



TECHNICAL UNIVERSITY OF MOMBASA

**FACULTY OF ENGINEERING AND TECHNOLOGY IN CONJUNCTION WITH KENYA
INSTITUTE OF HIGHWAYS AND BUILDING TECHNOLOGY (KIHBT)**

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

UNIVERSITY EXAMINATION FOR:

HIGHER DIPLOMA IN BUILDING ECONOMICS

EBE 3105: CONSTRUCTION TECHNOLOGY I B

END OF SEMESTER EXAMINATIONS
SERIES: OCTOBER 2016

TIME: 2 HOURS

Instruction to candidates

You should have the following for this examination

- Answer booklet
- Pocket Calculator

This paper consist of five question.

Answer any three questions of the five questions

All question carry equal marks

Maximum marks for each part of a question are as shown

This paper consist of two printed pages

QUESTION 1

- a) Outline purposes of site clearance (4mrk)
- b) Define the term demolition (2mrk)
- c) State factors that determine methods of demolition (6mrk)
- d) Define the following terms
 - i. Foundation
 - ii. Backfilling
 - iii. Manmade ground
 - iv. Settlement
 - v. Bearing Pressure (5mrk)
- e) Outline THREE causes of uneven loading on soils (3mrk)

QUESTION 2

- a) With the aid of well labelled diagrams discuss the following types of foundations
 - i. Slap foundation
 - ii. Stepped foundation
 - iii. Pad foundation
 - iv. Raft foundation
 - v. Deep foundation (15mrk)
- b) Outline FIVE products of clay which are used in construction 5mrk

QUESTION 3

- a) Explain factors that lead to underpinning (6mrk)
- b) With the aid of diagrams explain procedure of placing bored piles (8marks)
- c) Sketch THREE forms of framed structures (6mrk)

QUESTION 4

- a) Explain TWO main methods of dewatering (4mrk)
- b) Define basement (2mrk)
- c) Outline main purposes of basement. (4mrk)
- d) State factors considered when selecting materials for road construction (7mrk)
- e) State three types of roads (3mrk)

QUESTION 5

- a) Define the term temporally works (2mrk)
- b) Draw a sketch of steel grillage (6mrk)
- c) By use of diagrams explain THREE methods of drainage systems 12mrk