

4.6 BUILDING CONSTRUCTION (446)

4.6.1 Building Construction Paper 1 (446/1)

SECTION A (40 marks)

Answer all the questions in this section.

- 1 (a) Name **two** setting out equipment that are used for setting out corners of buildings. (1 mark)
- (b) Name **two** types of foundations and state the type of soil in which each may be used. (2 marks)
- 2 (a) State **two** reasons for discouraging the use of very fine aggregate in a concrete mix. (1 mark)
- (b) Make a labelled elevational sketch of a three course honeycomb wall. (3 marks)
- 3 (a) State **four** functions of oversite concrete. (2 marks)
- (b) Differentiate between damp proof course and damp proof membrane with respect to moisture movement. (2 marks)
- 4 (a) (i) Define the term scaffold. (1 mark)
- (ii) Name **two** types of scaffolds and state **one** example in each case. (2 marks)
- (b) Outline **four** factors that will influence the positioning of a pit latrine on a site. (2 marks)
- 5 (a) List **two** tools used for landscaping. (1 mark)
- (b) Figure 1 shows a window sill. Name the parts labelled A, B and C, giving the function of each part. (3 marks)

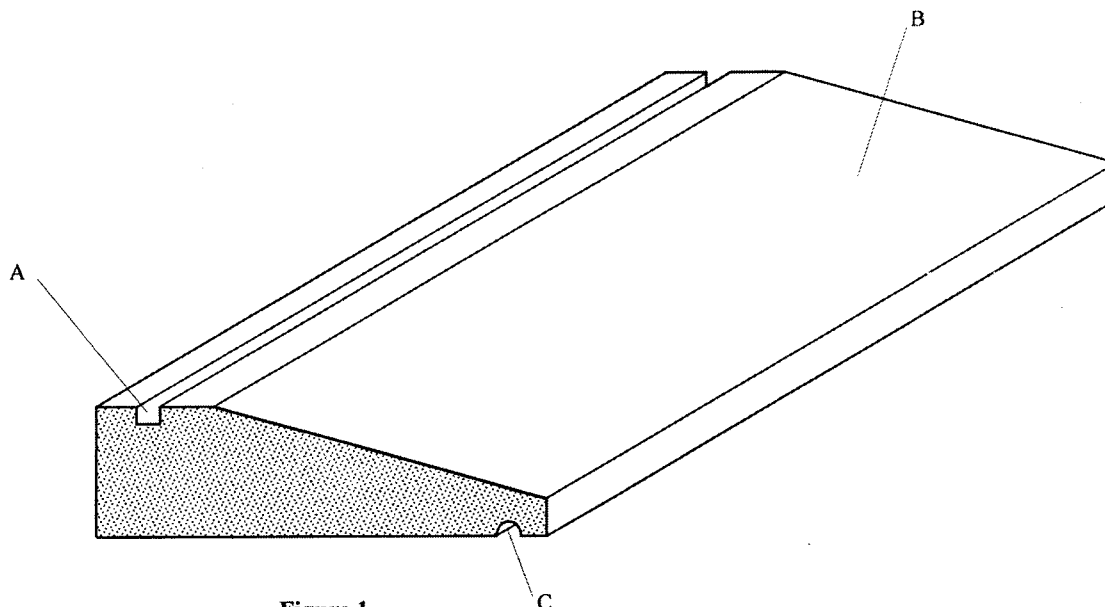


Figure 1

- 6 (a) (i) State **two** items of safety wear worn on site. (1 mark)
- (ii) Give **two** types of inspection which are carried out before work commences in a trench 1.5 metres deep. (2 marks)
- (b) Sketch a section of a roof to show the minimum lap of iron sheets at a purlin. (2 marks)
- 7 (a) Sketch **two** sections of timber skirtings showing the treatment given to the top edges. (2 marks)
- (b) Give **two** reasons that determine the rating of bulbs to be fitted in a room. (2 marks)
- 8 A kitchen floor is to receive a terrazzo finish. Describe the procedure of laying the floor finish. (3 marks)
- 9 Outline **two** functions of each of the following roof truss members:
- (a) rafter (2 marks)
- (b) tie beam. (2 marks)
- 10 Using a pair of compasses and a ruler only, construct a triangle whose base length $AB = 120\text{mm}$, angle $CAB = 60^\circ$ and angle $ABC = 45^\circ$ hence inscribe a circle touching all the sides. (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 question 11.

