

Name: _____

Index No: _____

2705/204,

2707/204

Candidate's Signature: _____

MEASUREMENT OF BUILDING
AND CIVIL ENGINEERING WORKS
ESTIMATING AND COSTING I



Date: _____

Oct./Nov. 2015

Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN BUILDING TECHNOLOGY
DIPLOMA IN CIVIL ENGINEERING
MODULE II

MEASUREMENT OF BUILDING AND CIVIL ENGINEERING
WORKS, ESTIMATING AND COSTING I

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 the following for this examination:

Scientific calculator;

Standard methods of measurement for East Africa;

Standard methods of measurement for Civil Engineering.

This paper consist of **SIX** questions in **TWO** Sections; **A** and **B**.

Answer any **TWO** questions in section **A**, and any **TWO** questions in section **B** in the spaces provided.

Questions in section **A** carry 30 marks each while those in section **B** carry 20 marks each.

Maximum marks for each part of a question are as 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	30	
	2	30	
	3	30	
B	4	20	
	5	20	
	6	20	
Total Score			

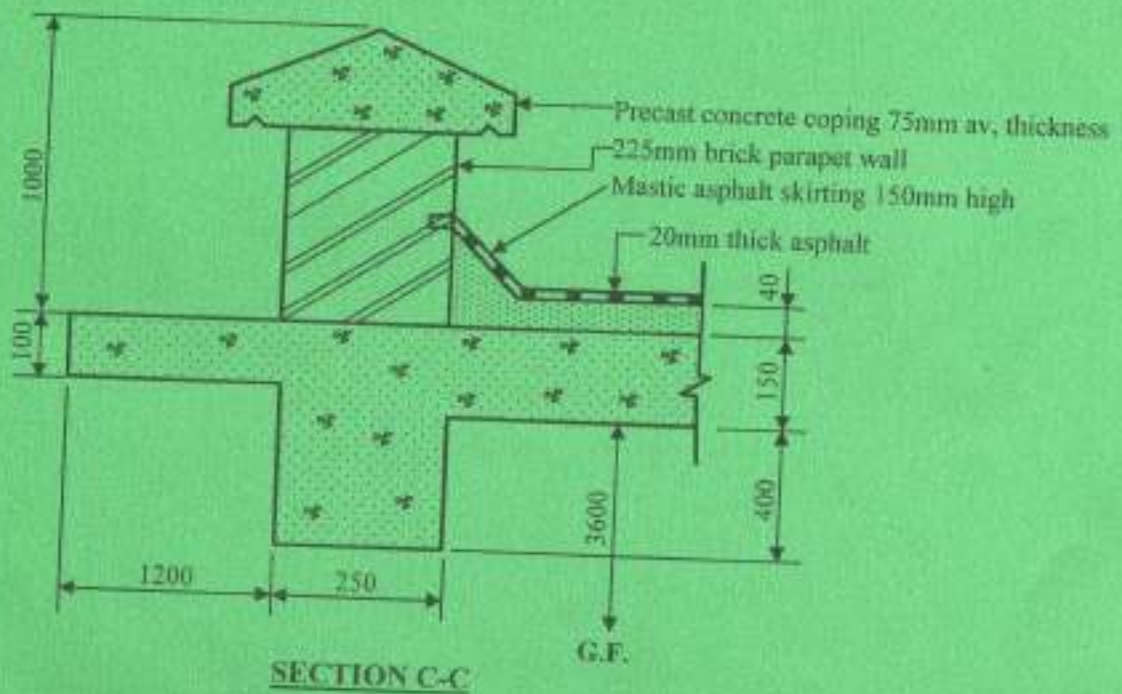
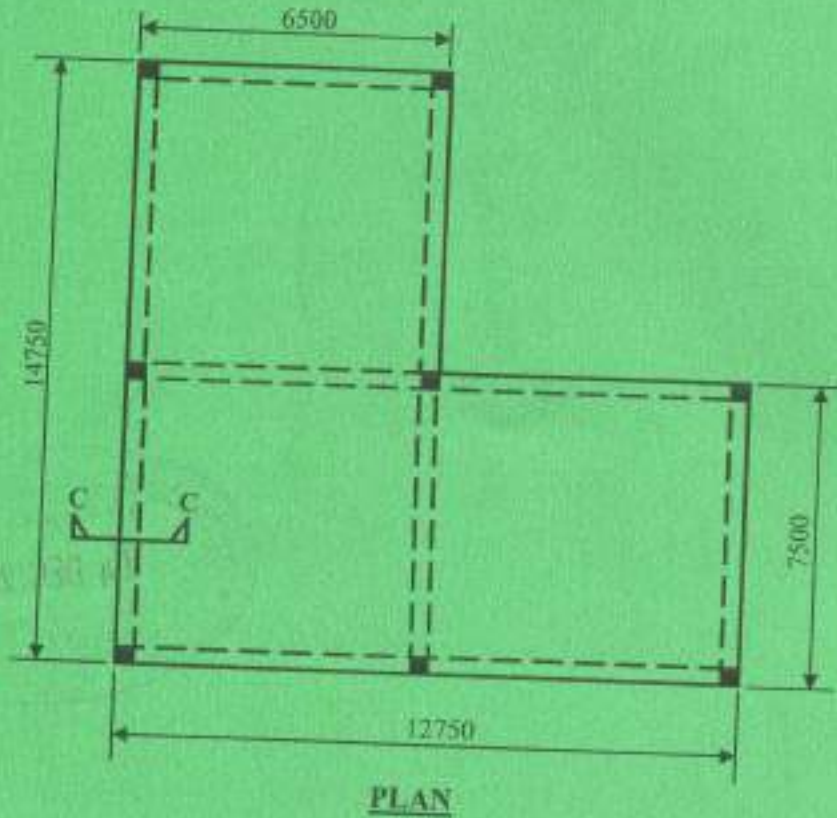
This paper consists of 16 printed pages.

