

BUILDING CONSTRUCTION DRAWING 2
5225

GENERAL CERTIFICATE OF EDUCATION BOARD

Technical and Vocational Education Examination

JUNE 2021

INTERMEDIATE LEVEL

Specialty (Specialty Acronym)	Civil Engineering Building Construction CE-BC (F4 BA)
Subject Title	BUILDING CONSTRUCTION DRAWING
Subject Code No.	5225
Paper No.	2

Duration: THREE HOURS

This Paper Comprises **TWO Section (A and B)**

Answer the Two (2) Questions on the same **A3 format** paper to be provided.

Section A is a Compulsory Question

Section B, Answer any ONE of the TWO Questions

All Questions carry equal marks.

The total mark for this paper is 100 and constitutes 60% of the total marks for Building Construction Drawing. You are allowed to use drawing instruments and non-programmable calculators.

You are reminded of the necessity for good English and orderly presentation in your answers.

SECTION A. (Compulsory Question)

QUESTION ONE (50 Marks)

DESCRIPTION OF THE STUDY:

The perspective drawing in figure 1 below shows a partial portion of a building. It comprises of a window, door, beam, lintel, floor slabs and a balcony.

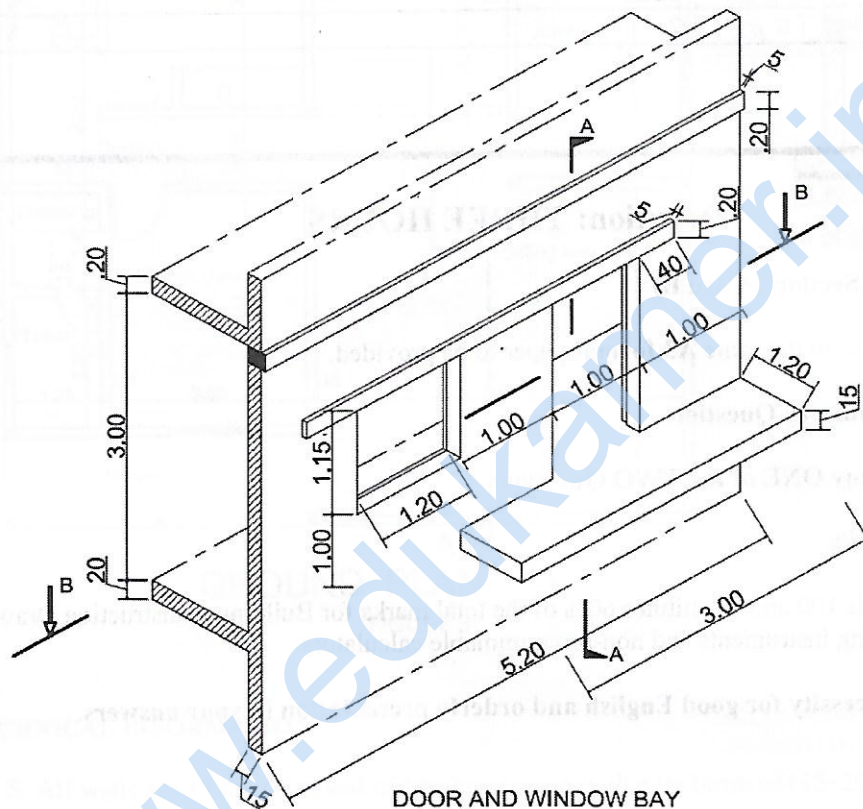


FIGURE 1

RELATED TECHNICAL INFORMATION:

OPENINGS: - Both door and window has internal rebates of (5x5) cm.

