



Leaving Certificate Examination 2007

Technical Drawing
Paper II(B) – Ordinary Level
(Building Applications)

(200 Marks)

Friday 15 June
Afternoon, 2.00 – 5.00

- (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)*** Work on one side of the paper only.
- (f)*** All dimensions on the question paper are given in metres or millimetres.
- (g)*** First or third angle projection may be used.

1. Fig. 1 shows the outline plan and elevation of a car showroom. A pictorial view of the structure is also shown.

Draw the given plan and make a perspective drawing of the building when the position of the spectator is 12m from the corner A, the picture plane is touching the corner A, and the horizon line is 2.5m above the ground line.

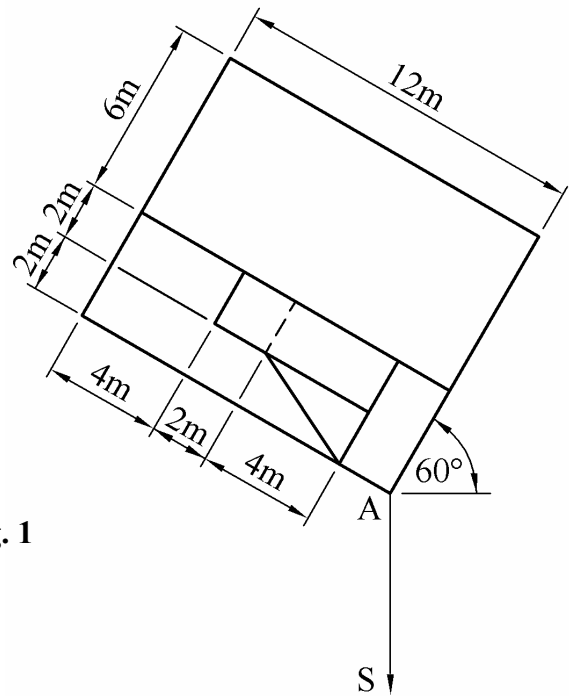
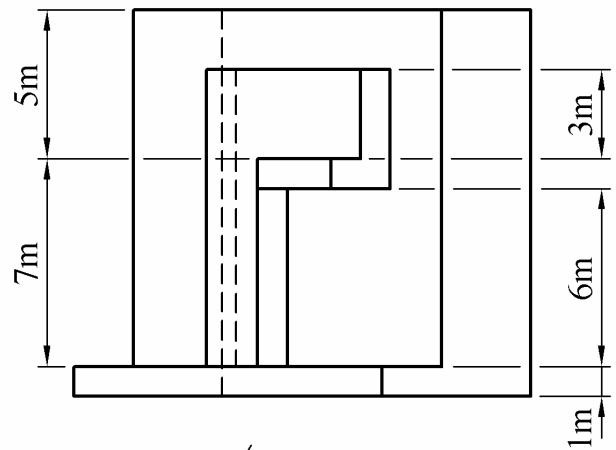
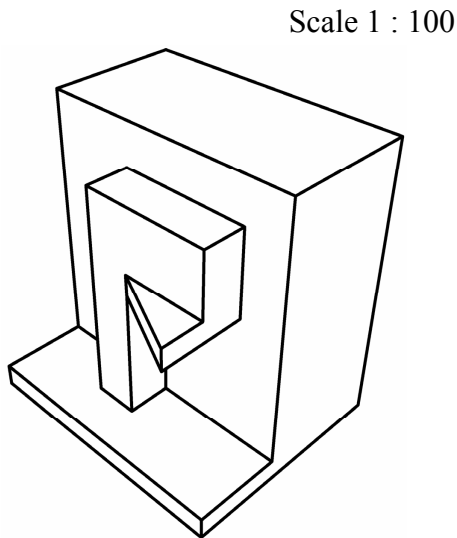


Fig. 1

2. Fig. 2 shows the outline plan, elevation and end elevation of roof surfaces and a dormer window. A solar panel is located centrally on roof surface C of the dormer window as shown. All roof surfaces have a pitch of 35 degrees.

