

29.17 **BUILDING CONSTRUCTION**

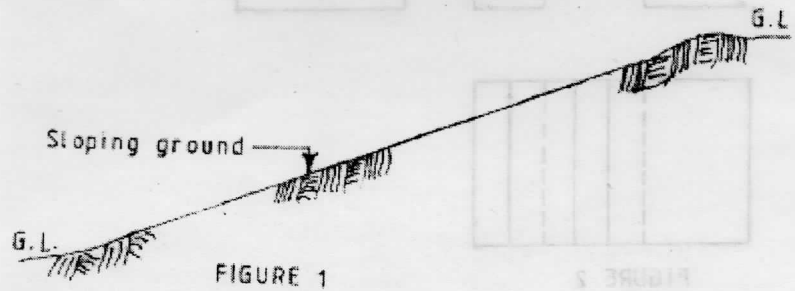
29.17.1 **Building Construction Paper 2 (446/1)**



SECTION A (40 marks)

Answer all the questions in this section

- 1 (a) With the aid of a plan sketch, explain the Kenya Building Code requirement for the projection of a strip foundation beyond a pier forming part of a wall. (2 marks)
- (b) State **two** situations where cantilever scaffolding may be used. (2 marks)
- 2 (a) With the aid of sketches, distinguish between struck joint and reverse struck joint. (2 marks)
- (b) Give **two** reasons why cow dung is used in walling when making traditional shelter. (2 marks)
- 3 Using sketches, show **three** options that may be used to prepare the ground in figure 1 for construction of a building. (3 marks)



- 4 (a) With the aid of a labelled sketch; show how trench sides are treated in a shallow foundation in wet loose soils. (2 marks)
- (b) Outline the procedure of backfilling a foundation trench up to the ground level. (2 marks)
- 5 (a) State **two** disadvantages of fixing a doorframe in position as construction work continues. (2 marks)
- (b) Give **two** reasons for provision of a hilly landscape in front of a building. (2 marks)
- 6 (a) (i) Define the term 'Gully trap'. (1 mark)
- (ii) Name **two** types of traps used in plumbing works. (2 marks)
- (b) Give **two** reasons for using spacers in concreting. (2 marks)

- 7 (a) Give **four** reasons for the rapid growth of the building industry in Kenya in the last three years. (2 marks)
- (b) Give **two** reasons for site investigations. (2 marks)
- 8 (a) Give **two** reasons for laying foundation bases at least 150mm below ground level. (2 marks)
- (b) Name **four** positions where damp proof courses may be placed in a superstructure wall. (2 marks)
- 9 (a) State **four** methods of applying preservatives to timber piles. (2 marks)
- (b) State **two** precautions that should be taken before fixing a metal window. (2 marks)
- 10 Figure 2 shows **three** views of a block in first angle orthographic projection. Sketch an isometric projection of the block taking point X as the lowest point. (4 marks)

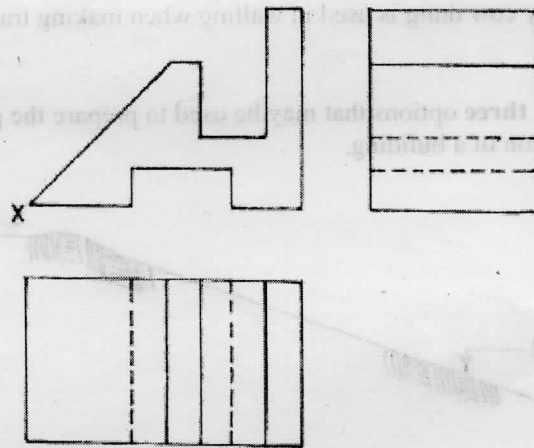


FIGURE 2

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 question 11.

