



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

UNIVERSITY EXAMINATION FOR:

DIPLOMA

ECV 2302: MEASUREMENT OF CIVIL ENGINEERING WORKS

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: Pick Date Apr 2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt any **THREE** questions.

Do not write on the question paper.

Question ONE

Take off all quantities for quarry shown in drawing no 01.

(20marks)

Question TWO

A 420 m long standard gauge rail track is to be laid is to be laid for a factory siding on already prepared formation. Take of all quantities for the track works upto and including fitting and laying using the following information

- Ballast crushed
- Rails 20m long each to BS q section 95R 47kg/m.
- Timber sleepers creosoted hardwood 150x250x2600mm long at 600mm
- Chairs plain cast iron 20kgs each with 3 chair bolts and 1 steel spring key
- Fish plates to BS 47 weight 14 kgs per pair fixed with 4ms fish bolts each.

(20marks)

Question THREE

Take off all quantities for the site clearance works shown drawing no 03. **(20marks)**

Question FOUR

a) Outline the following terms used in measurements.

- i. Prime cost sums
- ii. Contingency sums
- iii. Provisional sums
- iv. Variations

(8marks)

b) Describe the following contract documents

- i. Specifications
- ii. Drawings
- iii. Form of agreement
- iv. General conditions of contract

(12marks)

Question FIVE

a) Outline **five** requirements for a legal contract

(5marks)

b) State **six** duties of a project engineer

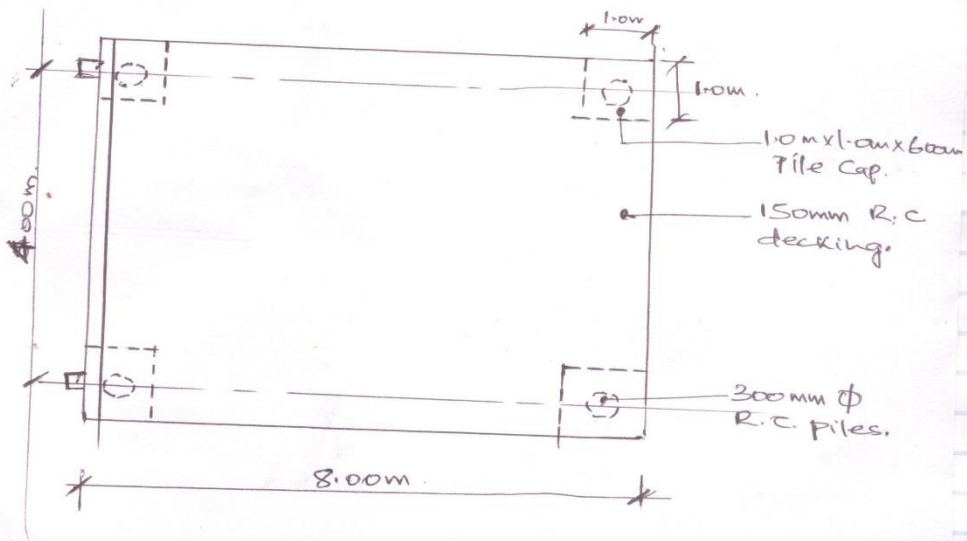
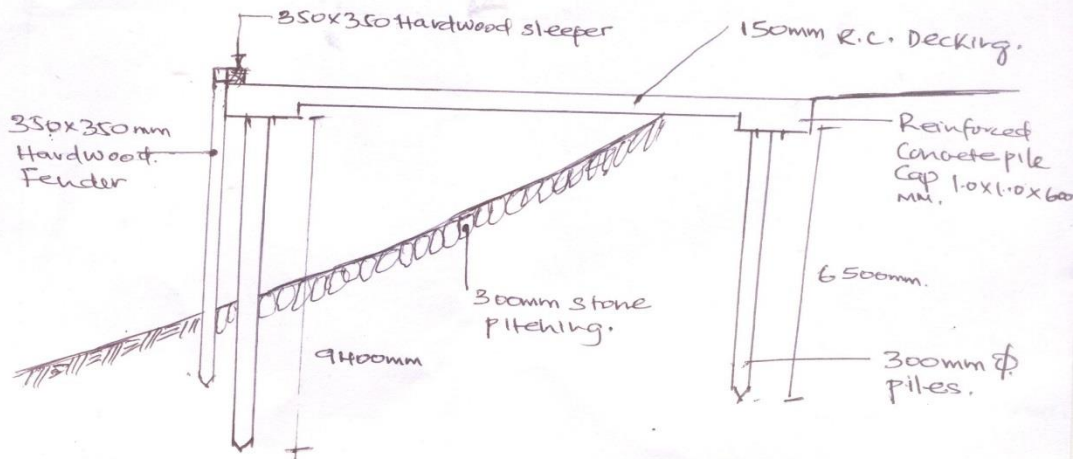
(3 marks)