- (a) Draw the given plan and elevation of the roof.
- (b) Develop the surface A.
- (c) Determine the true shape of the solar panel.
- (d) Find the dihedral angle between the roof surfaces A and B.

Scale 1 : 100

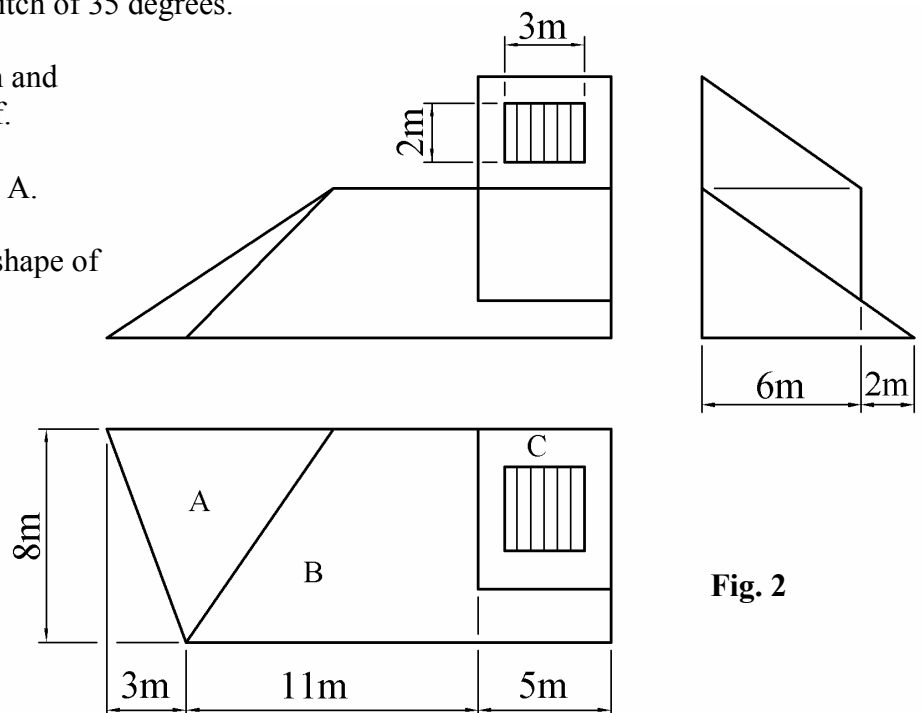
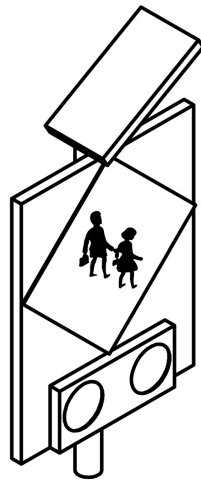


Fig. 2

3. Fig. 3 shows the plan, elevation and pictorial view of a set of warning lights which are powered by a solar panel.

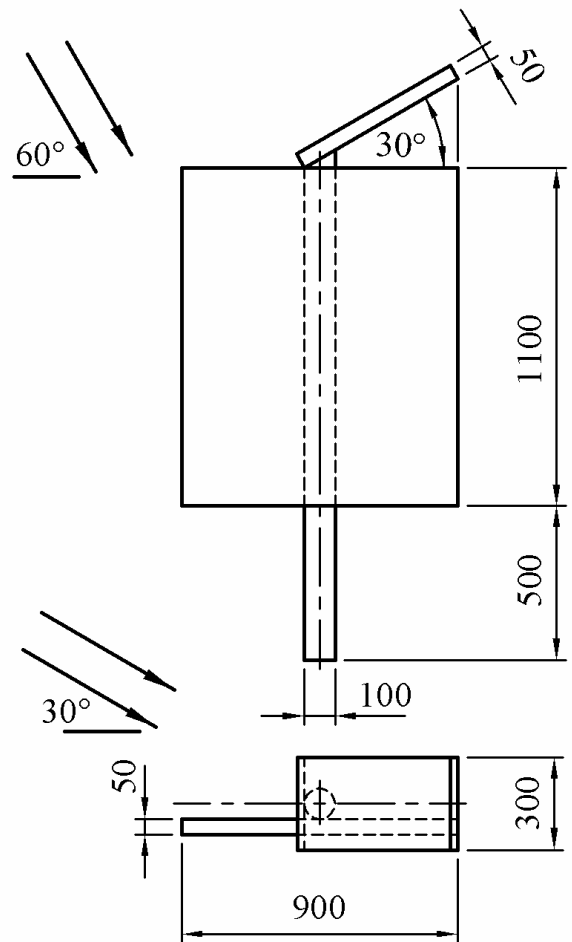
Draw the given plan and elevation of the sign and solar panel and determine the shadows cast in plan when the direction of light is as shown.

