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: DECEMBER 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 (COMPULSORY)** from **SECTION A** and any other **TWO** questions from **SECTION B**
Maximum marks for each part of a question are clearly 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)   Spine wall   (16 marks)

b) State:
   (i)   **FOUR** types of foundations
   (ii)   **TWO** functions of foundations in framed structures
   (iii)   **FOUR** factors influencing the choice of a foundation   (10 marks)

c) Sketch the cantilever foundation   (4 marks)

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

Question 2

a) Explain the construction of an underground drainage   (10 marks)

b) Differentiate Manholes from Drop holes   (6 marks)

c) Differentiate Septic tank from sewerline appurtenances   (4 marks)

Question 3

a) Differentiate the following:

   (i)   Domestic sewage from surface run off
   (ii)   Separate drainage system from combined drainage system
   (iii)   Above ground drainage from underground drainage   (12 marks)

b) Outline the procedure of designing a timber stair   (8 marks)

Question 4

a) Explain the importance of soil study in building technology   (10 marks)

b) With the aid of sketches, explain the use of pile foundation in building technology   (10 marks)

Question 5

a) Explain the procedure of testing an underground drainage system   (10 marks)

b) Outline a condition that may necessitate underpinning   (5 marks)

c) State the **THREE** types of shoring   (5 marks)