AN ROINN OIDEACHAIS AGUS EOLAÍOCHTA

LEAVING CERTIFICATE EXAMINATION, 2001

TECHNICAL DRAWING – ORDINARY LEVEL – PAPER II (B)

BUILDING APPLICATIONS

FRIDAY, 15 JUNE — AFTERNOON 2.00 p.m. to 5.00 p.m.

(200 MARKS)

INSTRUCTIONS

(a) Answer **four** questions.
(b) All questions carry equal marks.
(c) Construction lines must be shown on all solutions.
(d) Write the number of the question, distinctly, on the answer paper.
(e) First or third angle projection may be used.
(f) All dimensions are given in metres or millimetres.

1. Fig. 1 shows the outline plan and elevation of a building. Draw the given plan and make a perspective drawing of the building when the position of the spectator is 9 m from the corner A, the picture plane is touching corner A and the horizon line is 8m above the ground line.
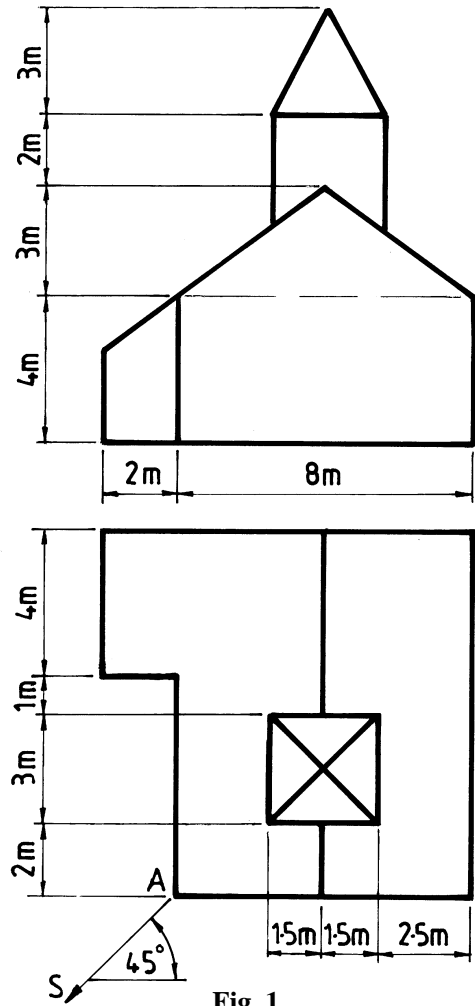
Scale 1 : 100

Fig. 1

2. Fig. 2 shows the outline plan and elevation of a roof. Surface B has a pitch of 40°, surface C has a pitch of 30°, and surface D has a pitch of 35°.

(a) Draw the given plan and elevation of the roof.

(b) Determine the pitch of surface A.

(c) Develop the surface D.

(d) Find the dihedral angle between the surfaces C and D.

