANAGEMENT I AND  
WORKSHOP TECHNOLOGY II (ELECTRICAL)**

June/July 2019

Time: 3 hours



**THE KENYA NATIONAL EXAMINATIONS COUNCIL**

**DIPLOMA IN BUILDING TECHNOLOGY**

**CONSTRUCTION MANAGEMENT I AND WORKSHOP TECHNOLOGY II (ELECTRICAL)**

**3 hours**

**INSTRUCTIONS TO CANDIDATES**

*You should have the following for this examination:*

*Scientific calculator;*

*Answer booklet.*

*This paper consists of EIGHT questions in TWO sections: A and B.*

*Answer FIVE questions choosing at least THREE questions from section A and TWO questions from section B.*

*All questions carry equal marks.*

*Maximum marks for each part of a question are as shown.*

*Answer all questions in the answer booklet provided.*

*Candidates should answer the questions in English.*

**This paper consists of 3 printed pages.**

**Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**

## SECTION A: CONSTRUCTION MANAGEMENT I

Answer **THREE** questions from this section.

1. (a) State **four** types of contractors. (2 marks)
- (b) State **five** roles of each of the following stakeholders in construction industry:
  - (i) Kenya Bureau of Standards;
  - (ii) National Construction Authority. (10 marks)
- (c) Explain **three** types of construction work. (6 marks)
- (d) Explain the term management. (2 marks)
2. (a) State **eight** principles of management. (4 marks)
- (b) Explain **two** types of each of the following in an organization:
  - (i) relationships;
  - (ii) organizational structures. (8 marks)
- (c) Explain **four** functions of management. (8 marks)
3. (a) Explain **five** factors to consider when designing a site layout. (10 marks)
- (b) Explain **five** benefits of designing a site layout. (10 marks)
4. (a) State **four** roles of a Quantity Surveyor during the construction period. (4 marks)
- (b) Explain each of the following types of contracts stating **one** advantage in each case:
  - (i) lump sum;
  - (ii) cost plus fixed fee. (6 marks)
- (c) Distinguish open tendering from selective tendering. (4 marks)
- (d) Explain **three** types of contract documents. (6 marks)
5. (a) Outline **four** factors to consider when entering into a contract. (6 marks)
- (b) Explain **three** factors that make a contract null and void. (6 marks)
- (c) Explain **four** remedies for breach of contract. (8 marks)



## SECTION B: WORKSHOP TECHNOLOGY (ELECTRICAL)

Answer **TWO** questions from this section.



6. (a) Explain each of the following lamps:
- (i) tungsten halogen lamp;
  - (ii) high-pressure sodium discharge lamp;
  - (iii) tubular fluorescent lamp;
  - (iv) mercury discharge lamp.
- (8 marks)
- (b) Explain each of the following electrical terminologies:
- (i) current;
  - (ii) cable;
  - (iii) insulator;
  - (iv) resistivity.
- (8 marks)
- (c) Sketch each of the following electrical symbols:
- (i) cooker unit;
  - (ii) pull switch.
- (4 marks)
7. (a) Explain **two** classification of power distribution systems based on the scheme of connection.
- (4 marks)
- (b) State **four**:
- (i) advantages of wind power;
  - (ii) demerits of hydropower.
- (8 marks)
- (c) Sketch and label the distribution of electricity from generating station to consumer unit.
- (8 marks)
8. (a) State **six** IEE regulations relating to conductors.
- (6 marks)
- (b) Outline **four** factors to consider when costing for an electrical installation.
- (6 marks)
- (c) (i) Sketch and label a two-way switch with an intermediate switch to control a lamp in a long corridors.
- (ii) State **three** precautions observed when soldering aluminium cable joints.
- (8 marks)

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