

Name: \_\_\_\_\_ Index No: \_\_\_\_\_ / \_\_\_\_\_

2306/304

Candidate's Signature: \_\_\_\_\_

**MEASUREMENT OF BUILDING AND CIVIL  
ENGINEERING WORKS**

Oct./Nov, 2014

Date: \_\_\_\_\_

Time: 3 hours

**THE KENYA NATIONAL EXAMINATIONS COUNCIL****DIPLOMA IN QUANTITY SURVEYING****MEASUREMENT OF BUILDING AND CIVIL ENGINEERING WORKS****3 hours****INSTRUCTIONS TO CANDIDATES***Write your name and index number in the spaces provided above.**Sign and write the date of examination in the spaces provided above.**You should have the following for this examination:**Dimension papers;**A copy of the Standard Method of Measurement of Building and Associated Civil Works for Eastern Africa;**A copy of the Civil Engineering Standard Method of Measurement.**This paper consists of FIVE questions in TWO sections; A and B.**Answer THREE questions, choosing TWO questions including question 1 from section A and ONE question from section B.**Question 1 carries 40 marks while the rest carry 30 marks each.**Maximum marks for each part of a question are as shown.**Candidates should answer the questions in English.***For Examiner's Use Only**

Section	Question	Maximum Score	Candidate's Score
A			
B			
<b>TOTAL SCORE</b>			

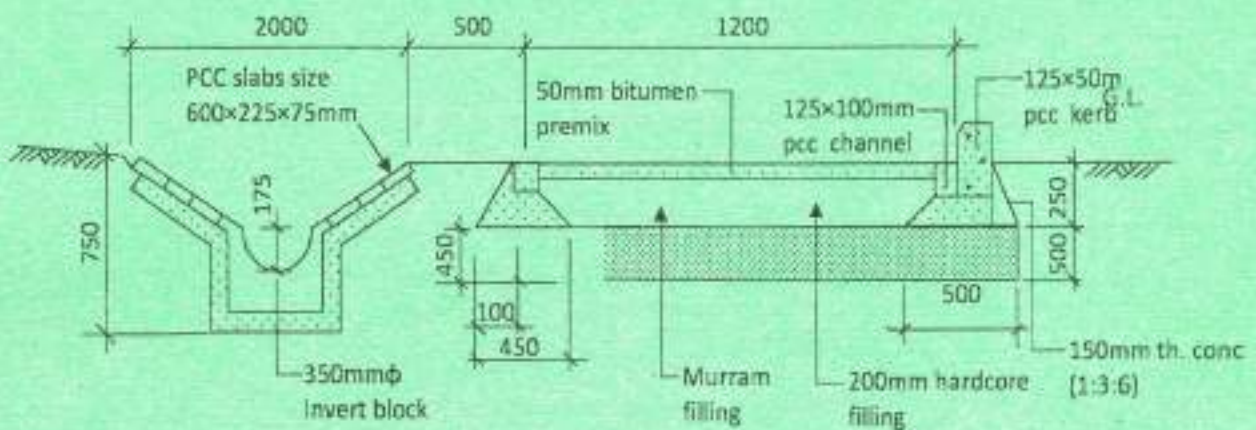
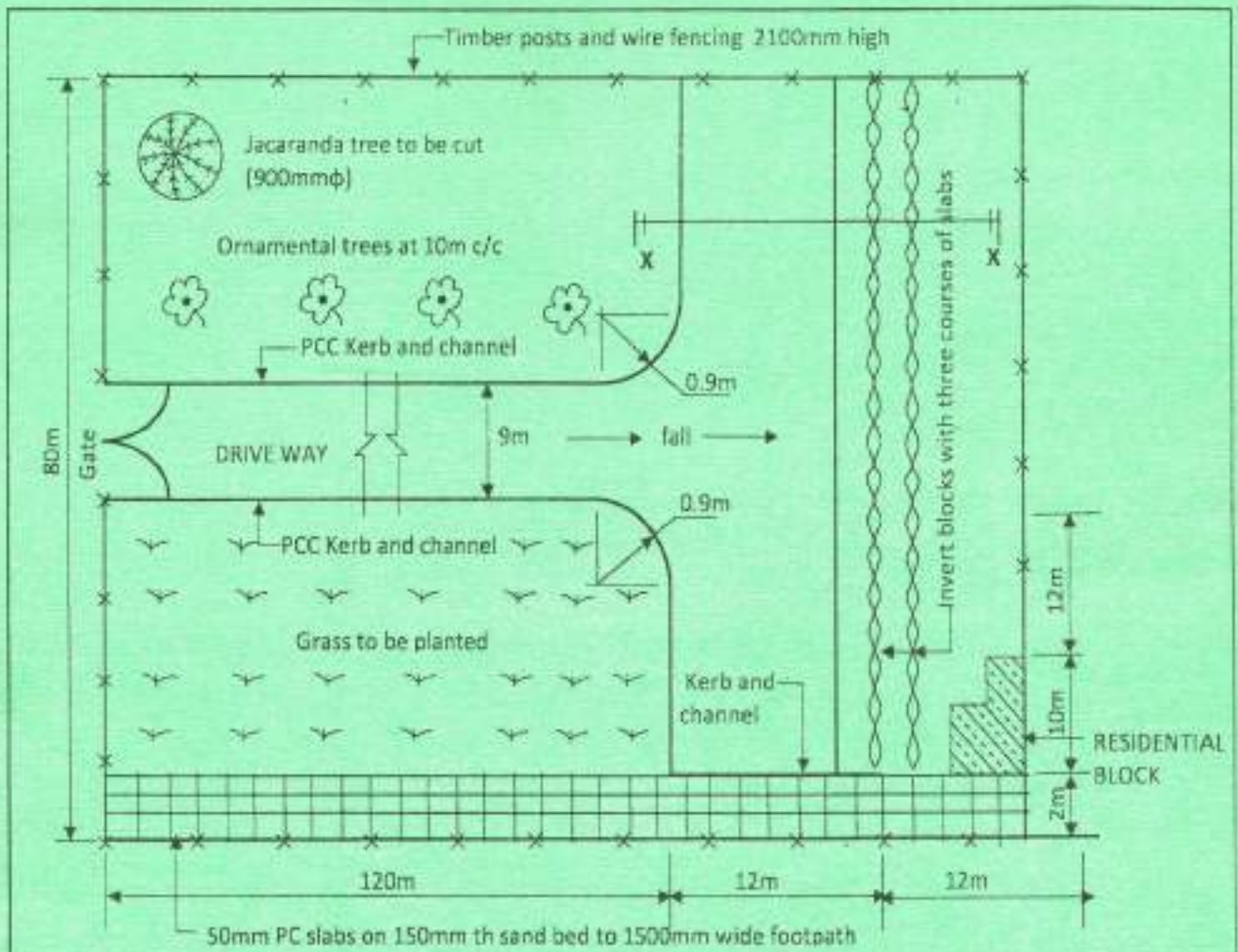
**This paper consists of 16 printed pages.****Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**

**SECTION A**

*Answer question 1 (compulsory) and any other ONE question from this section.*

*Use The Standard Method of Measurement of Building and Associated Civil Works for Eastern Africa.*

