



TECHNICAL UNIVERSITY OF MOMBASA  
**Faculty of Engineering &  
Technology**

DEPARTMENT OF BUILDING & CIVIL ENGINEERING  
**CERTIFICATE IN BUILDING & CIVIL ENGINEERING (CBCE 14S)**

EBC 1105: BUILDING TECHNOLOGY I

**END OF SEMESTER EXAMINATION**

**SERIES: APRIL 2015**

**TIME ALLOWED: 2 HOURS**

**Instructions to Candidates:**

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Answer any **THREE** questions of the **FIVE** questions

Maximum marks for each part of a question are as shown

Use neat, large and well labeled diagrams where required

This paper consists of **THREE** printed pages

### **Question One**

- a) Define the following term as related to foundation work:
- (i) Dewatering
  - (ii) Back filling
  - (iii) Man made ground
  - (iv) Timbering
  - (v) Pierced foundation (5 marks)
- b) With a neat diagram, illustrate procedure of placing a bored pile (10 marks)
- c) State functional requirements of a foundation (5 marks)

### **Question Two**

- a) Outline FIVE functions of a wall (5 marks)
- b) Explain the difference between plastering and rendering (2 marks)
- c) Sketch and name any FIVE types of wall pointing (5 marks)
- d) State FIVE purposes of wall finishing (5 marks)
- e) Sketch the following tools used for wall finishes (3 marks)
- (i) Gauging Trowel
  - (ii) Margin Trowel
  - (iii) Laying Trowel

### **Question Three**

- a) Illustrate with a diagram FIVE types of stair case (5 marks)
- b) Which are the functional requirements of a roof (5 marks)
- c) State TWO functions of a staircase (2 marks)
- d) Draw a well labeled double roof (6 marks)
- e) Differentiate between pointing and jointing (2 marks)

### **Question Four**

- a) Sketch and label an independent scaffold (10 marks)
- b) State FIVE functions of a door (5 marks)
- c) Draw any FIVE tools used in general building work (5 marks)

### Question Five

The following doors will be required for construction of houses in estate A and B for:

#### Estate A

- 2 No flush door, solid case size 2200 x 900
- 2 No match boarded size 220 x 900
- 1 No flush door, solid core 2200 x 1200
- 3 No match boarded 2200 x 1200 double leaf
- 2 No 6 pannel door 2200 x 900 solid timber board
- 3 No 6 pannel door 2200 x 900 glass panel
- 1 No 2 pannel door 2200 x 900 glass panel
- 3 flush door skeleton core 2200 x 1200

#### Estate B

- 2 No flush skeleton 2200 x 1200
- 3 No flush , solid core 2200 x 900
- 1 No match board 2200 x 1200 double leaf
- 3 No 6 pannel 2200 x 900 glass leaf
- 4 No 6 pannel 2200 x 900 timber

Use the above information to prepare a door schedule

**(15 marks)**

b) Sketch FIVE types of metal sections that are commonly used in building construction **(5 marks)**