



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

DEPARTMENT OF BUILDING & CIVIL ENGINEERING
DIPLOMA IN BUILDING & CIVIL ENGINEERING (DBC 12S)

EBC 2204: ENGINEERING DRAWING II

SPECIAL/SUPPLEMENTARY EXAMINATION
SERIES: OCTOBER 2013
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

Maximum marks for each part of a question are as shown

This paper consists of **THREE** printed pages

Question One

Outline the general procedure for approval of building plant by local authorities in Kenya.

(20 marks)

Question Two

a) (i) State the importance of complying with the building code when designing a house. **(2 marks)**

(ii) State the **FOUR** main objectives of house design. **(8 marks)**

b) (i) With the aid of sketches, illustrate the representation of the following on a building plan.

- Wash Hand Basin
- Shower Room (cubicle)
- Pedant switch
- Window opening
- Electricity meter

(10 marks)

Question Three

a) Write in full the following abbreviated terms:

- (i) D.P.M
- (ii) C.C.M
- (iii) V.R.C
- (iv) Conc
- (v) R.W.P

(5 marks)

b) Briefly explain the purposes of the following types of drawing:

- (i) Floor plans
- (ii) Roof plan
- (iii) Section and
- (iv)** Elevation

(8 marks)

c) The following information refers to a proposed bungalow:

- (i) Load bearing walls = 200mm thick
- (ii) Common plate = 100 x 50mm
- (iii) Ceiling/joist/Tie beam = 150 x 50mm
- (iv) Struts/Ties = 150 x 50mm
- (v) Fascia board = 225 x 25 mm
- (vi) Soffit Board = 25 mm thick

Include any other necessary design information not given. To a scale of 1:5 draw a typical 450mm wide closed eaves detail to the roof.

(7 marks)

Question Four

Low cost two-bedroomed houses are required in a slam upgrading scheme in Mombasa. Design and draw a suitable floor plan satisfying the following requirements:

- (i) Bed rooms: Minimum floor area = 11.0m²
Least room dimension = 3.3m
- (ii) Sitting rooms: Minimum floor area = 15.2m²
Least room dimensions 3.6m
- (iii) Load bearing walls 200mm thick
- (iv) Veranda At least 1800mm wide
- (v) Non-load bearing partition walls: 100mm thick
- (vi) Washrooms: Water closet – 800mm wide

Include any other necessary design information not given

(20 marks)

Question Five

State any **TWO** specific design suggestions for the following areas in a residential building:

- (i) Bedrooms
- (ii) Sitting room
- (iii) Dining room
- (iv) Kitchen
- (v) Wash rooms

(10 marks)

c) The following information refers to a proposed bungalow:

- ground conditions – firm soil
- roof type – tiled timber roof
- walls – load bearing walls – 200mm thick
- non-loading walls – 95mm thick
- floor type – 100mm thick plain concrete ground floor slab

To a scale of 1:5, draw and detail a suitable type of foundation for the above proposed bungalow.

(10 marks)