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) F**OUR** 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)