- 11 Figure 2 shows orthographic views of a vase drawn in first angle projection.
To a scale of 1:1, draw an isometric view of the vase with point X as the lowest point.

(15 marks)

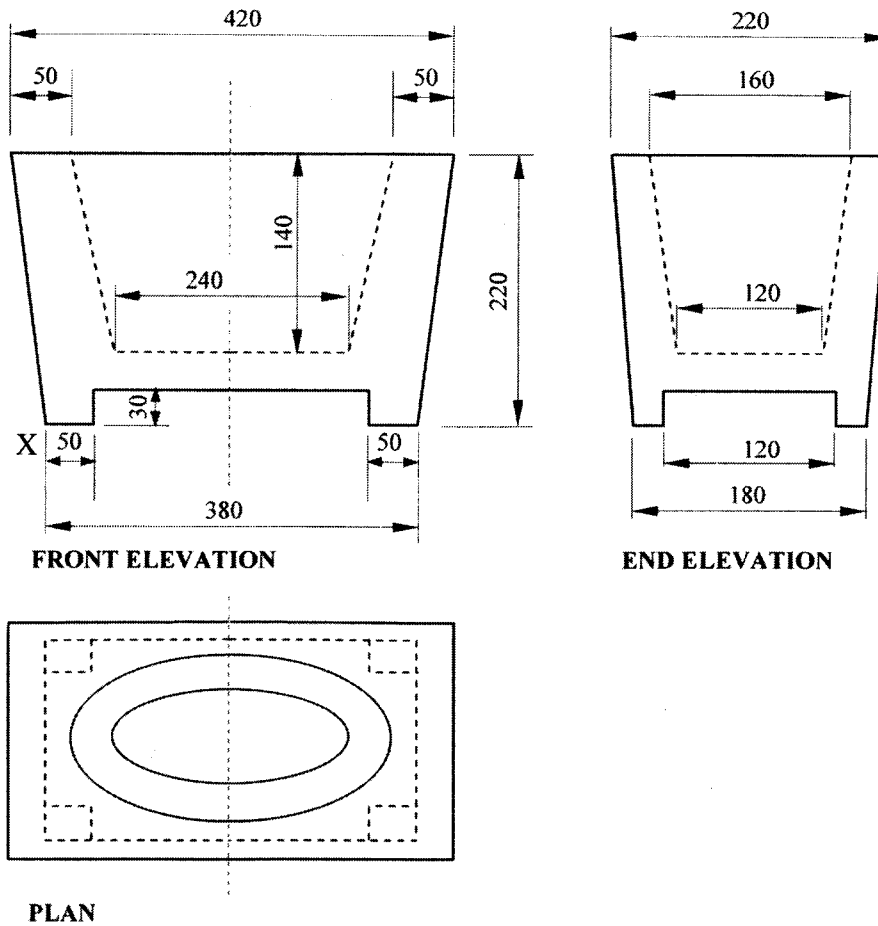


Figure 2

- 12 (a) With the aid of sketches, outline **two** methods of anchoring the sole plate of a timber wall frame on a concrete floor bed. (11 marks)
- (b) Using a sketch, explain how to construct a public footpath using concrete slabs. (4 marks)
- 13 (a) With the aid of a labelled sketch, show the damp proofing details at a junction of a floor slab and an external wall. (6 marks)
- (b) Sketch and label horizontal sections to show two methods of fixing a vertical timber cladding on a wall. (9 marks)
- 14 (a) Sketch and label a vertical section through a cold water storage cistern. (9 marks)
- (b) With the aid of a labelled sketch, explain how a boning rod and a site rail are used to level a trench bottom. (6 marks)
- 15 (a) Outline the procedure of:
- (i) obtaining a representative sample of sand from a large heap; (5 marks)
- (ii) fixing trusses into position to form a roof. (4 marks)
- (b) Sketch alternate plan courses to show the bonding details of a T-junction wall in English Bond. (6 marks)