



# 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 (10 B)**

**DIPLOMA IN CIVIL ENGINEERING (10 B)**

EBC 2404: ENGINEERING DRAWING II  
**SPECIAL/SUPPLEMENTARY EXAMINATION**

SERIES: FEBRUARY/MARCH 2012

**TIME: 2 HOURS**

## **Instructions to Candidates:**

You should have the following for this examination

- *Answer Booklet*

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 **THREE** printed pages

## SECTION A (COMPULSORY)

### Question 1(20 marks)

- a) Explain the purpose of any **THREE** of the following types of drawings in a working drawing.
- (i) Floor plans
  - (ii) Elevations
  - (iii) Section and
  - (iv) Details
- (6 marks)
- b) (i) State the **FOUR** main objectives of house design  
(ii) Briefly, state **TWO** specific requirements for the following areas in a residential building.
- Bedrooms
  - Living rooms
  - Dining rooms
- c) The following information refers to a proposed bungalow:
- (i) Ground/subsoil condition – firm soil
  - (ii) Roof type – tiled timber roof
  - (iii) Load bearing walls – 200mm thick
  - (iv) Floor – 100mm thick plain concrete ground floor slab

To a scale of 1:5, draw a detail a suitable foundation type. (Assume any other information)  
(8 marks)

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

### Question 2 (20 marks)

A stair case is required for a public/commercial building. The following information refers to the stair case.

- (i) Flight width - 1200mm wide
- (ii) Size of trade - 300mm
- (iii) Waist - 150mm
- (iv) Storey height - 4500mm

To scale of 1:20, draw a cross-section of the stair from the ground floor up to and including the first landing.

Assume any other information (20 marks)

### Question 3 (20 marks)

- a) Sketch the conventional symbols for the following building materials in section:
- (i) Hardcore
  - (ii) Planed timber
  - (iii) Concrete
  - (iv) Stone wall
  - (v) Brick wall
- (5 marks)

b) Write the meaning of any FIVE of the following abbreviations

- (i) DPM
- (ii) FFL
- (iii) GL
- (iv) WC
- (v) RWP
- (vi) VP
- (vii) VRC

c) Briefly outline the procedure for arranging furniture in a sitting room (10 marks)

**Question 4 (20 marks)**

Outline the procedure used to approve building plans by the local authorities in Kenya (20 marks)

**Question 5 (20 marks)**

Low cost 2 bed roomed houses are required in a slam upgrading scheme. Design and draw a suitable floor plan satisfying the following requirements:

- (i) Bedrooms: minimum floor area = 10m<sup>2</sup>  
Least room dimension = 3 m
- (ii) Sitting rooms: Minimum floor area = 15.12m<sup>2</sup>
- (iii) Corridors/lobbies: Atleast 1050mm wide
- (iv) Veranda: At the front door at least = 1800mm wide
- (v) Load bearing walls: = 200mm thick
- (vi) Non-load bearing partition walls = 150mm thick
- (vii) w.c and bath room (separate) (20 marks)