



TECHNICAL UNIVERSITY OF MOMBASA
**Faculty of Engineering &
Technology**

DEPARTMENT OF BUILDING & CIVIL ENGINEERING
UNIVERSITY EXAMINATION FOR BACHELOR OF SCIENCE IN CIVIL
ENGINEERING
[Institutional Based Programmes]

ECE 2511: CIVIL ENGINEERING PRACTICE

END OF SEMESTER EXAMINATION
SERIES: AUGUST 2013
TIME ALLOWED: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions.

Answer question **ONE** any other **TWO** questions

Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

Question One (Compulsory)

Write briefly specifications for the following civil engineering materials.

- | | |
|---------------------|-----------|
| a) Concrete | (5 marks) |
| b) Cement | (5 marks) |
| c) Fine aggregate | (5 marks) |
| d) Coarse aggregate | (5 marks) |
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Question Two

- a) Explain the following types of contracts giving one merit and demerit of each:
- (i) Bill of quantities contract
 - (ii) Cost plus percentage contracts
 - (iii) Cost plus percentage contracts
 - (iv) Cost plus fixed fee contracts
- (12 marks)**
- b) Discuss the remedies available for breach of contract. **(8 marks)**

Question Three

- a) Explain briefly the differences between the Bills of Quantities for Civil Engineering and Building works. **(6 marks)**
- b) Explain the following terms as used in relation to civil engineering Bills of quantities:
- (i) Preambles
 - (ii) Provisional sums **(4marks)**
 - (iii) Prime cost sums **(4 marks)**
 - (iv) Day work schedule **(4 marks)**
 - (v) Grand summary **(2 marks)**

Question Four

- a) Discuss the responsibilities of the following parties in a civil engineering projects:
- (i) The employer
 - (ii) The contractor
 - (iii) The engineer
 - (iv) The engineer's representative
- (11 marks)**
- b) State the matters the Engineer should consider after receiving a contractors claim **(2 marks)**
- c) (i) What reasons would make either the Employer or Contractor to refer a dispute to arbitration.
- (7 marks)**
- (ii) Outline the essential features of a valid arbitration agreement. **(7 marks)**

Question Five

With reference to the drawing shown in figure 0.1 measure the quantities for site clearance and substructures work up to top of ground floor slab using the civil engineering standard of method of measurement. **(20 marks)**