

3.19 BUILDING CONSTRUCTION (446)

3.19.1 Building Construction Paper 1 (446/1)

SECTION A (40 marks)

Answer all the questions in this section in the spaces provided.

- 1 (a) State **two** functions of shelter. (2 marks)
- (b) State **two** limitations in starting a small business. (2 marks)
- 2 (a) Explain each of the following terms as used in roof construction. (2 marks)
- (i) Span.
- (ii) Hip.
- (b) State **two** factors that influence the choice of roof for a building. (2 marks)
- 3 Explain each of the following terms as used in construction: (4 marks)
- (i) Cladding.
- (ii) Terrazzo.
- 4 (a) Name **two** types of foundations used on steep slopy sites with stable soil. (2 marks)
- (b) State **two** factors to consider when selecting a site for a building. (2 marks)
- 5 (a) Explain the term 'services' as used in building construction. (2 marks)
- (b) State **two** conditions necessary when installing pipes to convey hot water. (2 marks)
- 6 Explain the difference between a load bearing wall and a non-load bearing wall. (4 marks)
- 7 Explain the following terms as used in concreting: (4 marks)
- (a) Batching.
- (b) Mixing.
- 8 Distinguish between rigid and flexible damp-proofing materials and give **one** example of each. (2 marks)



- 9 Sketch and label each of the following strutting used in timber floors: (4 marks)
- (a) Staggered strutting.
 - (b) Herringbone strutting.

10 Figure 1 shows two orthographic views of a block drawn in first angle projection.

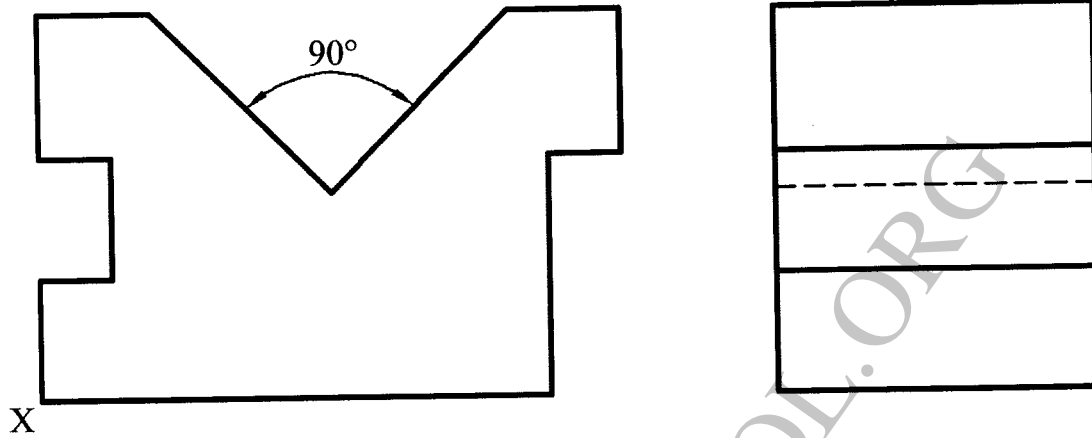


Figure 1

Sketch the block in isometric projection taking X as the lowest point. (6 marks)

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SECTION B (60 marks)

Answer **question 11** on the **A3 paper** and any other three questions from this section in the spaces provided. Candidates are advised to spend **not more than 25 minutes** on question 11.

