

Name _____ Index No. _____

2705/203

**CONSTRUCTION MANAGEMENT I
AND WORKSHOP TECHNOLOGY II**

June/July 2015

Time: 3 hours



Candidate's Signature _____

Date _____

THE KENYA NATIONAL EXAMINATIONS COUNCIL**DIPLOMA IN BUILDING TECHNOLOGY
MODULE II****CONSTRUCTION MANAGEMENT I AND WORKSHOP TECHNOLOGY II****3 hours****INSTRUCTIONS TO CANDIDATES***Write your name and index number in the spaces provided above.**Sign and write the date of the examination in the spaces provided above.**You should have a scientific calculator for this examination.**This paper consists of EIGHT questions in TWO Sections; A and B.**Answer FIVE questions choosing THREE questions from Section A and TWO questions from Section B in the spaces provided in this question paper.**All questions carry equal marks.**Maximum marks for each part of a question are indicated.**Do NOT remove any pages from this question paper.**Candidates should answer the questions in English.***For Examiner's Use Only**

Section	Question	Maximum Score	Candidate's Score
A	1	20	
	2	20	
	3	20	
	4	20	
	5	20	
B	6	20	
	7	20	
	8	20	
Total Score			

This paper consists of 16 printed pages.**Candidates should check the question paper to ascertain that
all the pages are printed as indicated and that no questions are missing.**