1. Take off all quantities for the 'external works' shown on drawing number 01. (40 marks)

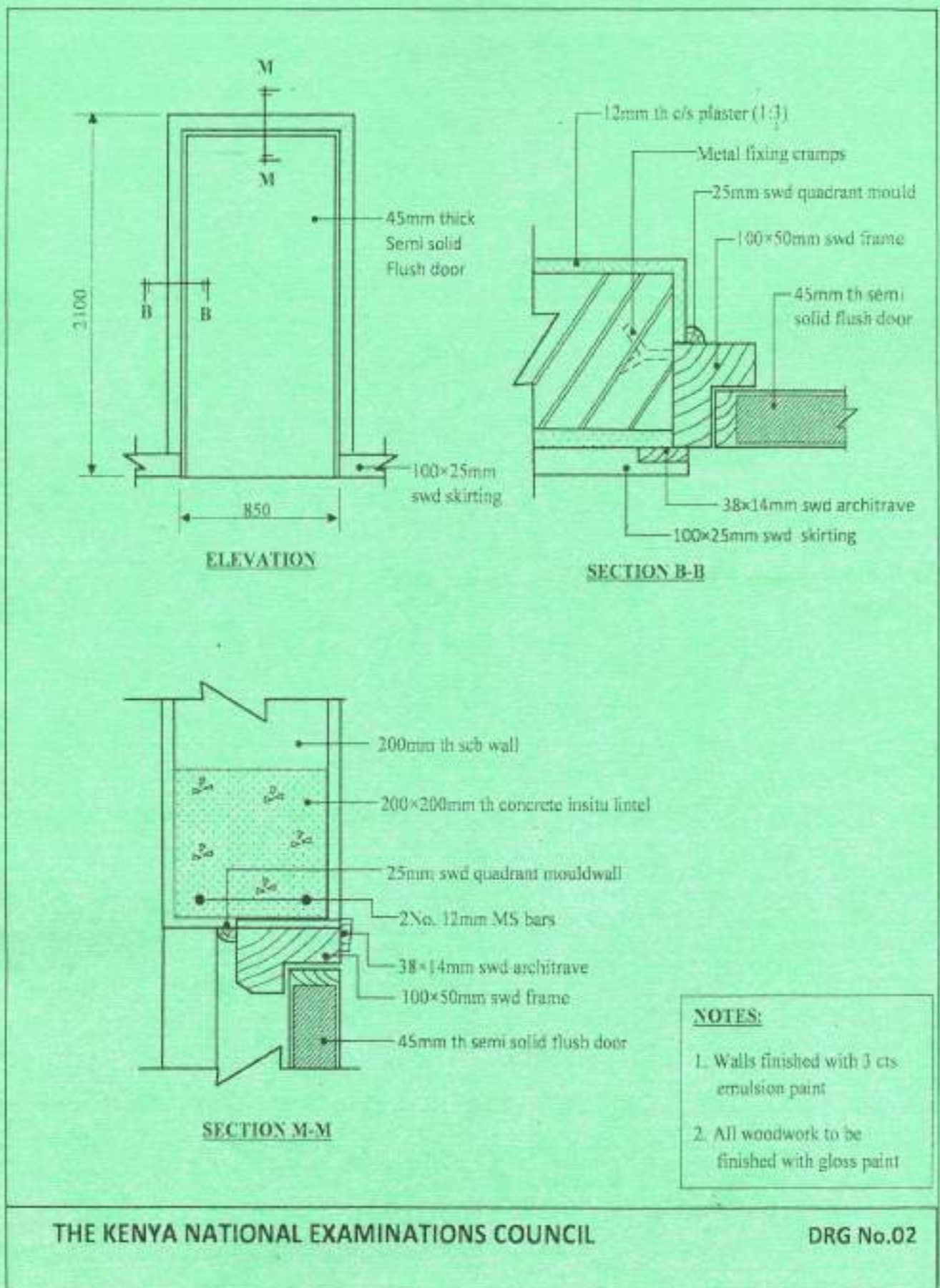


