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 comers 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 scalfold.   (1 mark)

(i)   Name **two** types of scalfolds 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)

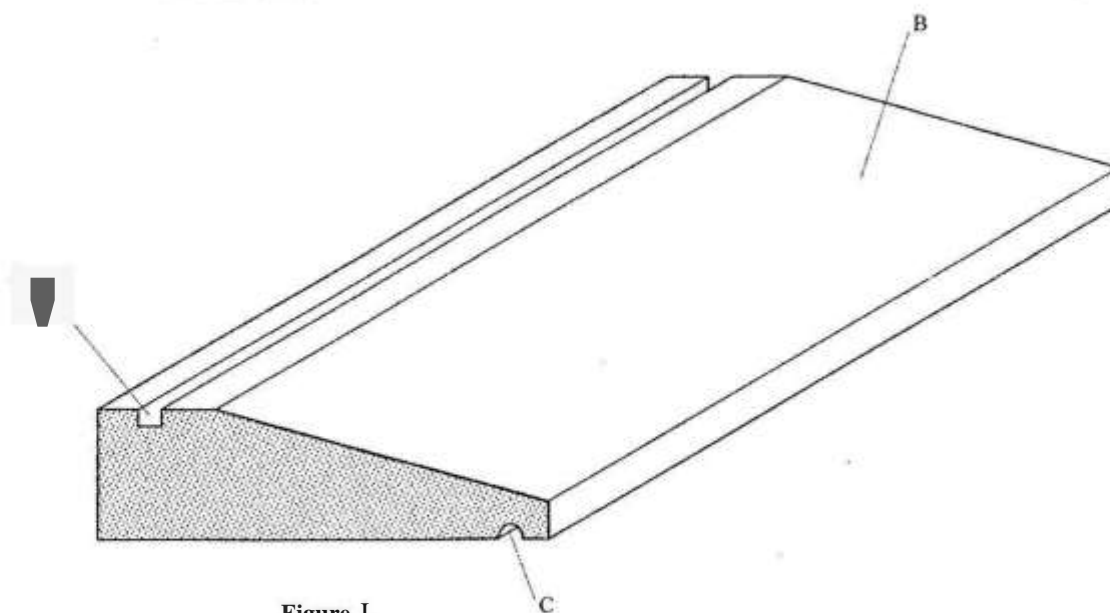(b)   Figure 1 shows a window sill. Name the parts labelled A, B and C, giving the function of each part.   (3 marks)

Figure I

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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 = 120mm, angle CAB = 60° and angle ABC= 45° hence inscribe a circle touching all the sides. (4 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.
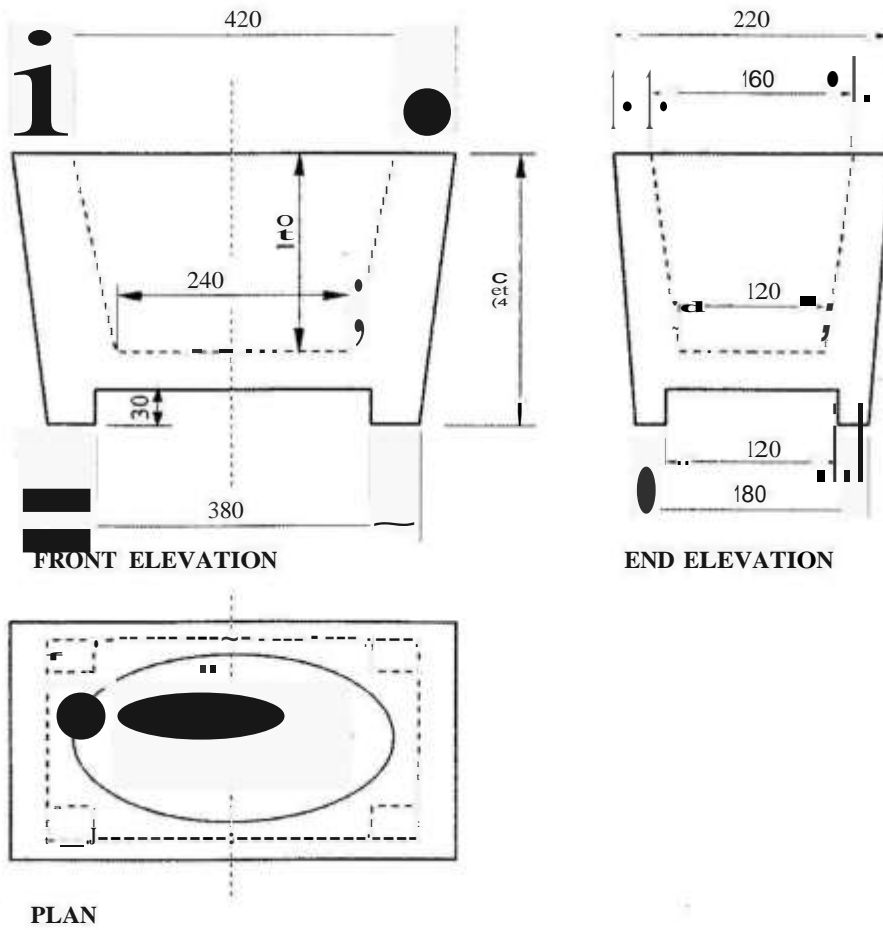
(15 marks)

FRONT ELEVATION

END ELEVATION

PLAN

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. (6marks)

   (b) Sketch and label horizontal sections to show two methods of fixing a vertical timber cladding on a wall. (9marks)

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)