(Omit the logo and lights from your drawing).



Scale 1 : 10

Fig. 3



4. Fig. 4 shows the outline plan of a canopy at the entrance to a shopping centre. It consists of two adjoining hyperbolic paraboloid surfaces ABCD and ADEF.

The corners B and F are at ground level. Corners C and E are 5m above ground level and the corners A and D are 10m above ground level.

- Draw the given plan of the canopy and project an elevation.
- Project an end elevation of the canopy.
- Determine the true shape of the section S-S through the canopy surface.

Scale 1 : 100

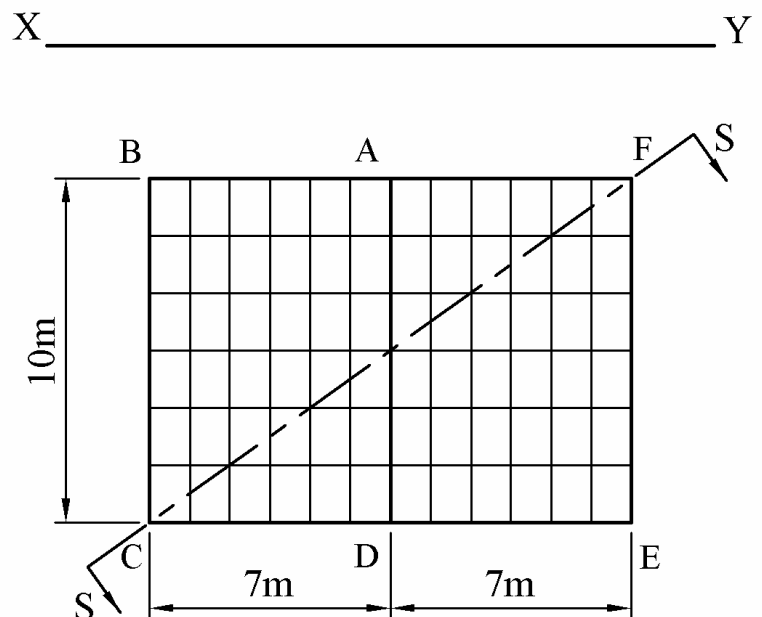


Fig. 4

5. The elevation and end view of a brick barbecue with an aluminum chimney are shown in Fig. 5. Draw the given views and draw an isometric view of the structure having corner X as the lowest point.