**SECTION X-X**

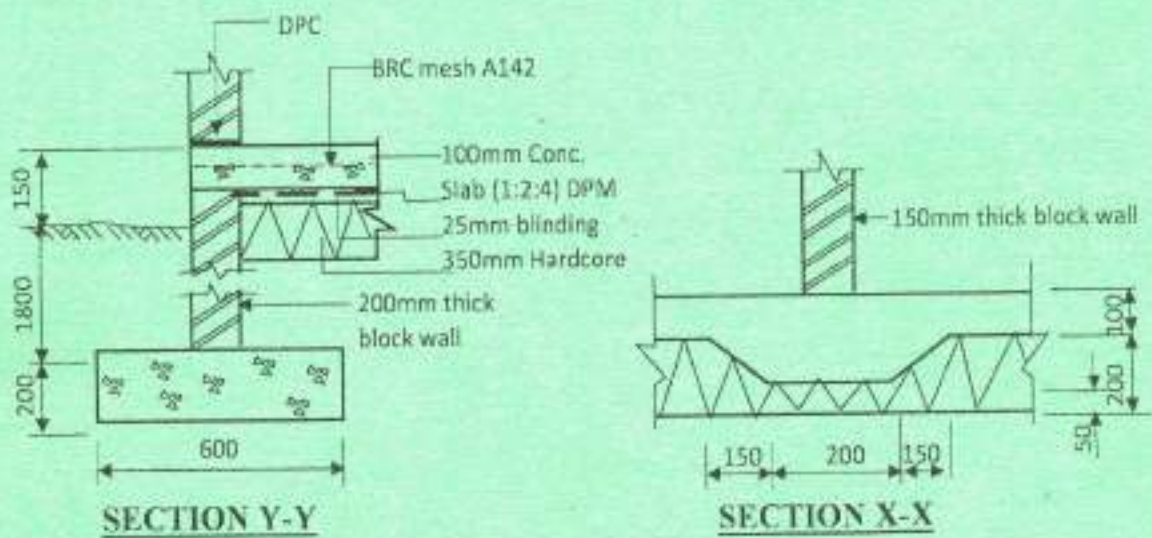
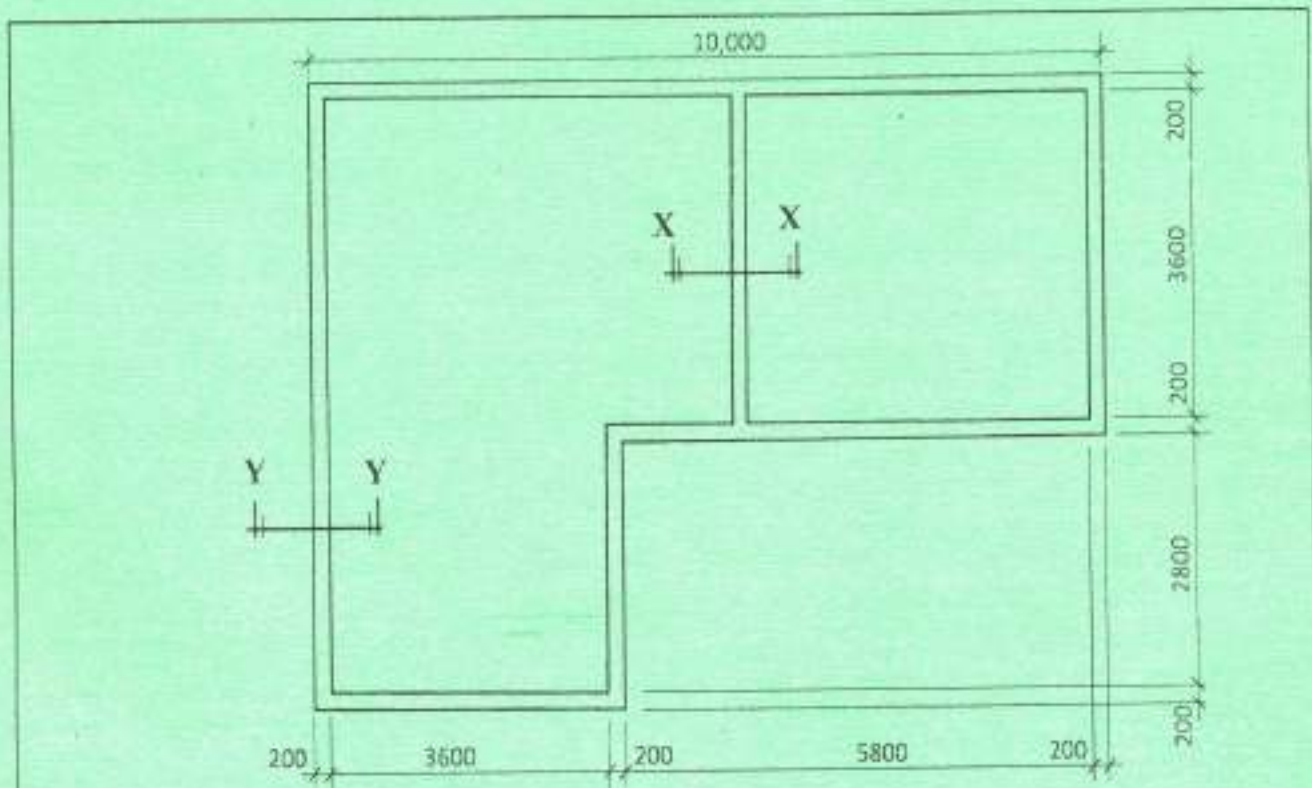
**NOTES**

