

29.17 BUILDING CONSTRUCTION (446)

29.17.1 Building Construction Paper 1 (446/1)

446/1

BUILDING CONSTRUCTION

Paper 1

Oct./Nov. 2008

2½ hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

Kenya Certificate of Secondary Education

BUILDING CONSTRUCTION

Paper 1

2½ hours

INSTRUCTIONS TO CANDIDATES

Candidates should have the following for this examination:

Answer booklet

Drawing instruments

Drawing paper size A3.

*This paper has **TWO** sections; **A** and **B**.*

*Answer **ALL** the questions in section **A**. From section **B**, answer question **11** and any other **THREE** questions.*

All dimensions are in millimetres unless otherwise stated.

This paper consists of 6 printed pages.

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

SECTION A (40 marks)

Answer *ALL* the questions in this section.

- 1 (a) (i) Explain the term 'peat ground.' (1 mark)
- (ii) Define the term 'shelter.' (1 mark)
- (b) State **two** reasons why elevated sites are preferred to low lying sites. (2 marks)

- 2 **Figure 1** shows a T-junction wall.

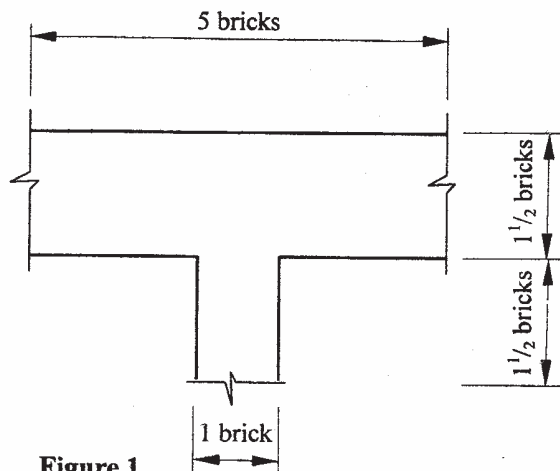


Figure 1

Sketch the bonding details of two alternative plan courses in English bond.

- (4 marks)
- 3 (a) Name **two** areas where a building line can be measured from. (1 mark)
- (b) List **two** precautions to be observed while laying a damp-proof course. (2 marks)
- 4 (a) Name **two** methods of overcoming damp penetration into a building by rain beating against the external wall and soaking through the fabric. (2 marks)
- (b) State **four** places where vertical damp-proof courses are used. (2 marks)
- 5 (a) Explain the term 'site clearing'. (2 marks)
- (b) State **two** advantages of a short bore pile foundation. (2 marks)

- 6 (a) State **four** safety precautions to be observed while using a ladder as scaffold. (2 marks)
- (b) Define the following terms: (3 marks)
- (i) joggel
 - (ii) arris
 - (iii) bonders

- 7 (a) List **two** roof covering materials for each of the following types of flat roofs: (2 marks)
- (i) concrete flat roof
 - (ii) timber flat roof.

- (b) Name **two** occupational hazards that a mason may be exposed to. (1 mark)

- 8 (a) **Figure 2** shows a type of ironmongery.

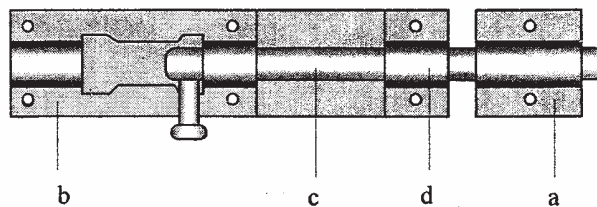


Figure 2

- (i) Name the ironmongery. (½ marks)
 - (ii) State its function. (½ marks)
 - (iii) Label the parts marked 'a', 'b', 'c' and 'd'. (2 marks)
- (b) Explain the difference between pebble dash and rough cast finishes. (2 marks)
- 9 With the aid of sketches, differentiate between the following joints: (4 marks)
- (a) through haunched mortise and tenon;
 - (b) through wedged mortise and tenon.