Scale 1 : 20

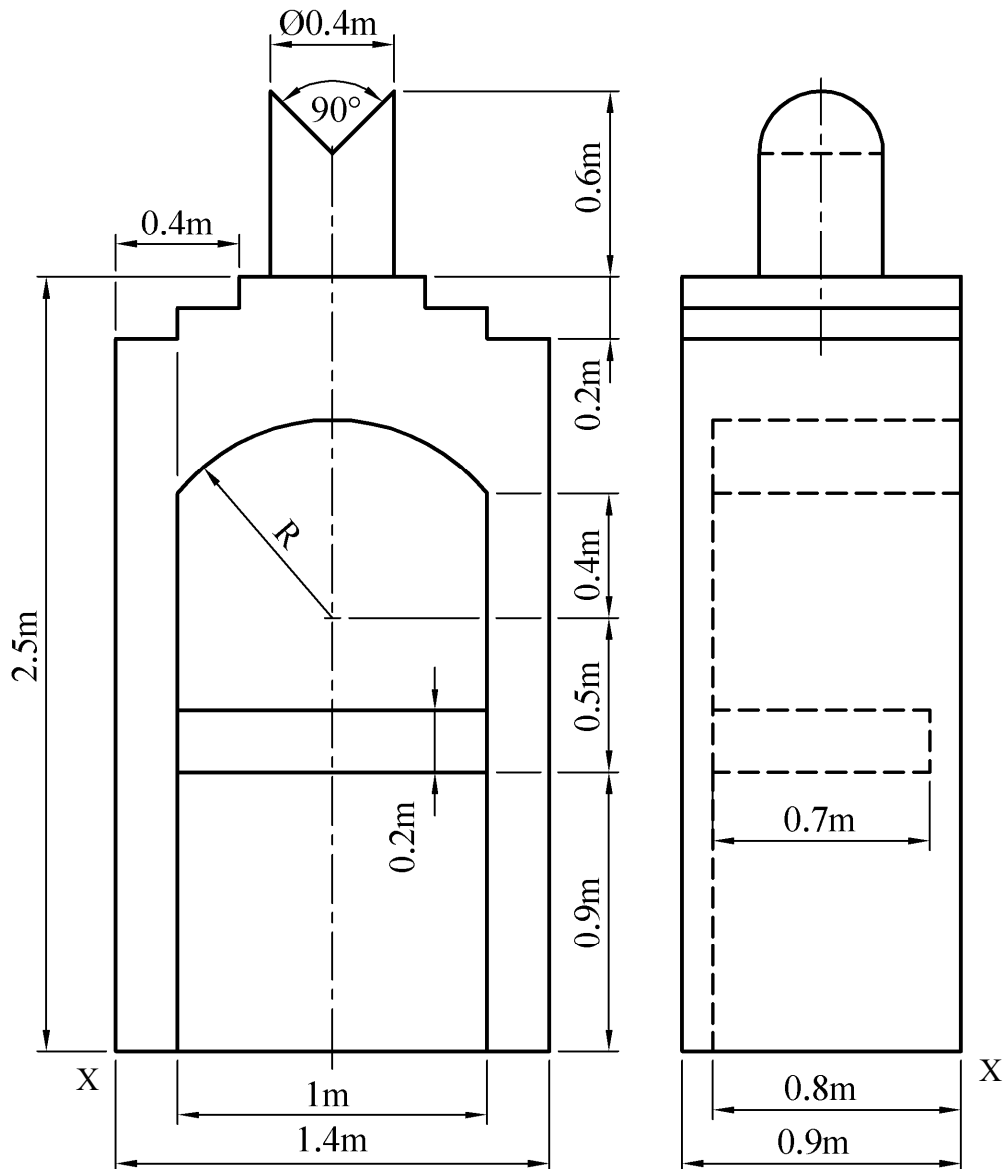


Fig. 5

6. Fig. 6 shows the plan, elevation and end view of a structure based on the proposed new terminal for Dublin airport. A pictorial view is also given.

Curve A is parabolic in elevation. Curve B is elliptical in elevation and curve C is parabolic in end view.

Draw the given plan, elevation and end view.