1. Vegetable soil 150mm to be cart away
2. Site is bushy
3. concrete backing to kerb-100mmthick

2. With reference to drawing No.02. Take off all quantities for the door including adjustment for the openings. (30 marks)



3. Drawing number 03 shows the layout plan for substructure works. Take off all quantities shown. (30 marks)



**NOTES:**

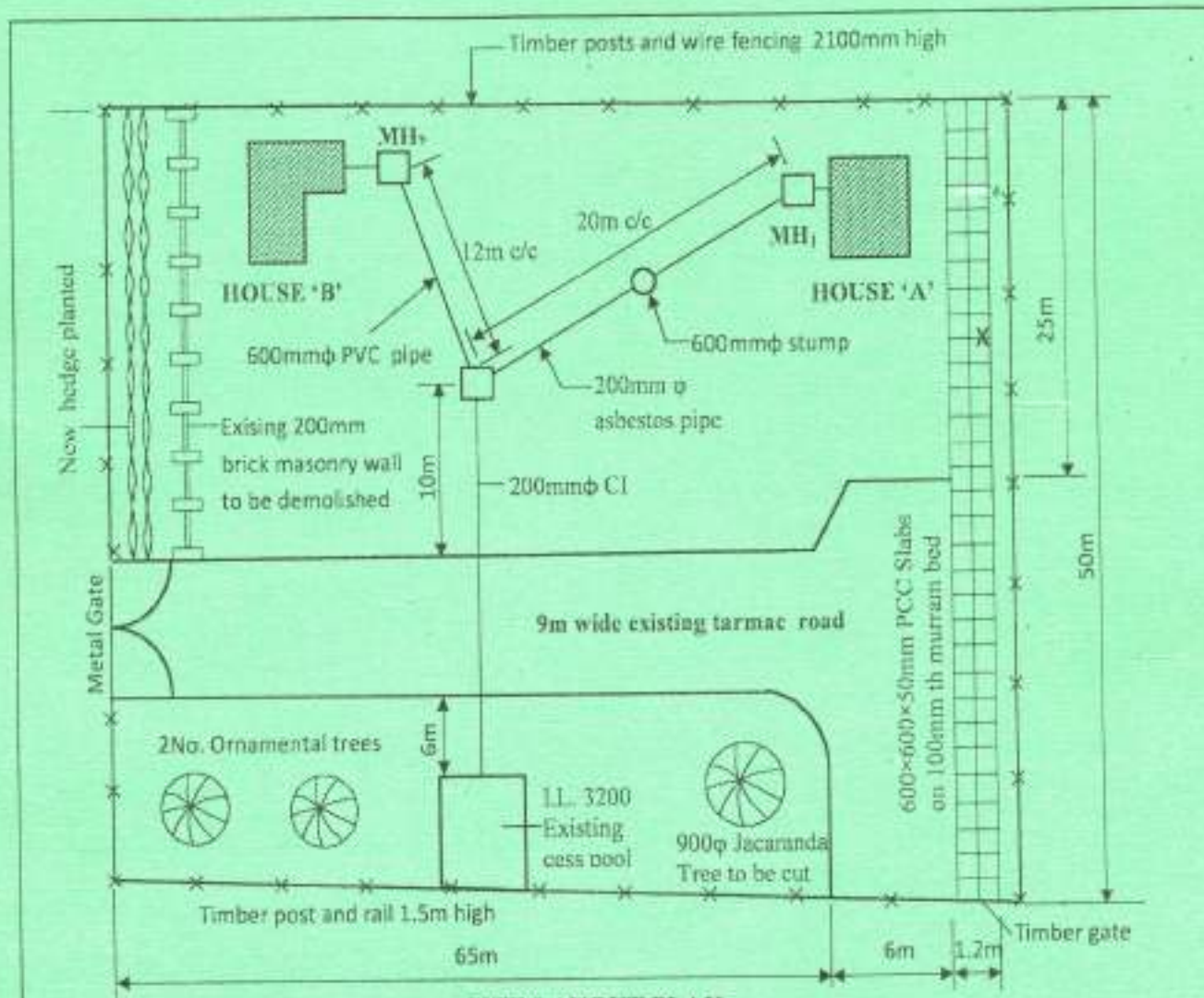
1. Site is bushy
2. Rock exists at 1500mm below ground level
3. vegetable soil av. 200mm deep and to be preserved on site