11 Figure 2 shows a shaped block drawn in isometric projection.

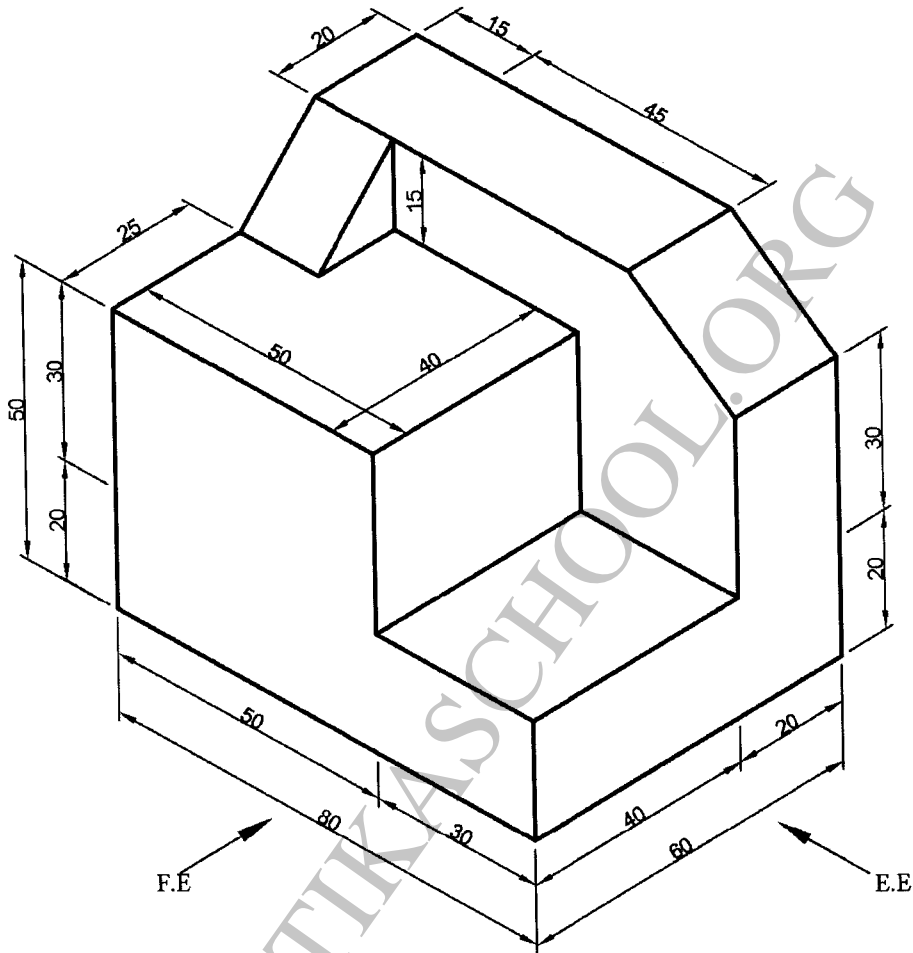


Figure 2

Draw the following views Full Size in first angle projection:

(15 marks)

- Front elevation as seen in the direction of arrow F.E.
- End elevation as seen in the direction of arrow E.E.
- Plan.

12 (a) Outline the procedure of laying Polyvinyl Chloride (PVC) tiles on a sand-cement floor screed. (8 marks)

(b) State five Kenya Building Code requirements for the construction of stairs. (5 marks)

(c) State two purposes of painting a plastered wall surface. (2 marks)

- 13 (a) Sketch and label a longitudinal section through a septic tank. (8 marks)
- (b) (i) State **four** advantages of terrazzo as a floor finish. (4 marks)
- (ii) Sketch and label a folding wedge and state where it is used. (3 marks)
- 14 (a) Define each of the following terms as used in stairs: (3 marks)
- (i) Balustrade.
- (ii) Riser.
- (iii) Going.
- (b) Sketch the following gardening tools and state **one** use of each. (9 marks)
- (i) Trowel.
- (ii) Rake.
- (iii) Spade.
- (c) State **three** functional requirements of formwork. (3 marks)
- 15 (a) State **three** ways of controlling termites on site. (3 marks)
- (b) Outline **three** factors that influence the choice of foundation for a building. (3 marks)
- (c) (i) Sketch and label a King Post truss. (5 marks)
- (ii) State **two** advantages and two disadvantages of a direct cold water supply system. (4 marks)