Scale 1 : 100

Fig. 2

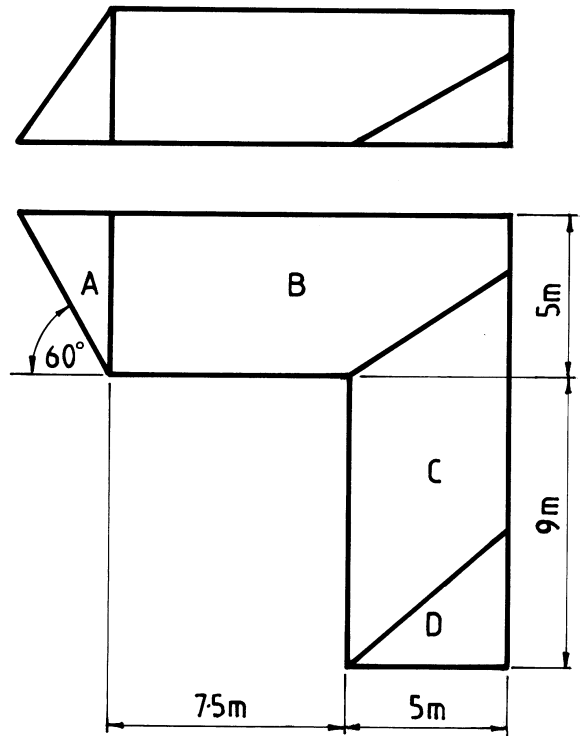**3.** Fig. 3 shows the plan and elevation of a structure. A pictorial view of the structure is also shown. Draw the given plan and elevation and determine the shadows cast in plan when the direction of light is as shown.
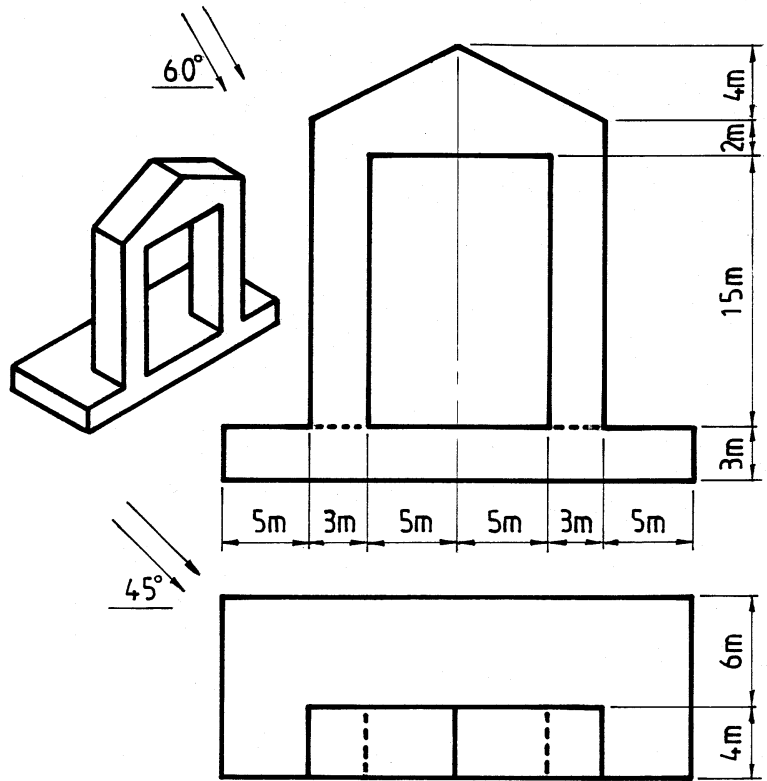
Scale 1 : 200

60°

45°

5m 3m 5m 5m 3m 5m

4m 2m 15m 3m

6m 4m

Fig. 3

4. Fig. 4 shows the outline plan of a hyperbolic paraboloid roof surface ABCD. The roof perimeter is a square in plan. The corners B and D are at ground level, corner A is 7 m above ground level, and corner C is 11 m above ground level.

(a) Draw the given plan of the roof and project an elevation.

(b) Determine the curvature of the roof along a line joining B and D.

(c) Draw a new elevation of the roof which will show the true length of the edge AB.
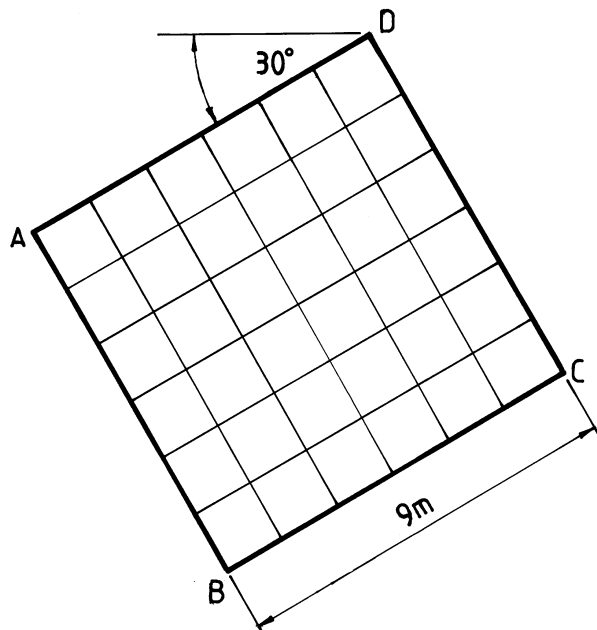
Scale 1 : 100