10 Figure 3 shows a block in isometric view.

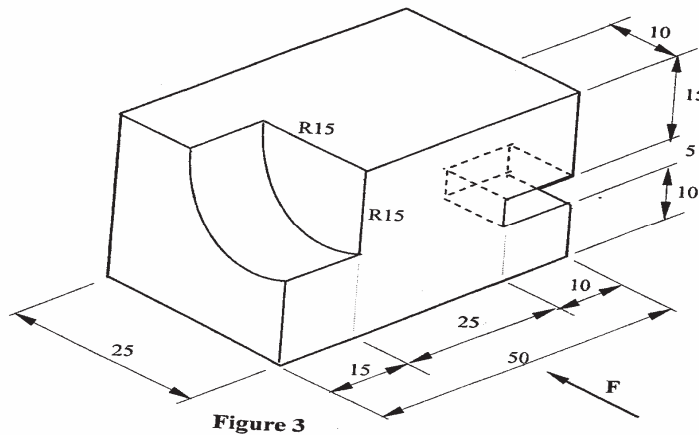


Figure 3

Draw the figure in first angle orthographic projection.

(4 marks)

SECTION B (60 marks)

Answer **question 11** and any other **three** questions from this section.
Candidates are advised to spend **not more than 25 minutes** on questions 11.

11 Figure 4 shows orthographic views of a shaped block in first angle projection.

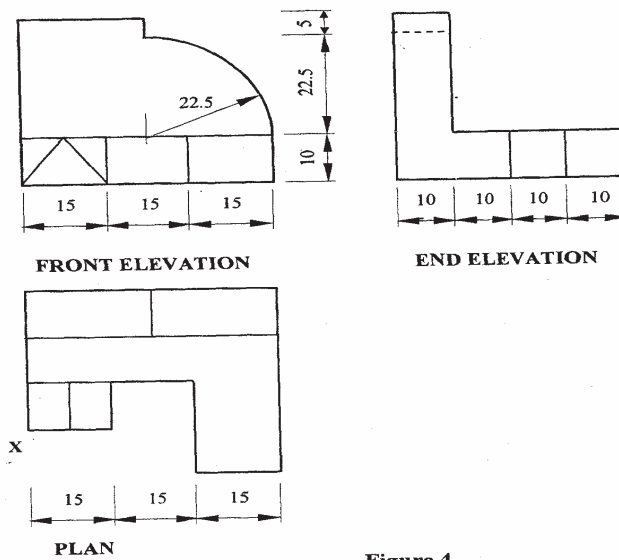


Figure 4

To a scale of 2:1, draw an isometric view of the block with X as the lowest point.

(15 marks)

12 (a) State **four** construction requirements of a scaffold.

(4 marks)

- (b) **Figure 5** shows a fish pond which is elliptical in shape.

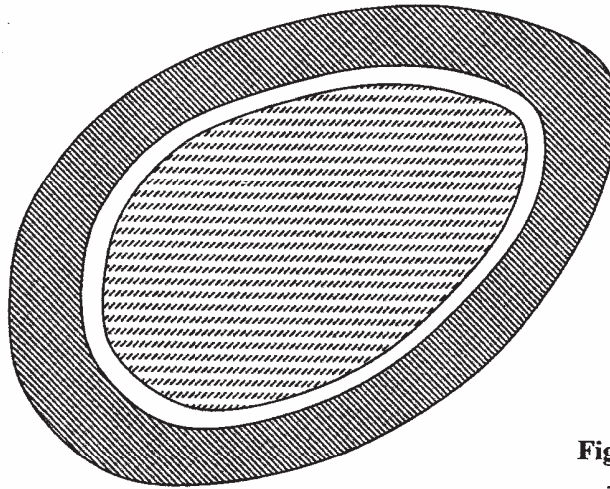


Figure 5

Using sketches, outline the procedure of setting out its foundation wall using line and peg method. (11 marks)

- 13 (a) State **two** principles that make a drainage pipe to discharge through gravity effectively. (2 marks)
- (b) State **five** advantages of P.V.C. rain water pipes over sheet metal pipes. (5 marks)
- (c) Sketch and label a shallow concrete inspection chamber. (8 marks)
- 14 (a) State **two** functions of a road kerb. (2 marks)
- (b) Sketch and label a vertical section through a one-brick boundary wall. (5 marks)
- (c) Sketch and label an elevation of a gauged brick camber arch for a door opening. (8 marks)
- 15 (a) State **four** methods of dropping concrete safely into a trench bottom more than 1.2 metres deep. (2 marks)
- (b) Sketch and label a cross-section of a trench boning rod in position as used in levelling the bottom of the trench. (4 marks)
- (c) With the aid of labelled sketches, show **three** methods of reducing levels on a sloping site. (9 marks)