Scale 1 : 1000

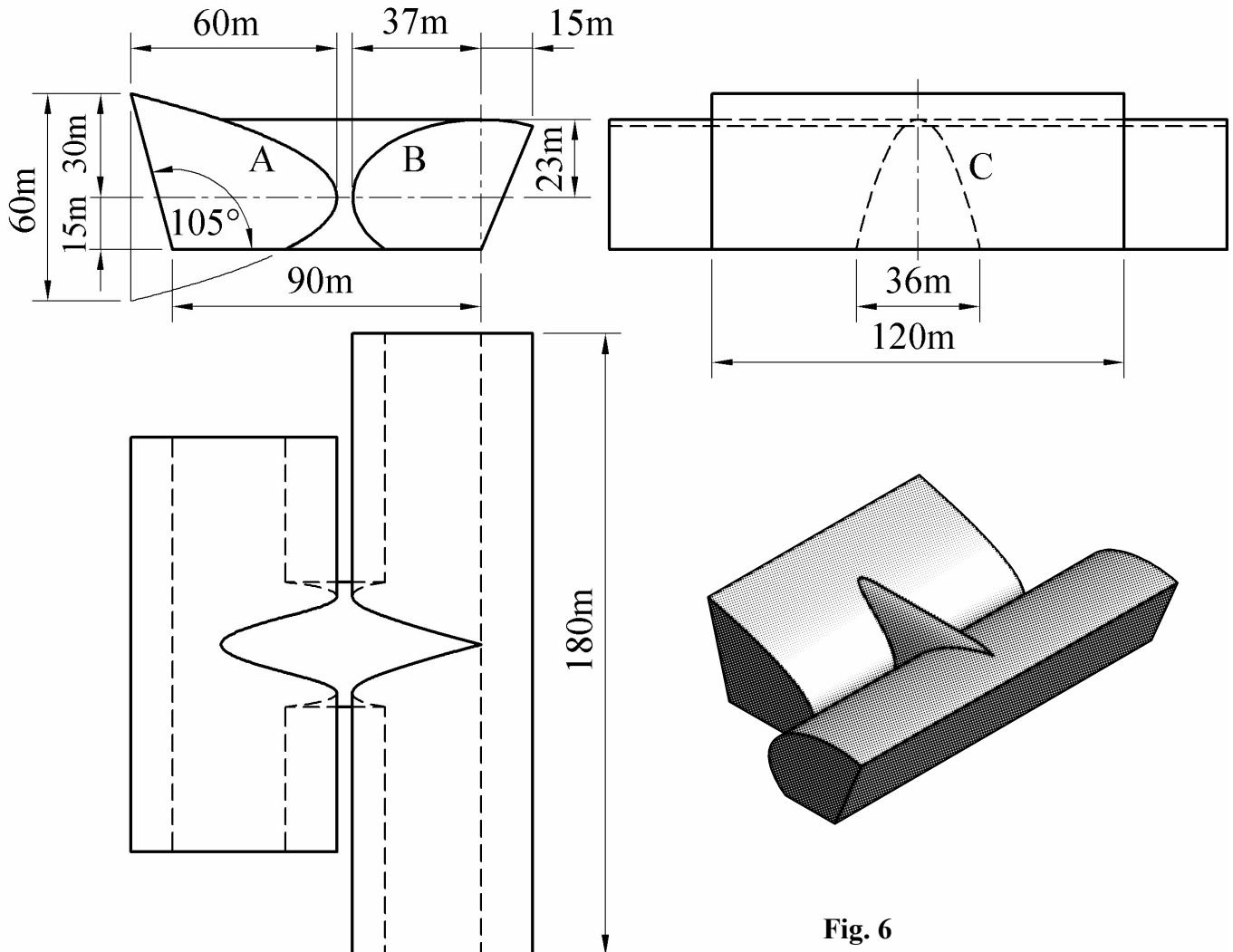


Fig. 6

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

- On the drawing supplied, draw a vertical section (profile) on the line DE.
- A, B and C are outcrop points on the surface of a stratum of ore. Determine the dip and strike of the stratum.
- A cable car is to operate from point F on the ground to point G on the ground. A pylon, which measures 10m in height, is to be erected as close as possible to G, in order to support the cable.

