



# TECHNICAL UNIVERSITY OF MOMBASA

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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: AUGUST 2019**

**TIME: 2 HOURS**

**DATE:** Pick Date August 2019

## Instructions to Candidates

You should have the following for this examination

*-Answer Booklet, examination pass and student ID*

This paper consists of **FIVE** questions. Attempt any **THREE** questions.

**Do not write on the question paper.**

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## Question One

1 (a). With aid of sketches, explain the following types of foundations

- i. Continuous column foundation
- ii. Pad foundation
- iii. Steel grillage foundation **(12 marks)**

(b) Explain situations where raft foundation can be applied **(4 marks)**

(c) . Briefly explain the following terms

- i. Natural foundation
- ii. Artificial foundation **(4 marks)**

## Question Two

2(a) Explain the following terms as used in stairs

- i. Riser

- ii. Rise
  - iii. String
  - iv. Landing
  - v. Baluster
- (5 marks)**

(b). Briefly explain the functional requirements of a stair **(6 marks)**

(c.) With aid of a sketch, briefly describe a cranked slab stair **(9 marks)**

### **Question Three**

3(a). Explain SIX principles of a good drainage **(6 marks)**

(b). Outline FOUR situations where man holes are provided **(4 marks)**

(c) Describe with aid of sketches the THREE types of drainage systems **(10 marks)**

### **Question Four**

4(a). Briefly describe any FOUR dewatering techniques **(8 marks)**

(b). Explain the problems caused by water in the sub soil **(4 marks)**

(c). Sketch and label a section through a deep manhole **(8 marks)**

### **Question Five**

5(a) Briefly explain the reasons for underpinning in construction **(4 marks)**

(b). Illustrate the traditional method of wall underpinning. **(6 marks)**

(c). Outline the reasons for undertaking shoring **(4 marks)**

(d). Briefly describe the types of shoring done on building works **(6 marks)**