WORK REQUIRED:

On an A3 paper placed horizontally, draw the following to scale 1:50

- 1) The Front Elevation, indicating all the dimensions
- 2) The Section A-A, indicating all the dimensions

(25 marks)

(25 marks)

SECTION B. (Answer only one Question in this section)

QUESTION 2 (50 Marks)

DESCRIPTION OF THE WORK:

The drawing in figure 2 below represents a formwork plan of an upper floor of a building. It is constructed with Reinforced Concrete. The Ground floor slab which finished at level ± 0.00 has a thickness of 10cm

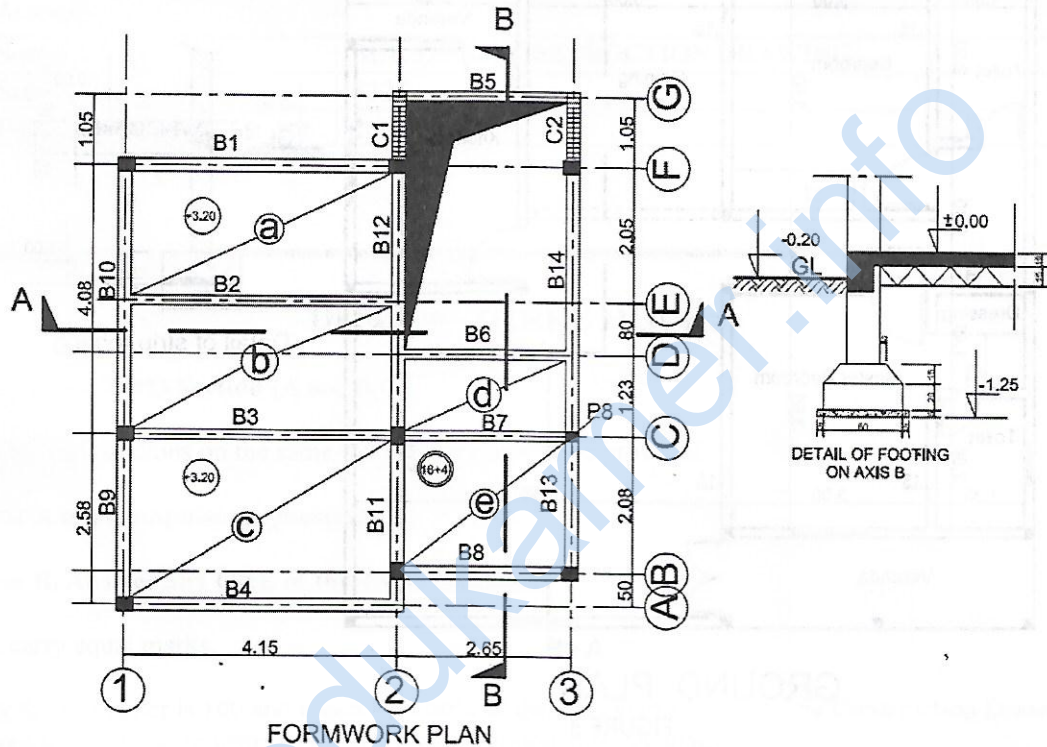


FIGURE 2

RELATED TECHNICAL INFORMATION:

FOOTING:- See Detail attached.

PILLARS: - All pillars measures (20x25) cm except P8 = (15x20) cm

BEAMS: - B1, B4, B9, and B10 are of section (20x50) cm

- B2, B3, B6, and B7 are of section (15x35) cm

- B8, B11, B12, B13, and B14 have (20x40) cm

- B5 = (15x25) cm.

- C1=C2= (20x25-40) cm

FLOORS:- Upper floor thickness made up of hollow blocks = (16+4) cm

-Ground floor thickness = 10 cm

-Hardcore = 15 cm thick

GROUND BEAMS: - On axis B and F = (20x30) cm

-On axis C = (15x30) cm

NB. Any other information is left at the initiative of the candidate.

WORK REQUIRED:

On same A3 format placed horizontally, and to a scale of 1:50,

1) Draw section B-B as indicated on the formwork plan.