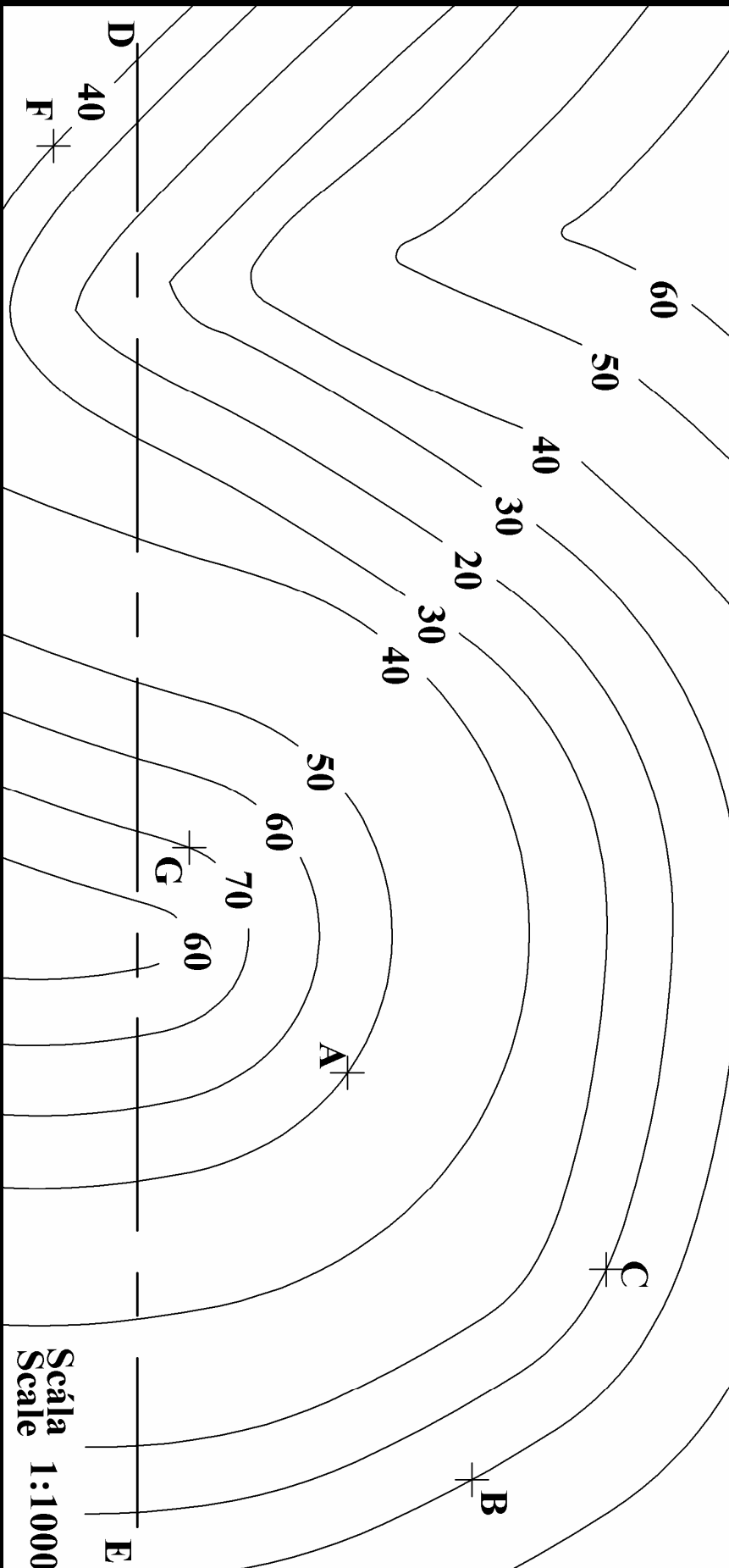
Planning permission requires that the pylon must not break the skyline, when viewed from the ground at F.

Determine the highest possible location for the pylon.



Coimisiún na Scrúduithe Stáit
State Examinations Commission
Scrúdú Ardteistiméireachta 2007
Leaving Certificate Examination 2007

Scrúduimhir: 2007. M83(L)
Examination Number:



Scála
Scale 1:1000