c) Describe the following types of contracts

(12 marks)

- i. Cost plus percentage fee contracts
- ii. Schedule contracts
- iii. Target contracts

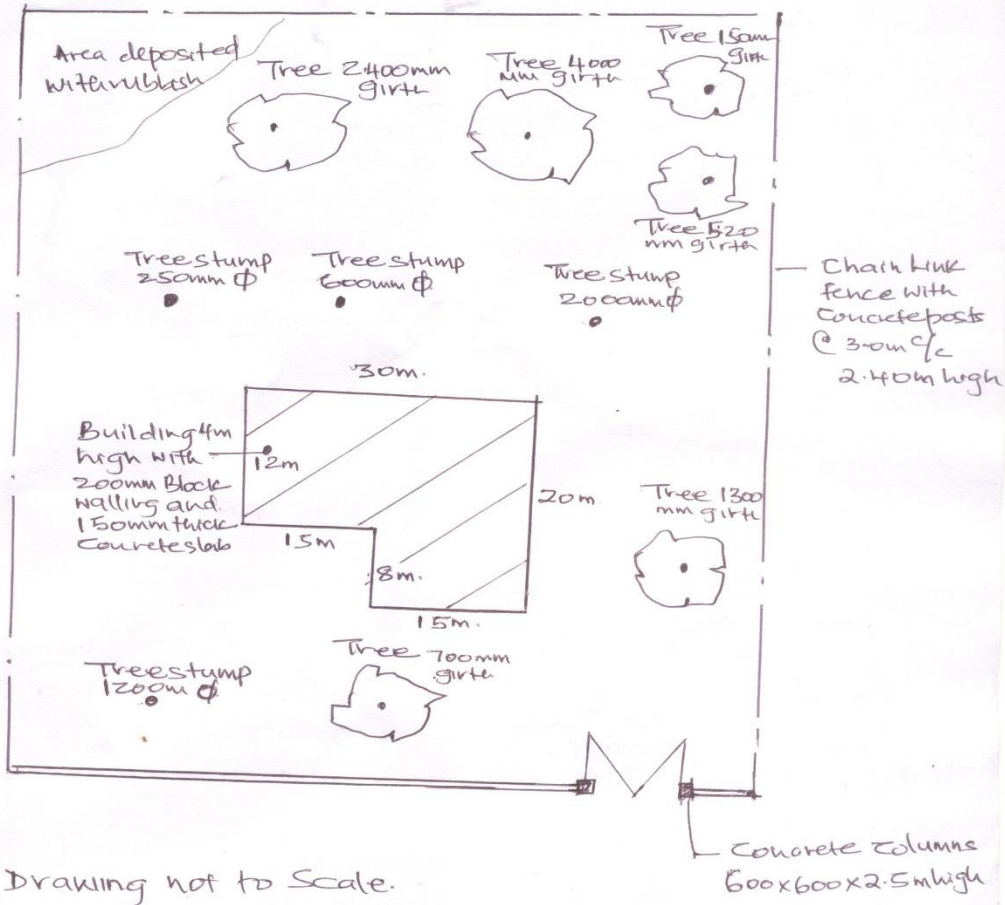
PROPOSED QUAY.



Drawing Not to Scale.

DRG NO 01

SITE CLEARANCE



Drawing not to scale.

DRAWING NO 03