**SECTION B**

*Answer any ONE question from this section.*

4. Drawing number 04 shows a layout of external works. Take off all the quantities shown. (30 marks)





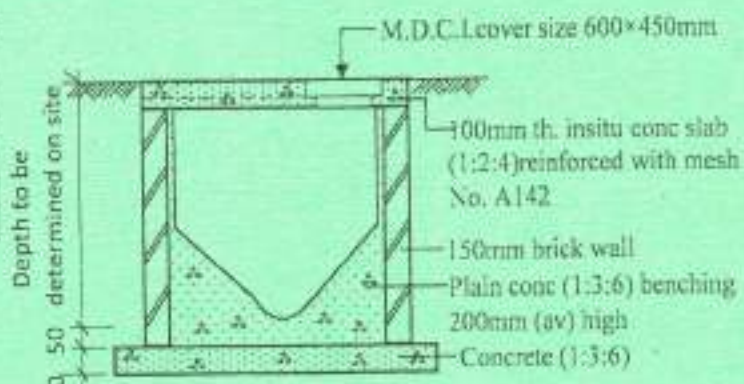
**SITE LAYOUT PLAN**

**MANHOLE SCHEDULE**

MH. No.	INTERNAL SIZE	INVERT LEVEL	PLASTER	COVER
1 & 2	900 x 600	1200	12mm	L.D.C.I.
3	1200 x 800	2500	12mm	M.D.C.I.

**NOTES**

1. Asbestos pipe to have granular bed
2. C.I. pipe to have mass concrete bed and surrounds. PVC pipes to have the same
3. PCC slabs to be laid and top level to match ground level



**TYPICAL SECTION THROUGH MANHOLE**

5. (a) Outline **four** methods of valuing variations. (6 marks)
- (b) Describe the traditional method of preparation of Bills of Quantities. (6 marks)
- (c) Using hypothetical examples, show how the following concepts are used in measurement:
- (i) Grouping of dimensions;
  - (ii) Grouping of descriptions;
  - (iii) Dotting on. (7  $\frac{1}{2}$  marks)
- (d) Briefly describe
- (i) any **three** sections of a bill of quantities;
  - (ii) operation bills of quantities;
  - (iii) Elemental bills of quantities. (10  $\frac{1}{2}$  marks)