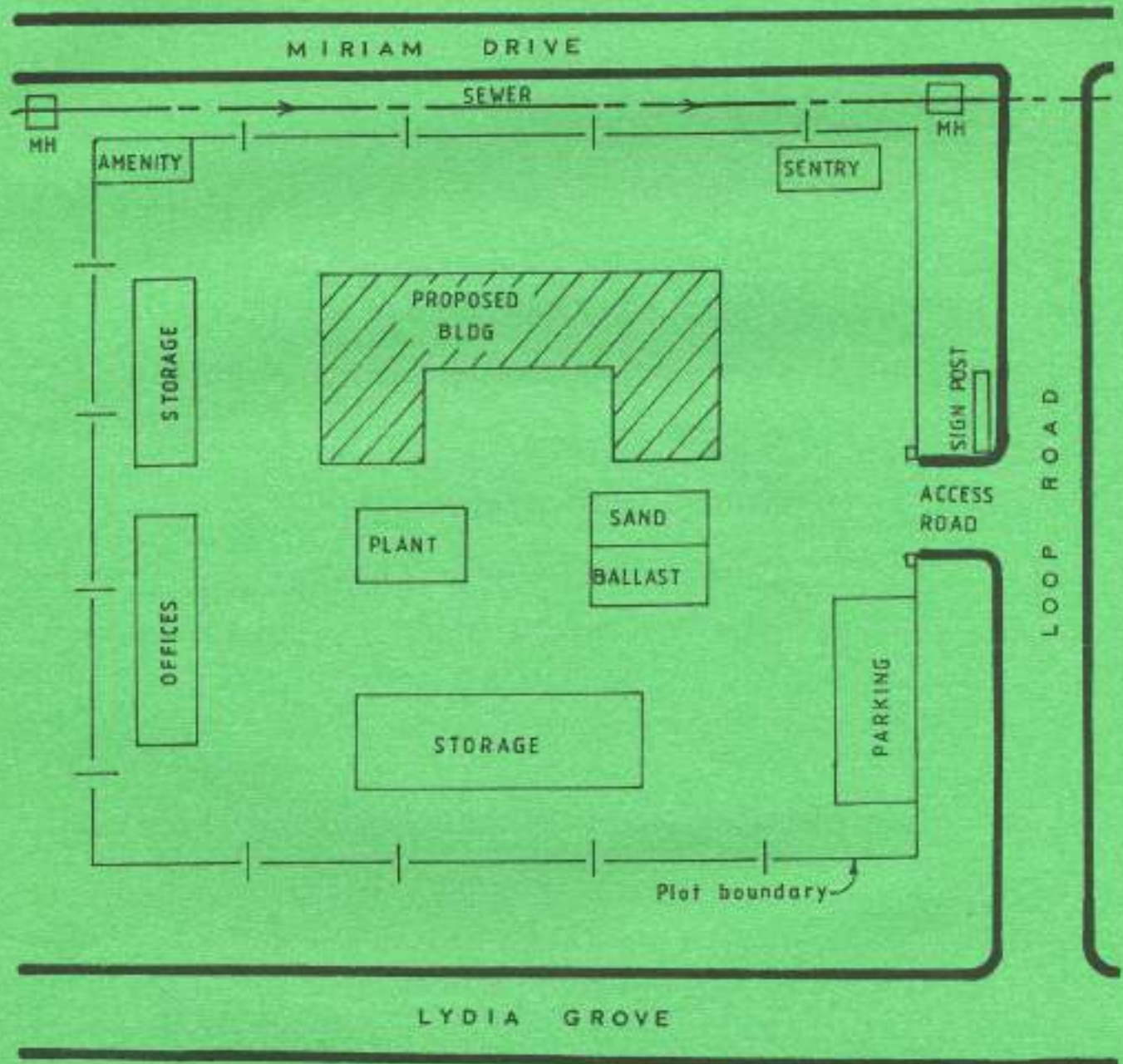
SECTION A: CONSTRUCTION MANAGEMENT I

*Answer any **THREE** questions from this section.*

1. (a) Explain the objective of management in the construction industry. (3 marks)
- (b) Discuss the following principles of management:
 - (i) scalar;
 - (ii) stability of tenure;
 - (iii) equity;
 - (iv) unity of command;
 - (v) division of work;
 - (vi) remuneration. (9 marks)
- (c) State:
 - (i) any **five** duties of Architectural Association of Kenya;
 - (ii) any **three** roles of National Construction Authority in Kenya. (8 marks)
2. (a) Outline any **five** functions of a construction manager. (10 marks)
- (b) State any **five** roles of a Quantity Surveyor in the construction industry. (5 marks)
- (c) Explain the process of administering the Factories Act. (5 marks)
3. (a) With the aid of diagrams, explain the following organizational relationships:
 - (i) direct;
 - (ii) functional;
 - (iii) lateral. (9 marks)
- (b) Explain the following tendering methods:
 - (i) package deal;
 - (ii) negotiated;
 - (iii) serial. (9 marks)
- (c) Differentiate between Specifications and Bill of Quantities. (2 marks)



4. (a) Outline any five factors to be considered by the contractor during the planning of site layout plan. (10 marks)
- (b) Figure 1 is a site layout plan done six months ago. In the process the town planners stopped the construction of a loop road connecting Miriam Drive and Lydia Grove and constructed a sewer line along Miriam Drive. This changed the idea of the proposed layout plan. Re-draw a suitable layout plan for the site. (10 marks)



SITE LAYOUT PLAN

Fig. 1



5. (a) Explain the following contracts:
- (i) turn-key;
 - (ii) lump sum;
 - (iii) schedule of rates contracts;
 - (iv) contractors without bills of quantities. (8 marks)
- (b) Outline **three** essentials of a valid contract. (6 marks)
- (c) Define the term 'agency' as used in a contract. (2 marks)
- (d) State any **four** remedies for breach of contract. (4 marks)

SECTION B: WORKSHOP TECHNOLOGY II

Answer any TWO questions from this section.

6. (a) State:
- (i) any **four** advantages of solar power;
 - (ii) any **four** disadvantages of solar power. (8 marks)
- (b) Describe the statutory requirements of supply of electricity from generating plant. (4 marks)
- (c) Using a line diagram, sketch and label the distribution of power from generating plant to the consumer. (8 marks)
7. (a) With the aid of a sketch, describe three phase four wire system of electricity supply to domestic buildings. (11 marks)
- (b) State:
- (i) **three** IEE installation control requirements;
 - (ii) **three** functions of switch gears in installations. (6 marks)
- (c) State **three** functions of electrical earthing in buildings. (3 marks)



8. (a) Outline **three** elements to consider in cost estimate. (9 marks)

(b) A final circuit is to be taken from a spare way in a distribution fuse board. The circuit comprises 8 lighting points with 8 switches. The average run per point is 9.0 m. Each point terminates in a ceiling rose with flexible pendants. The cable to be used is PVC insulated and sheathed. Fixing are surface on wood throughout. Estimate the materials required for this task. (11 marks)
(Assume for sundries and ceiling height of 2.75 m).

