

4.4 BUILDING CONSTRUCTION (446)

4.4.1 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** reasons for removing vegetable soil from a construction site. (2 marks)
(b) Explain the meaning of 'Building Construction'. (2 marks)
2. (a) Sketch a strap hinge. (2 mark)
(b) Explain **two** uses of plaster dots formed on a wall when plastering. (2 marks)
3. Apart from huts or caves, explain how **one** other form of shelter was constructed and used in the early days. (3 marks)
4. (a) State the appropriate protective wear for each of the following parts of the body: (2 marks)
 - (i) Head
 - (ii) Hands
 - (iii) Feet
 - (iv) Eyes(b) Give **two** reasons for using d.p.c. appropriately. (2 marks)
5. Sketch and label a pictorial cross-section of PVC floor finish to show the details from the hard core to the finish. (4 marks)
6. State **two** advantages of the 3:4:5 method of setting out. (2 marks)
7. Outline **two** desirable qualities of each of the following workshop attire: (4 marks)
 - (i) Goggles
 - (ii) Workshop boots

8. (a) Figure 1 shows a door frame.

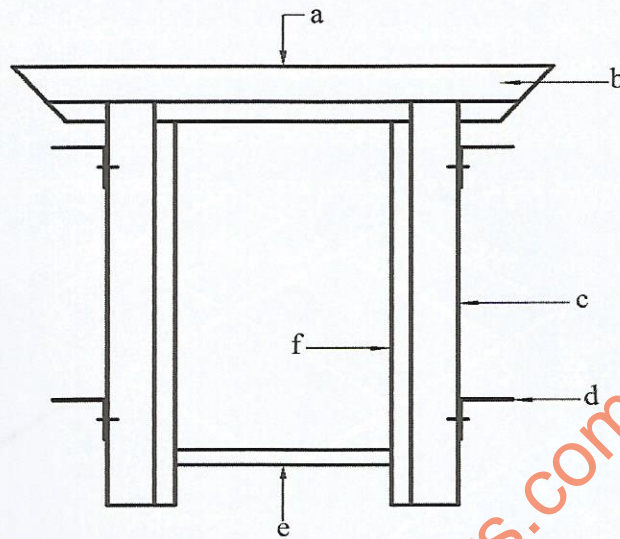


Figure 1

Name the parts labelled a, b, c, d, e and f.

(3 marks)

- a
- b
- c
- d
- e
- f

(b) Sketch and label a strip foundation footing.

(2 marks)

9. (a) State **three** advantages of using PVC pipes for drainage works.

(3 marks)

(b) Use sketches to show the difference between a gable roof and a lean-to roof.

(2 marks)

10. Draw a pipe of diameter 30 mm 50 mm long **Full Size** in isometric projection and use the ordinate method to construct the isometric circles.

(5 marks)

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 **not to spend more than 25 minutes** on question 11.

