



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING & CIVIL ENGINEERING
INSTITUTIONAL BASED PROGRAMME
UNIVERSITY EXAMINATION FOR:

- DIPLOMA IN BUILDING AND CIVIL ENGINEERING
EBC 2310: BUILDING TECHNOLOGY III
END OF SEMESTER EXAMINATION

SERIES: JULY 2017

TIME: 2 HOURS

DATE: ----JULY 2017

Instructions to Candidates

You should have the following for this examination

-*Answer Booklet, examination pass and student ID*

-*Drawing instruments.*

-*Scientific calculator*

This paper consists of **FIVE** questions.

Attempt **any THREE** questions.

Do not write on the question paper

Mobile Phones are NOT allowed inside the examination room

QUESTION ONE

(a) State the **THREE** functional requirements of a building foundation **(6 marks)**

(b) With the aid of sketches, describe:-

(i) **THREE** types of raft foundation

(ii) Cantilever foundation **(14 marks)**

Question Two

- (a) With the aid of sketches, describe the construction of insitu driven piles **(8 marks)**
- (b) With the aid of sketches, describe the following principles of pile foundation
 - (i) End bearing
 - (ii) Friction pile **(4 marks)**
- (c) With the aid of well labeled sketch describe cranked slab stair **(8 marks)**

Question Three

- a) Briefly explain FIVE principles of good drainage system **(10 marks)**
- b) With the aid of a sketch describe combined system of domestic drainage **(10 marks)**

Question Four

- (a) Briefly explain the general safety requirement during shoring **(6 marks)**
- b) Using sketches, describe the following types of shoring
 - (i) Raking shoring
 - (ii) Flying / horizontal shoring **(14 marks)**

Question Five

- a) Briefly explain preliminary survey to underpinning **(6 marks)**
- b) With the aid of a well labeled sketch briefly describe continuous underpinning to walls **(8 marks)**
- c) With the aid of a sketch, briefly explain progressive system of dewatering **(6 marks)**