

1704/105
SITE MANAGEMENT AND
CONSTRUCTION PLANT
June/July 2019
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;

Mathematical tables/non programmable scientific calculator;

Drawing instruments.

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

Answer FIVE questions choosing 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) State **five** factors to consider when selecting a workshop site. (5 marks)
- (b) Outline **six** qualities of a good leader. (9 marks)
- (c) Describe **three** methods of filing systems used in an office. (6 marks)
2. (a) State **six** essentials of a valid contract. (6 marks)
- (b) State **two** duties of each of the following parties in the building industry:
 - (i) Clerk of Works;
 - (ii) Architect;
 - (iii) Quantity Surveyor;
 - (iv) Main contractor. (8 marks)
- (c) Explain the following contract documents:
 - (i) drawings;
 - (ii) bill of quantities;
 - (iii) specifications. (6 marks)
3. (a) (i) Give **four** reasons for storing materials on a construction site. (4 marks)
- (ii) Differentiate between domestic suppliers and nominated suppliers. (4 marks)
- (b) Explain how the following materials should be stored in a construction site:
 - (i) cement bags;
 - (ii) sand. (6 marks)
- (c) State **six** ways of reducing waste in a building site. (6 marks)



4. (a) Outline **three** preliminary items for the works in a construction site. (6 marks)
- (b) State **four** safety requirements pertaining to each of the following in a building site:
- (i) ladder;
- (ii) excavations. (8 marks)
- (c) Explain **three** methods used in safety training. (6 marks)



SECTION B: CONSTRUCTION PLANT

Answer at least TWO questions from this section.

5. (a) State **three** advantages of the following:
- (i) owning a plant;
- (ii) hiring a plant. (6 marks)
- (b) State the **six** reasons for using construction plants and equipment for building works. (6 marks)
- (c) State **four** factors that a building contractor should consider before purchasing a construction plant or equipment. (4 marks)
- (d) Explain **two** factors that affect the choice of a construction plant to be used in a building site. (4 marks)
6. (a) State **four** factors to consider when selecting the type of concrete mixer to use in a building site. (4 marks)
- (b) Describe the following types of concrete drum mixers:
- (i) tilting;
- (ii) non-tilting;
- (iii) reversing. (6 marks)

- (c) Explain **three** advantages of using concrete pumps to place large volumes of concrete. (6 marks)
- (d) Explain **two** factors that necessitate the use of ready mixed concrete for building works. (4 marks)
7. (a) State **two** reasons why rollers are used on a building site. (2 marks)
- (b) With the aid of a labelled sketch, describe a deadweight roller. (6 marks)
- (c) Describe the following types of vibrators used in concrete works:
- (i) poker vibrator;
 - (ii) vibration tampers;
 - (iii) clamp vibrators. (6 marks)
- (d) (i) State **two** tasks performed by water pumps in a building site.
- (ii) State **four** factors considered when choosing a suitable pump for use for the above mentioned tasks. (6 marks)
8. (a) State **four** reasons why maintenance of construction plants is necessary. (4 marks)
- (b) Name **three** types of maintenance carried out on plants and equipment and explain any **two**. (7 marks)
- (c) State **four** causes of breakdown of plants and equipment. (4 marks)
- (d) With the aid of a labelled sketch, describe a dumper. (5 marks)

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