

3.18 BUILDING CONSTRUCTION (446)

3.18.1 Building Construction Paper 1 (446/1)

SECTION A (40 marks)

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

1. State **four** factors to consider when choosing building materials. (4 marks)
2. (a) List **four** defects that are commonly found in timber on a construction site. (2 marks)
(b) State **four** factors to consider when setting up a site for construction. (2 marks)
3. State **two** purposes of stripping the top soil. (2 marks)
4. Sketch and label an open timbering to a shallow trench. (5 marks)
5. (a) Explain the meaning of the term “efflorescence” as used in buildings. (2 marks)
(b) Describe the tamping method of compacting concrete. (2 marks)
6. (a) List **four** methods of curing concrete. (2 marks)
(b) Explain the purpose of using starter bars in reinforced concrete works. (2 marks)
7. (a) Define the term “damp proofing” as used in construction. (2 marks)
(b) List **two** materials used as damp proof membrane. (1 mark)
8. (a) State **two** factors that affect the selection of foundations for buildings. (2 marks)
(b) Sketch and label a cross section through a pad foundation. (4 marks)
9. Explain **four** reasons for site investigation. (4 marks)

10. Figure 1 shows a shape to be moulded to form the top of a table.

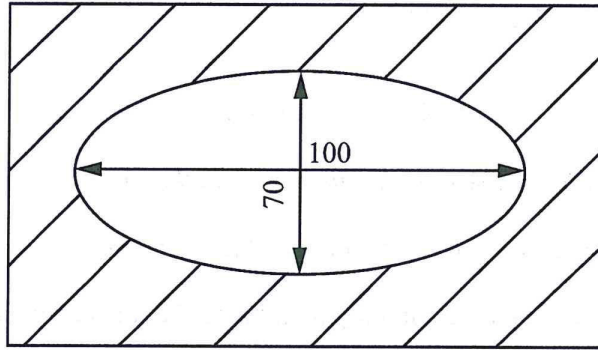


Figure 1

Using the concentric circles method, construct the shape.

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

11. Figure 2 shows a machine part drawn in isometric projection.

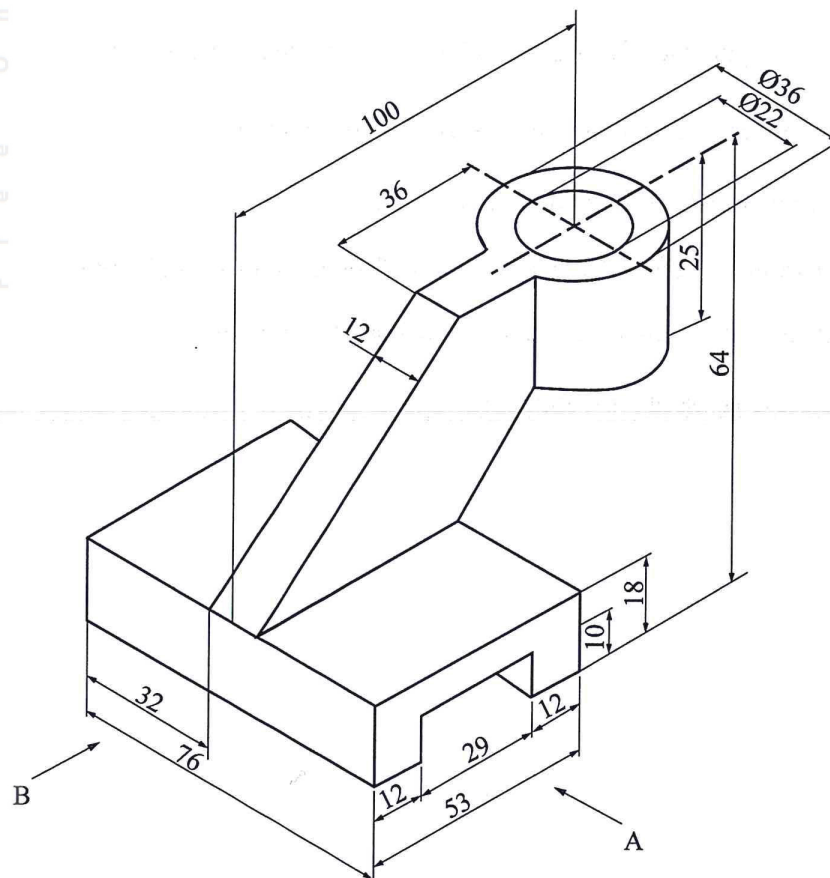


Figure 2

- Draw **Full Size**, the following views in first angle projection: (15 marks)
- (a) Front elevation in the direction of arrow A.
 - (b) End elevation in the direction of arrow B.
 - (c) The plan.
12. (a) (i) Define the term “lintel” as used in building construction. (2 marks)
- (ii) Draw and label a cross section of concrete lintel over a brick wall. (4 marks)
- (b) State **four** factors that influence the method of excavation for foundation walls. (4 marks)
- (c) Draw and label a cross-section through a honey-comb sleeper wall. (5 marks)
13. (a) (i) Define the term “scaffold” as used on construction sites. (2 marks)
- (ii) With the aid of labelled sketches, show how the following parts of a scaffold are assembled: (6 marks)
- Standard to base plate
 - Joining two standards to increase height
- (b) (i) Define the term “flat roof”. (1 mark)
- (ii) State **four** functions of a roof on a building. (4 marks)
- (iii) List **two** methods of strengthening the joints of rafters. (2 marks)
14. (a) State **five** functions of a floor screed. (5 marks)
- (b) State **five** functions of paints on buildings. (5 marks)
- (c) Describe the direct hot water supply system. (5 marks)
15. (a) State **five** requirements of formwork in construction. (5 marks)
- (b) Sketch a pictorial view of a reinforced strip foundation. (4 marks)
- (c) With the aid of a cross section, show the details of a single lap tile roof to include the purlin, rafter, tie and batten as the structural members. (6 marks)