

1704/105  
SITE MANAGEMENT AND  
CONSTRUCTION PLANT  
Oct./Nov. 2018  
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL  
CRAFT CERTIFICATE IN BUILDING TECHNOLOGY

MODULE I

SITE MANAGEMENT AND CONSTRUCTION PLANT

3 hours

INSTRUCTIONS TO CANDIDATES

*You should have the following for this examination:*

*Answer booklet;*

*Drawing instruments.*

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

*Answer TWO questions from Section A, TWO questions from Section B and ONE question from either section.*

*All questions carry equal marks.*

*Maximum marks for each part of a question are indicated.*

*Candidates should answer the questions in English.*

**This paper consists of 4 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: SITE MANAGEMENT

*Answer at least TWO questions from this section.*

1. (a) (i) State **two** purposes of preliminary items.  
 (ii) Explain **three** items included in preliminary works. (7 marks)
  
- (b) Define each of the following terms:
  - (i) contract;
  - (ii) tendering;
  - (iii) organization. (6 marks)
  
- (c) State **three** disadvantages of a lumpsum contract. (3 marks)
  
- (d) State **four** functions of a site layout. (4 marks)
  
2. (a) Define each of the following purchasing terms:
  - (i) invoice;
  - (ii) requisition;
  - (iii) specification;
  - (iv) quotation;
  - (v) delivery note. (10 marks)
  
- (b) Explain **three** reasons for hoarding store. (6 marks)
  
- (c) State **four** advantages of centralized stores. (4 marks)
  
3. (a) Explain **three** techniques of analysing materials for estimation. (6 marks)
  
- (b) Explain **three** elements of a unit rate. (6 marks)
  
- (c) Explain **three** roles of each of the following:
  - (i) subcontractor;
  - (ii) nominated supplier. (6 marks)
  
- (d) State **four** duties of an office secretary. (2 marks)



4. (a) Explain **four** factors influencing a workshop layout. (8 marks)
- (b) Explain **two** types of plant maintenance. (4 marks)
- (c) Explain **three** safety precautions related to personnel in a workshop. (6 marks)
- (d) State the **two** sources of capital for acquiring a construction plant. (2 marks)

### SECTION B: CONSTRUCTION PLANT

*Answer at least TWO questions from this section.*

5. (a) State **six** classes of construction plant. (3 marks)
- (b) Highlight **five** reasons for using construction plant. (5 marks)
- (c) With the aid of a labelled sketch, explain the operation of a crawler mounted skimmer. (7 marks)
- (d) State **five** safety precautions when operating stone crushers. (5 marks)
6. (a) Explain **four** factors affecting the choice of a compacting plant. (8 marks)
- (b) Sketch and label a tandem smooth wheel roller. (5 marks)
- (c) With the aid of a sketch, explain the operation of a truck concrete mixer. (7 marks)
7. (a) Explain each of the following plant maintenance aspects:
- (i) servicing;
  - (ii) inspections;
  - (iii) repairs.
- (b) Define each of the following categories of machine inspection:
- (i) important;
  - (ii) ordinary.
- (c) State **four** advantages of using a concrete pump.



- (d) Calculate the number of days it will take to concrete a slab of 8 m x 7 m with a thickness of 150 mm using the following data: (6 marks)

Mixer drum capacity	0.3 m <sup>3</sup>
Loading time	2 minutes
Mixing time	3 minutes
Mixer efficiency	20%
Discharge time	1 minute
Hours worked per day	9

8. (a) State **five** safety precautions observed when using compacting plant. (5 marks)
- (b) Explain **three** merits of plant management. (6 marks)
- (c) (i) Sketch and label a belt conveyor.
- (ii) State **four** advantages of using conveyor belts. (9 marks)

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