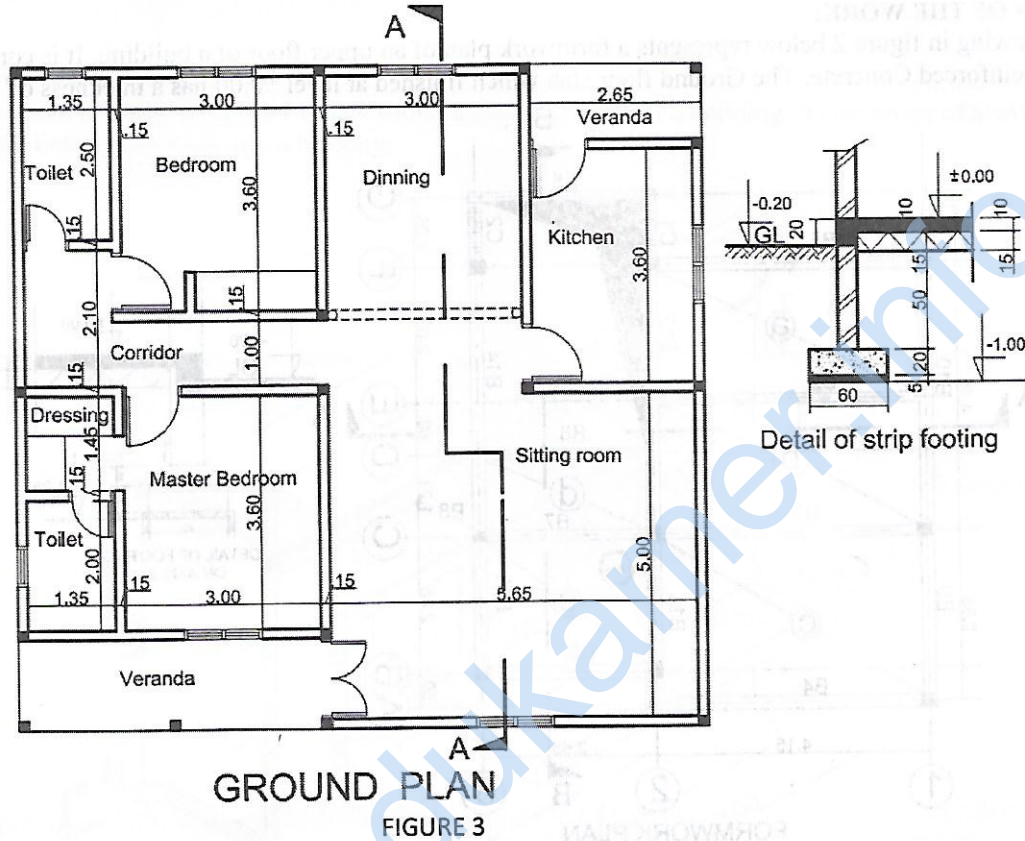
(35 marks)

2) Indicate all necessary dimensions and lettering.

(15 marks)

QUESTION 3 (50 Marks)**DESCRIPTION OF THE STUDY**

The figure 3 below represents the plan of a bungalow. It consists of two bedrooms, two toilets, a dining, a parlour, a kitchen, verandas and a corridor



GROUND PLAN
FIGURE 3

RELATED TECHNICAL INFORMATION

WALLS: All walls are 15 cm thick and of height +3.00 m with a tie beam of (15x20) cm in cross section.

OPENINGS: Doors; -main door = (125x210) cm

-Internal doors = (90x210) cm

-toilet door = (70x210) cm

Windows; -bedrooms and kitchen windows = (1.20x1.20) m

-Toilet window = (60x60) cm

-Parlour window = (2.00x1.20) m

ARCH AT DINING: Segmental arch; -the springing point starts at a height of 2.10m

-the arch height = 40cm. it is concreted up to the tie beam.

WORK REQUIRED

On same format A3 placed horizontally and to a scale of 1:50

1) Draw the Ground Plan.

(35 marks)

2) Indicate all Dimensions and proper lettering.

(15 marks)