



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.
- i) Single leaf straight sliding door **(5 marks)**
 - 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)**