



MACHAKOS UNIVERSITY

University Examinations 2017/2018

**SCHOOL OF ENGINEERING
DEPARTMENT OF BUILDING AND CIVIL ENGINEERING**

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR CERTIFICATE IN
BUILDING CONSTRUCTION TECHNOLOGY
BCEBT 215 BUILDING TECHNOLOGY IV**

DATE: 14/12/2017

TIME: 8.30-10.30 AM

INSTRUCTIONS

Answer Question One and Any Other Two Questions

QUESTIONS ONE (30 MARKS)

- a) Outline five main principles of drainage
- b) Outline five functional requirements of a good formwork. (10 marks)
- c) Make a neat sketch of a balustrade and name all the parts (10 marks)

QUESTIONS TWO (20MARKS)

- a) Define the following terms as applies to stairs
 - i Flight
 - ii Landing
 - iii Rise
 - iv Going
 - v Baluster (20 marks)
- b) Define the term “man hole” and make a sectional sketch showing the construction at the bottom. (10 marks)

QUESTION THREE (20MARKS)

- a) Make neat pictorial sketched of the following types of stairs
 - i Straight flight
 - ii Quarter turn

- iii Bifurcated
- iv Winder turn
- b) State two tests to be done to ascertain good drainage work (4 marks)

QUESTION FOUR (20 MARKS)

- a) Make a neat sketch of a framed, ledged battened and braced door and name all the members. (10 marks)
- b) Outline any five Kenya building code requirements of a public stair (10 marks)

QUESTION FIVE (20 MARKS)

- a) Make a neat pictorial sketch of a column formwork and name all the member.(10 marks)
- b) Design a public stair given the following information
 - i Vertical distance - 3m
 - ii Horizontal distance – 5.1M (10 marks)