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

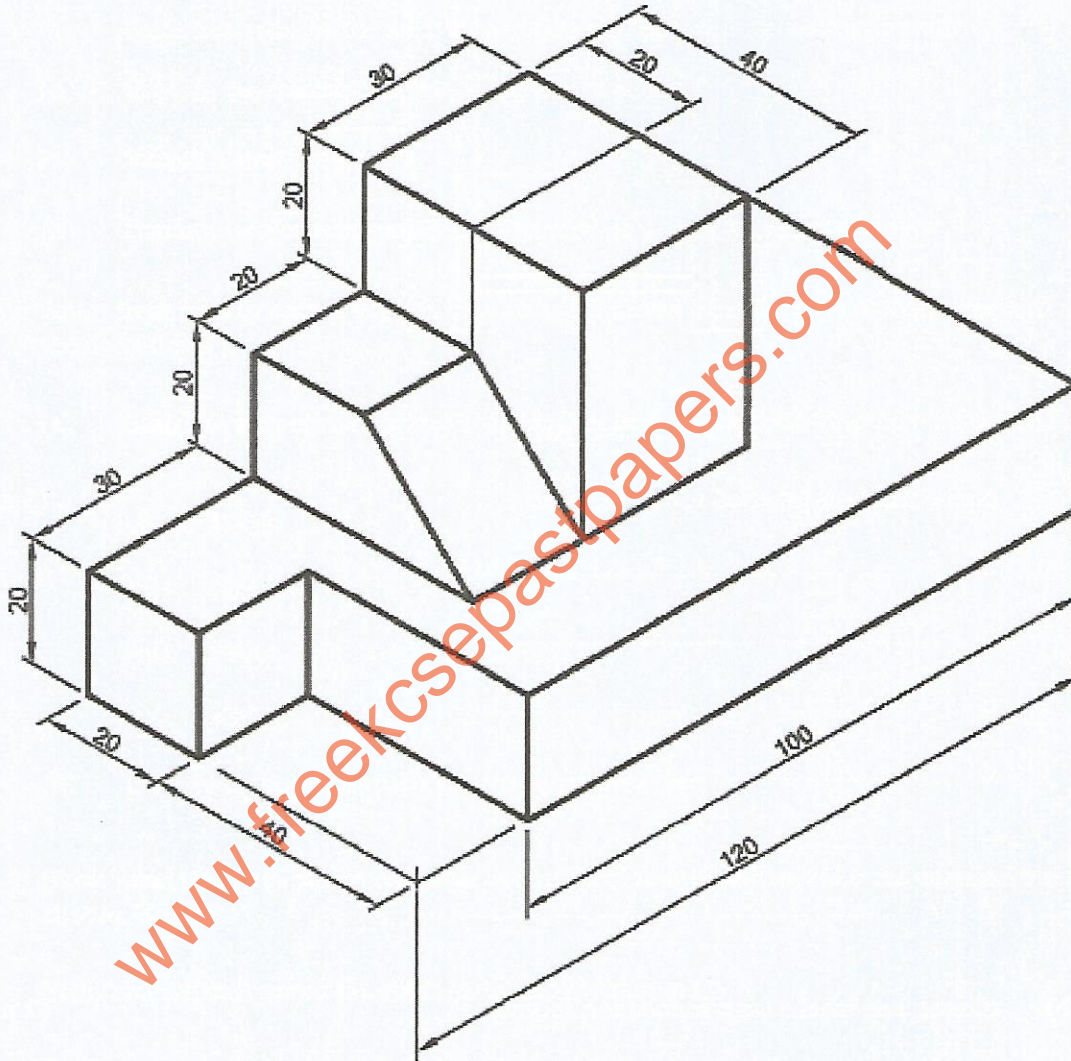


Figure 2

- (a) Draw the **three** orthographic views of the block **Full Size** in first angle projection. (11 marks)
- (b) Include **four** major dimensions. (4 marks)

12. (a) With the aid of a labelled sketch, explain the method of levelling a trench bottom using boning rods. (8 marks)
- (b) Outline the procedure of casting an in-situ lintel. (7 marks)
13. (a) Explain **three** differences between a turning piece and a centre piece. (6 marks)
- (b) Describe each of the following members of a scaffold: (6 marks)
- (i) Standard
 - (ii) Ledger
 - (iii) Putlogs
- (c) Explain **two** functions of a soakaway pit. (3 marks)
14. (a) List **four** key personnel involved in the implementation of a building construction project. (4 marks)
- (b) State the standard concrete mixes recommended for each of the following areas: (2 marks)
- (i) Concrete columns
 - (ii) Foundation concrete
 - (iii) Upper reinforced floor slab
 - (iv) Concrete window sill
- (c) Outline the procedure of preparing the surface of an old plastered and painted wall to receive a new coat of paint. The wall has cracks and the paint is peeling off. (9 marks)
15. (a) (i) Explain the term pitch as used in roof work.
- (ii) State **two** methods of determining a roof pitch. (4 marks)
- (b) Sketch and label a vertical cross section of a concrete inspection chamber. (8 marks)
- (c) State **three** factors that govern the method to adopt when excavating a trench. (3 marks)