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

SECTION A: MEASUREMENT

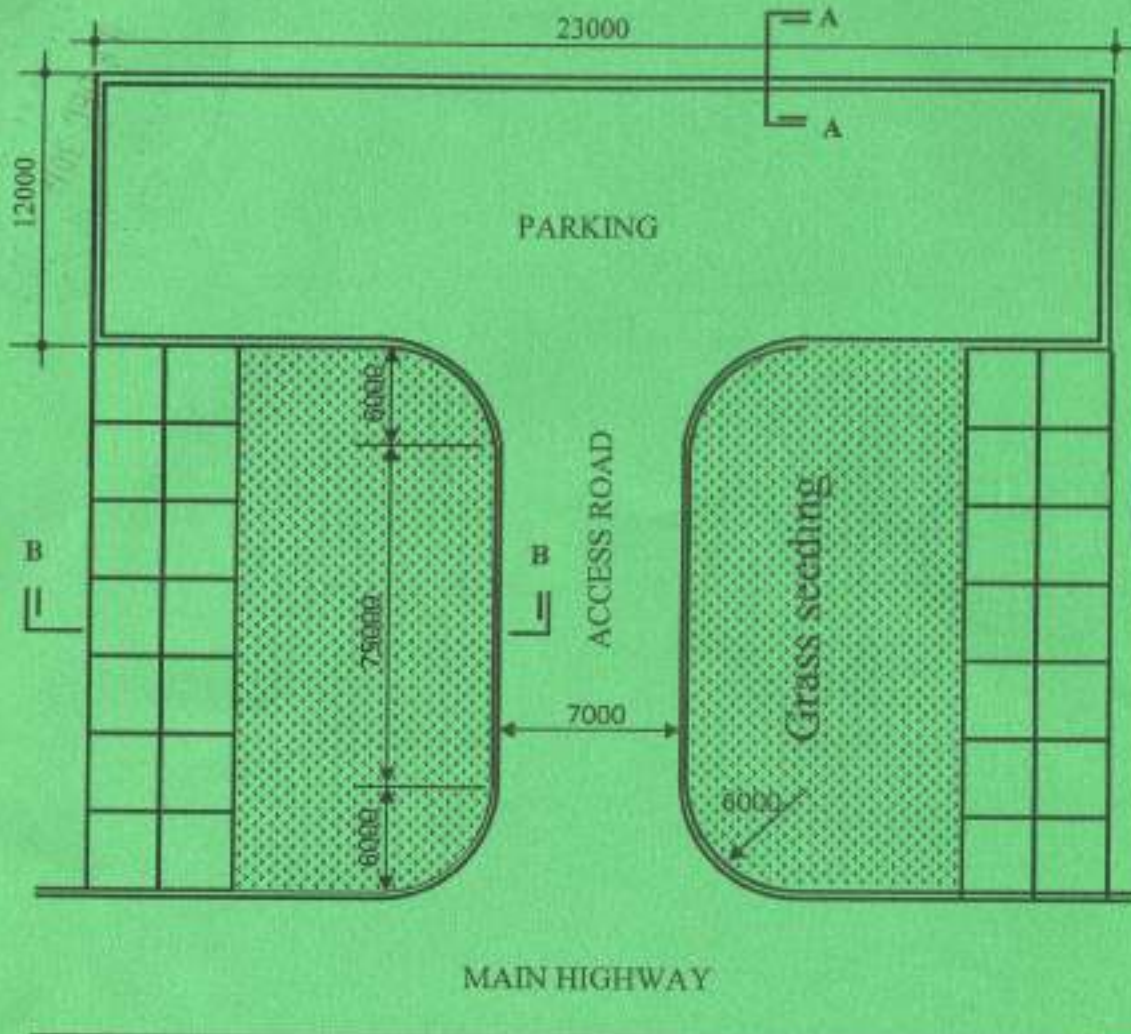
Answer any TWO questions from this section.

