



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN BUILDING AND CIVIL ENGINEERING

EBC 2210 BUILDING TECHNOLOGY III

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2016

TIME: 2 HOURS

DATE: 22 Dec 2016

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.

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) State FOUR general information required before dewatering (**4 marks**)

b) With the aid of a well labeled sketch briefly describe sump pumping method of dewatering (**10 marks**)

c) State FIVE reasons for under-pinning structures (**6 marks**)