



# THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of Jkuat)

*Faculty of Engineering and Technology*

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

**DIPLOMA IN BUILDING & CIVIL ENGINEERING  
DIPLOMA IN ARCHITECTURE**

EBC 2219: BUILDING TECHNOLOGY III

**END OF SEMESTER EXAMINATION**

SERIES: AUGUST/SEPTEMBER 2011

**TIME: 2 HOURS**

**Instructions to Candidates:**

You should have the following for this examination

- *Answer booklet*
- *Scientific calculator*

This paper consists of **FIVE** questions

Answer question **ONE** and any other **TWO** questions

Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

## SECTION A (COMPULSORY)

### Question 1

- a) Sketch and label the following:
- (i) Timber stair
  - (ii) Dogleg stair
  - (iii) Winder
- (16 marks)
- b) State the following
- (i) **FOUR** types of foundations
  - (ii) **TWO** functions of foundations in framed structures
  - (iii) **FOUR** requirements of formwork
- (10 marks)
- c) State **FOUR** principles of a good drainage
- (4 marks)

## SECTION B (Answer any TWO questions from this section)

### Question 2

- a) With the aid of a sketch, explain the connection of a down water pipe to an underground drainage.
- (10 marks)
- b) Sketch and label the parts of a manhole
- (6 marks)
- c) Differentiate Soak way from Cesspool
- (4 marks)

### Question 3

- a) Differentiate the following:
- (i) Domestic sewage from surface run off
  - (ii) Separate drainage system from combined drainage system
  - (iii) Sewerage system from sewage
- (12 marks)
- b) Outline the construction of a reinforced concrete column base
- (8 marks)

### Question 4

- a) Explain the importance of soil study in building construction
- (10 marks)
- b) With the aid of sketches, explain the use of pile foundation building construction
- (10 marks)

### Question 5

- a) Explain the procedure of setting out a rectangular building using a 3:4:5 method
- (10 marks)
- b) State **FIVE** factors to consider when designing a sewer line
- (5 marks)
- c) State the **THREE** types of shoring systems
- (5 marks)