1. Take off all quantities for the superstructure works shown on drawing No. 01, excluding reinforcement schedule. (Use Smm) (30 marks)

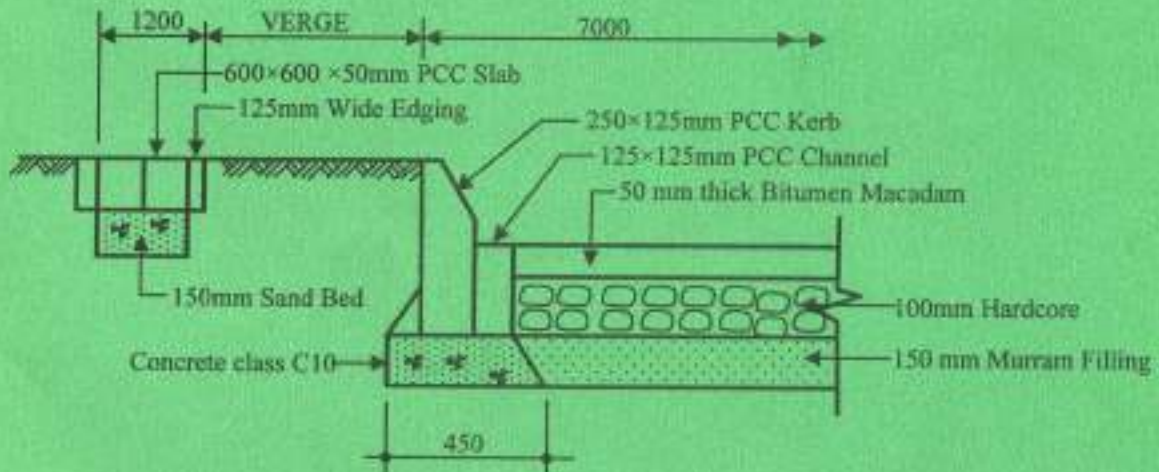


2. Take of all quantities for the external works shown on drawing NO. 02 (a) and 02 (b).
(Use CESmm)

(30 marks)

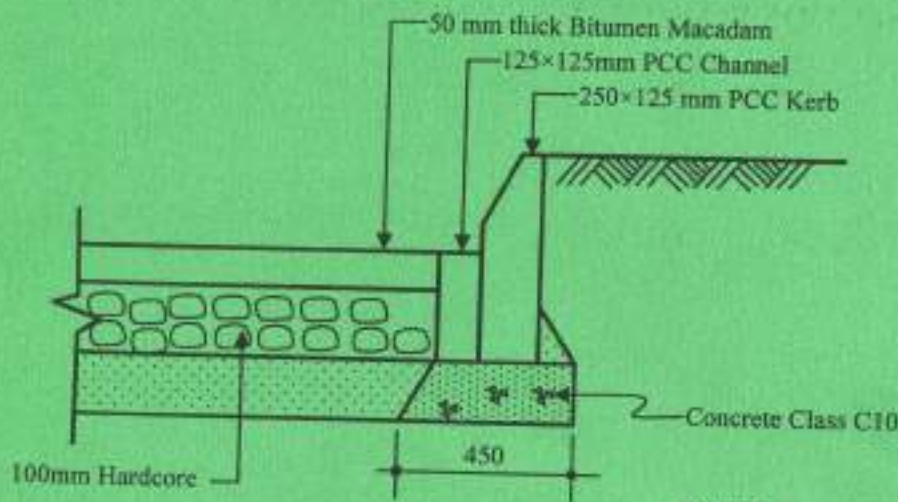


SITE LAYOUT PLAN



SECTION B-B

DRG NO. 02(a)



SECTION A-A

NOTES:

- Provide road furniture
- Site is not bushy

DRG NO. 02 (b)

3. (a) Using illustrations, explain the following as applied in measurements:

- (i) Dotting on;
- (ii) Grouping dimensions;
- (iii) Grouping descriptions.

(12 marks)

(b) Explain the following sums as used in the Bills of Quantities:

- (i) Prime cost sums;
- (ii) Provisional sums;
- (iii) Contingency sums.

(6 marks)

(c) State any **three** reasons that may raise variations in an on going project.

(3 marks)

(d) Describe the following types of contracts.

- (i) Schedule contracts;
- (ii) Cost plus fluctuating fee contract;
- (iii) Package deal.