11 Figure 3 shows three views of a block.

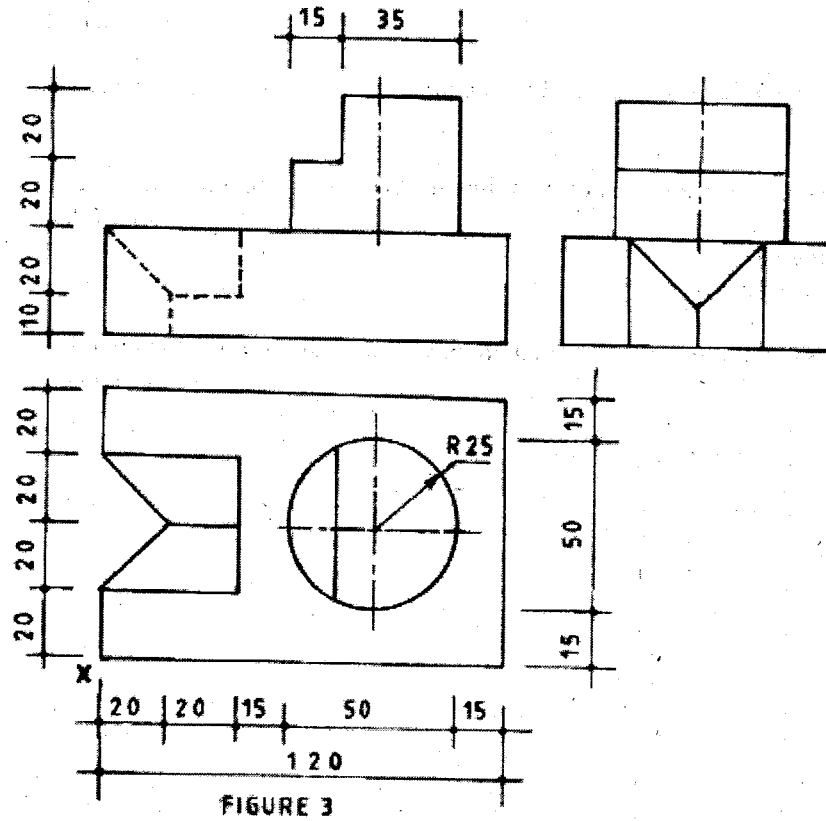


FIGURE 3

Draw full size an isometric projection of the block taking X as the lowest point and show six dimensions. (15 marks)

- 12 (a) Outline the procedure of bridging an opening using cast in-situ concrete lintel. (6 marks)
- (b) Sketch and label a cross-section through the formwork used for cast in-situ concrete lintel. (9 marks)

- 13 (a) Using a labelled vertical cross sectional sketch, show the damp proof details provided on a parapet wall and roof covered with iron sheets. (7 marks)
- (b) With the aid of a labelled sketch, outline the procedure of using a radius rod to check the accuracy of a curved wall of 1.5m radius. (8 marks)
- 14 (a) Use labelled sketches to differentiate between vertical and horizontal timber cladding. (10 marks)
- (b) Outline the procedure of laying a pad foundation. (5 marks)
- 15 (a) Give two reasons for using each of the following types of oil based paints: (4 marks)
- (i) Priming paint;
- (ii) Undercoating paint.
- (b) Figure 4 shows an outline of a one brick thick wall to be built in Flemish bond. (4 marks)

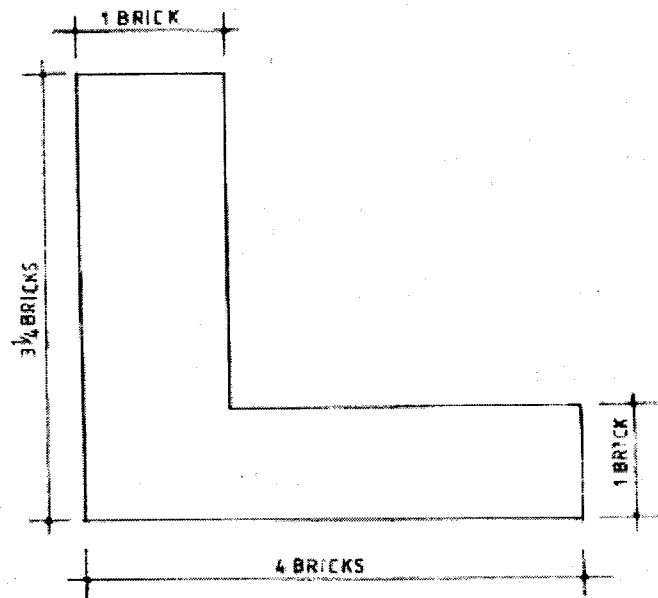


Figure 4

Make a sketch to show the bonding details.

- (c) Sketch and label a cross section of a double lap tiled roof at the ridge. (7 marks)