



**THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE**

**(A Constituent College of JKUAT)**

(A Centre of Excellence)

# **Faculty of Engineering & Technology**

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

**HIGHER DIPLOMA IN CONSTRUCTION**

EBC 3222: CONSTRUCTION TECHNOLOGY & SERVICES III

**SPECIAL/SUPPLEMENTARY EXAMINATION**

**SERIES: OCTOBER 2012**

**TIME: 2 HOURS**

**Instructions to Candidates:**

You should have the following for this examination

- *Answer Booklet*
- *Calculator*

- *Drawing Instruments*

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

Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

**Question One (20 Marks)**

- a) (i) State any **FIVE** functional requirements of a door when closed. **(5 marks)**  
(ii) State any **FIVE** reasons to justify the use of sliding, sliding and folding doors in a building. **(5 marks)**
- b) With the aid of sketches, illustrate the arrangements of the following sliding doors. **(5 marks)**  
i) Single leaf straight sliding door  
ii) Double leaf straight sliding door. **(5 marks)**  
iii) With the aid of a sketch, describe a ½ hour fire door. **(5 marks)**

**Question Two (20 Marks)**

- a) (i) Describe double glazing **(3 marks)**  
(ii) State the **TWO** main functions of a stair in a building. **(6 marks)**
- b) (i) Explain the **THREE** main functional requirements of a stair in a building. **(6 marks)**  
(ii) Define the following stair terminologies:  
i) Riser  
ii) Going  
iii) Pitch line  
iv) Flight **(4 marks)**
- c) With the aid of sketches illustrate the arrangement of reinforcement in reinforced concrete in-situ stair. **(4 marks)**

**Question Three (20 Marks)**

- a) (i) Differentiate between rendering and plastering  
(ii) Explain the following painting techniques.  
- Priming  
- Undercoating  
- Finishing  
- Knotting **(10 marks)**
- b) Explain the **THREE** criteria of failure used in performance test of fire door sets. **(10 marks)**

**Question Four (20 marks)**

With the aid of sketches, describe the construction of a vertically sliding (double hung) sash windows. **(20 marks)**

**Question Five (20 marks)**

Briefly discuss the collapse of buildings under construction in Kenya and suggest corrective measures. **(20 marks)**