(9 marks)

SECTION B: ESTIMATING AND COSTING I

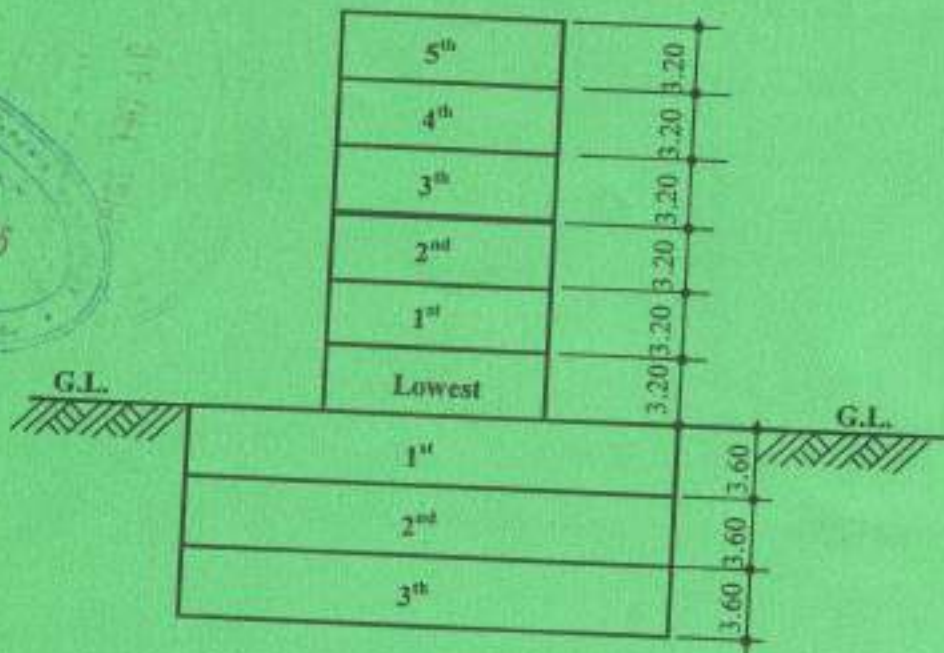
Answer any **TWO** questions from this section.

4. (a) (i) Define the term "Estimate".
(ii) State any **two** roles of an estimator. (3 marks)
- (b) List any **four** sources of cost information. (2 marks)
- (c) Explain the following terms as used in estimating:
(i) All-in-labour rate;
(ii) All-in-material rate;
(iii) Labour constant. (6 marks)
- (d) Describe any **three** methods of valuing variations. (9 marks)
5. (a) State any **two** roles of a quantity surveyor in the following stages of construction:
(i) Pre-contract stage;
(ii) Construction stage;
(iii) Post construction stage. (6 marks)
- (b) Explain the following methods of approximate estimation:
(i) The cube method;
(ii) The superficial method. (7 marks)
- (c) (i) Explain the purpose of an interim certificate;
(ii) Outline the **four** conditions to be met before materials on site can be included in an interim evaluation. (7 marks)

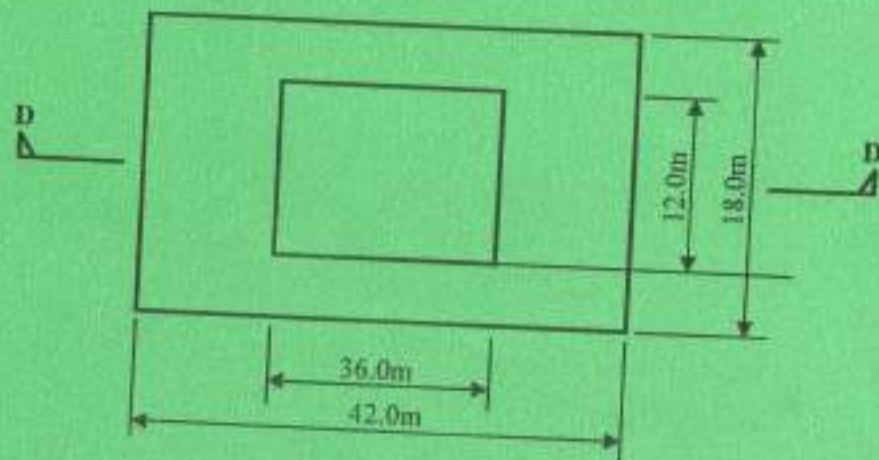


6. Figure 03 is a line diagram of a building with THREE basement floors and SIX upper floors.

- (a) Outline the procedure of estimating cost of such a building using storey enclosure method. (10 marks)
- (b) Estimate the cost of construction assuming that it will cost Ksh. 10,000 per m². (10 marks)



SECTION D-D



PLAN

DRG NO. 03