30°

A   B   C   D

9m

Fig. 4

5. Fig. 5 shows the plan, elevation and end elevation of a building. Draw an isometric view of the building having corner X as its lowest point.
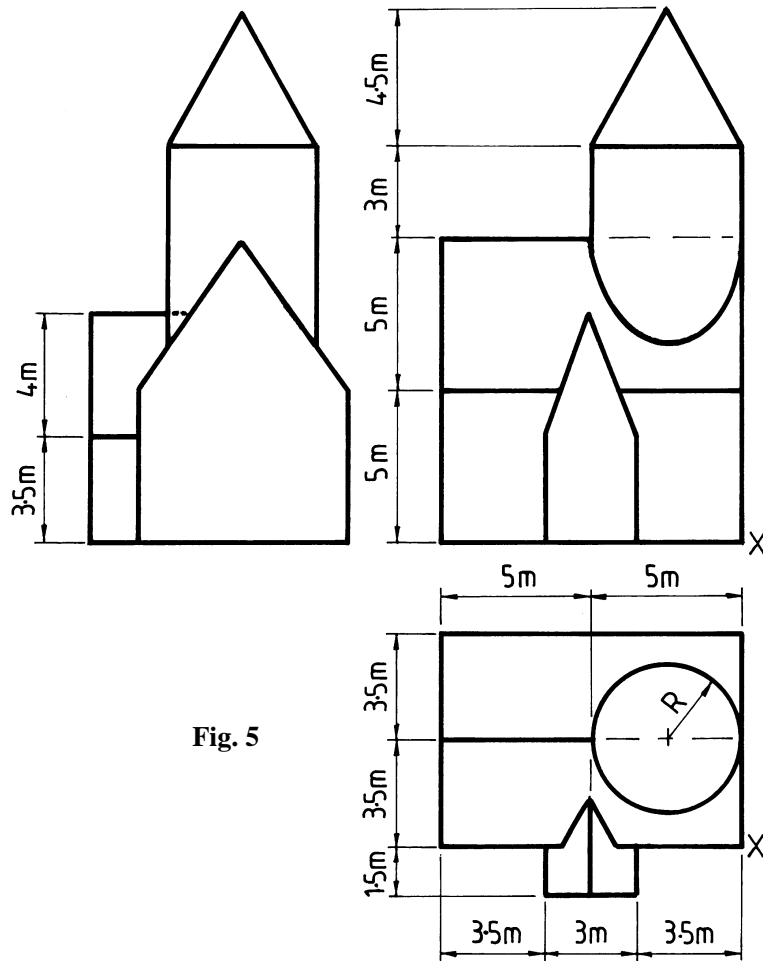
Scale 1 : 100

Fig. 5

6. Fig. 6 shows the outline plan and elevation of a structure. It is in the form of a hyperboloid of revolution surmounted by a hemispherical dome. The joint lines are also shown.

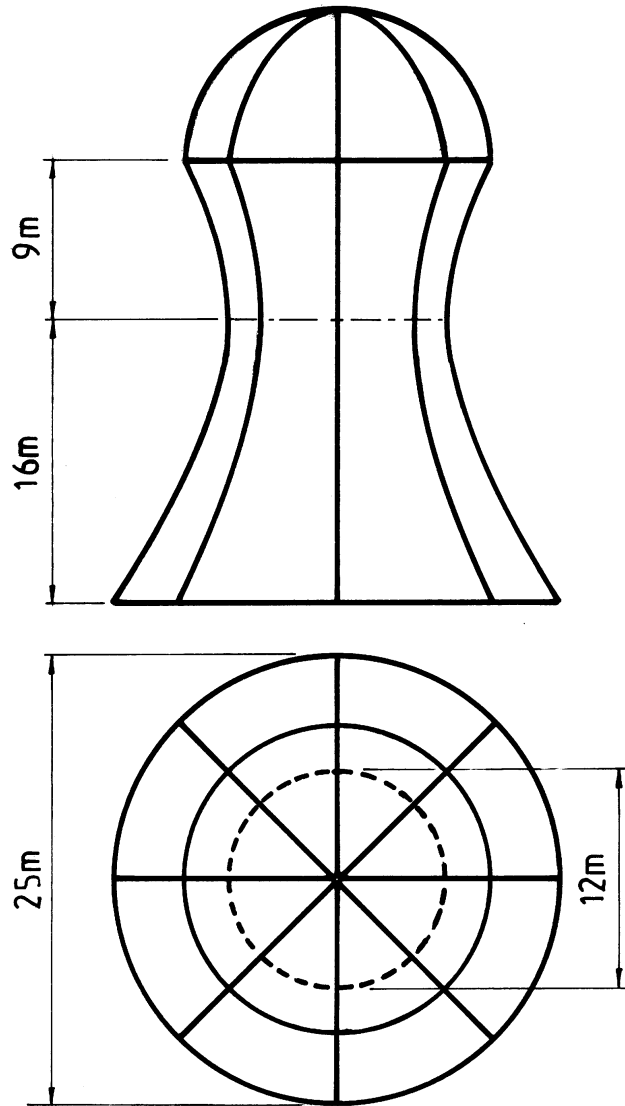Draw the given plan and elevation.

Scale 1 : 200

9 m

16 m

25 m

12 m

Fig. 6

7. The accompanying drawing shows ground contours at ten-metre vertical intervals on a map.

(a) On the drawing supplied, draw a vertical section (profile) on the line DE.

(b) A, B and C are outcrop points on the surface of a stratum of ore. Determine the dip and strike of the stratum.

(c) Draw the complete outline of the outcrop.

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Examination Number:

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