

1704/103  
BUILDING CONSTRUCTION I  
AND DRAWING  
Oct./Nov. 2022  
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL  
CRAFT CERTIFICATE IN BUILDING TECHNOLOGY  
MODULE I

BUILDING CONSTRUCTION I AND DRAWING

3 hours

INSTRUCTIONS TO CANDIDATES

*You should have the following for this examination:*

*Answer booklet;*

*Mathematical tables/non programmable scientific calculator;*

*Drawing instruments;*

*Size A3 drawing paper.*

*This paper consists of EIGHT questions in TWO sections; A and B.*

*Answer FIVE questions choosing at least TWO questions from each section.*

*All questions carry equal marks.*

*Maximum marks for each part of a question are indicated.*

*Candidates should answer the questions in English.*

**This paper consists of 4 printed pages.**

**Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**

## SECTION A: BUILDING CONSTRUCTION I

*Answer at least TWO questions from this section.*

1. (a) (i) State **four** elements of built environment.  
(ii) Explain **three** regulatory factors for built environment. (8 marks)
- (b) With the aid of a labelled sectional sketch, explain the well point system of dewatering. (7 marks)
- (c) Describe each of the following foundation:  
(i) deep strip;  
(ii) raft. (5 marks)
2. (a) Explain each of the following bonds in walling:  
(i) Stretcher;  
(ii) English;  
(iii) Flemish. (6 marks)
- (b) Sketch and label a pictorial corner profile for setting out a building. (6 marks)
- (c) Explain **four** functional requirements of a wall. (8 marks)
3. (a) Outline **two** types of loading on a foundation wall. (3 marks)
- (b) Outline the procedure for constructing superstructure walls. (5 marks)
- (c) Sketch and label a sectional detail of each of the following:  
(i) concrete ground floor;  
(ii) suspended timber ground floor. (12 marks)
4. (a) Describe **two** methods of bridging openings in walls. (4 marks)
- (b) Explain **three** types of wall construction. (6 marks)
- (c) With the aid of a labelled sectional sketch, outline the procedure of plastering a wall. (10 marks)

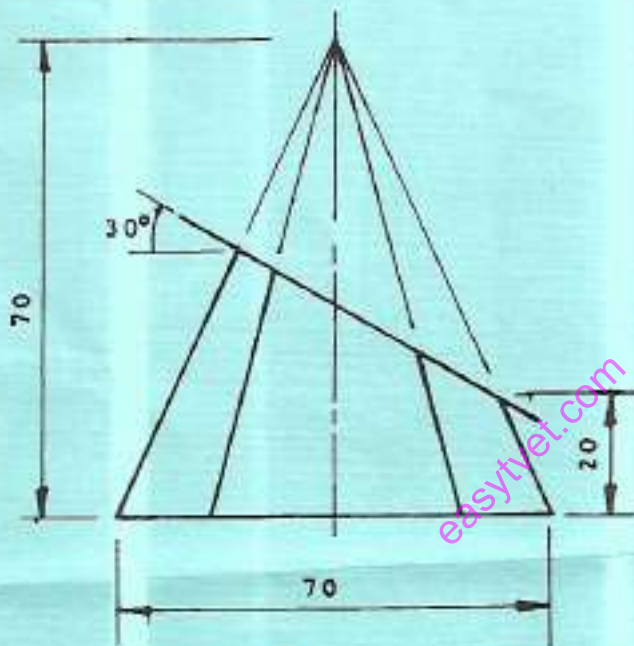
## SECTION B: DRAWING

Answer at least **TWO** questions from this section.

5. **Figure 1** shows the front elevation of a hexagonal pyramid. In third angle projection, draw the:

- (a) front elevation;
- (b) plan;
- (c) development.

(20 marks)



**Fig.1**

6. The length and width of a rectangle are 80 mm by 40 mm respectively. Using double scale:

- (a) construct the rectangle;
- (b) draw an ellipse.

(20 marks)

7. **Figure 2** shows the orthographic views of a block. To a scale of 1:1, draw the isometric view of the block and show external dimensions.

