



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) Steel grillage **(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 types of stairs:-
 - (i) cranked slab stair
 - (ii) Precast concrete cantilever stair **(12 marks)**

Question Three

- a) Briefly explain FIVE principles of good drainage system **(10 marks)**
- b) Using sketches briefly explain the use of sight rail and boning rod to grade trenches **(10 marks)**

Question Four

- (a) Sketch and label the following the following invert levels in man-holes
 - (i) Ramp connection
 - (ii) Back- drop connection **(10 marks)**
- b) Using sketches, describe TWO methods for testing drains **(10 marks)**

Question Five

- a) Briefly explain preliminary survey to under-pinning (**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**)