



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING & CIVIL ENGINEERING

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN BUILDING AND CIVIL ENGINEERING

ECV 2202 : CIVIL ENGINEERING CONSTRUCTION I

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2019

TIME: 2 HOURS

DATE: Pick Date Aug 2019

Instructions to Candidates

You should have the following for this examination

-*Answer Booklet, examination pass and student ID*

-*Drawing instruments.*

This paper consists of five questions.

Attempt any THREE questions.

Do not write on the question paper.



Paper2

QUESTION ONE

- (a) Define term foundation (2marks)
- (b) With aid of a sketch describe the construction of a raft foundation(8marks)
- (c) Explain TWO situations that may require the use a raft foundation (4marks)
- (d) With the aid of sketches, briefly describe TWO types of piles based on the way they transfer their loads to the soil (6marks)

QUESTION TWO

- (a) State FOUR reasons for dewatering excavations (4marks)
- (b) With the aid of sketches, briefly describe any TWO methods of dewatering excavations (10marks)
- (c) Define the term shoring (2marks)
- (d) State FOUR reasons for underpinning (4marks)



QUESTION THREE

- (a) Briefly describe the major differences between a gravity and cantilever retaining wall. (8marks)
- (b) Explain any FOUR modes of failure of a retaining wall (12marks)

QUESTION FOUR

- (a) Define the following terms:
- i. Caisson
 - ii. Cofferdam
- (4marks)
- (b) Explain THREE failure modes for gravity Cofferdams, (6marks)
- (c) With the aid of a sketch, describe the construction of earth fill cofferdams. (10marks)

QUESTION FIVE

- (a) Briefly explain precautions put in place to avoid conflicts in labour based construction. (8marks)
- (b) Using a suitable sketch, show the forces acting on a mass concrete retaining wall (6marks)
- (c) Explain FOUR factors that influence the use of Cellular rafts. (6marks)