(20 marks)

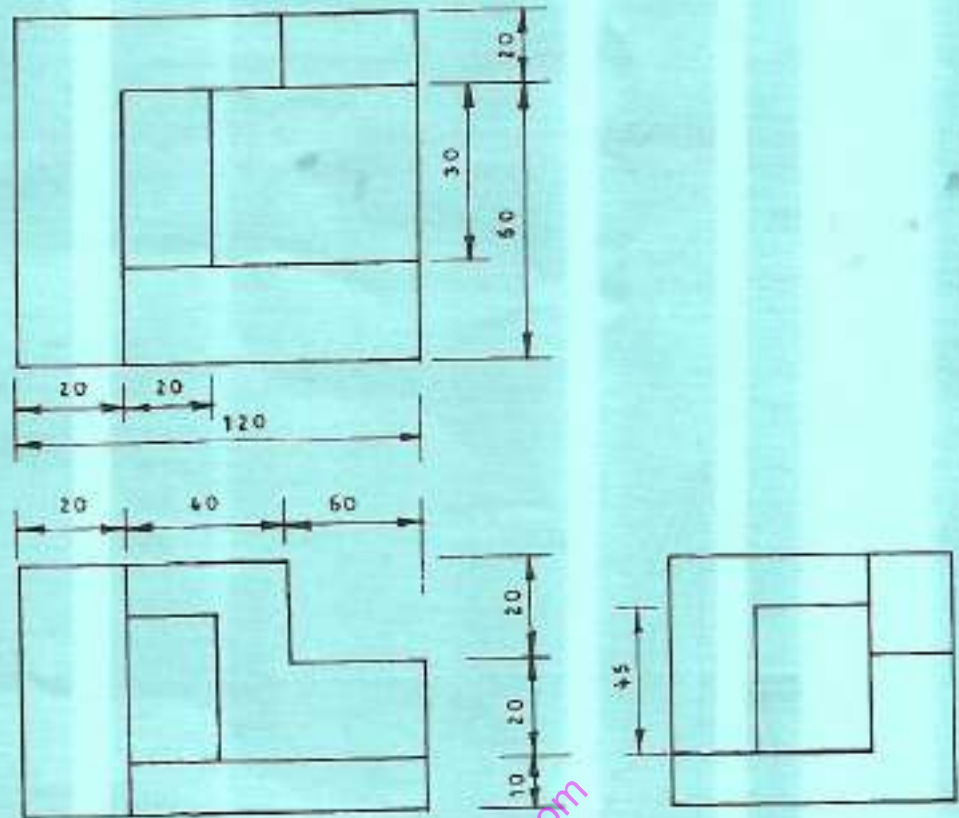


Fig. 2

8. Figure 3 shows the front elevation of two cylinders interpenetrating each other centrally on plan. Using 1<sup>st</sup> angle projection:

- (i) draw the front elevation shown;
- (ii) draw the plan;
- (iii) complete the front elevation;
- (iv) draw the right end elevation.

(20 marks)

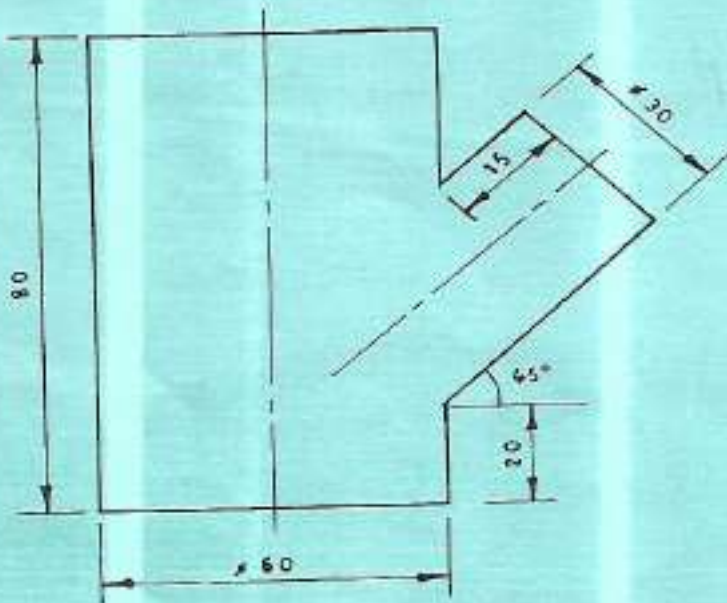


Fig. 3

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