AN ROINN OIDEACHAIS
LEAVING CERTIFICATE EXAMINATION, 1993

TECHNICAL DRAWING - ORDINARY LEVEL - PAPER II (B)
BUILDING APPLICATIONS

MONDAY 21 JUNE, MORNING 9.30 to 12.30
(200 MARKS)

INSTRUCTIONS

(a)   Answer <u>four</u> 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 measurements are given in metres or millimetres.

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1.   Fig. 1 shows the 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 19 m from the corner A, the picture plane
     touching the corner A and the horizon line 8 m above the ground.
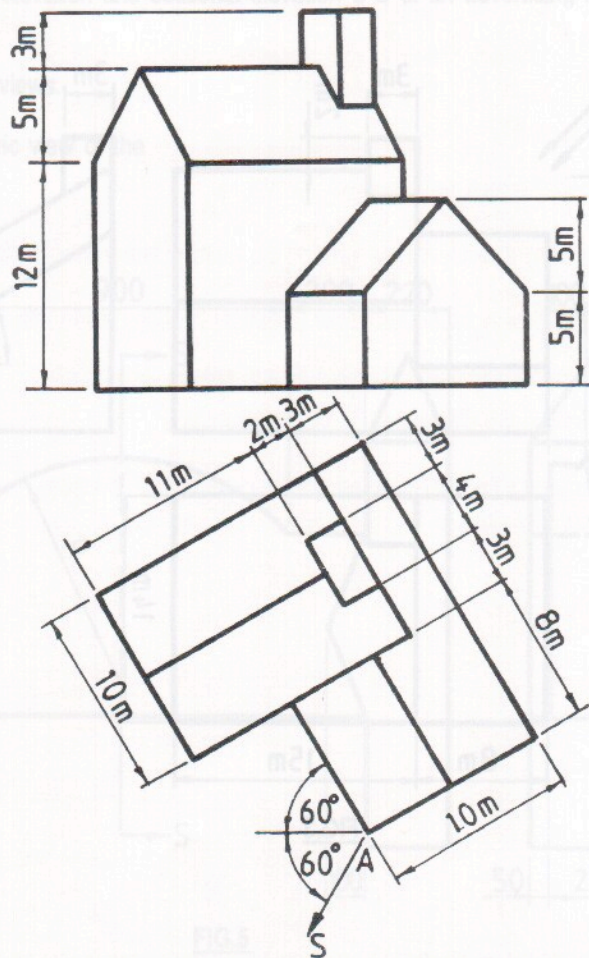
Scale 1 : 200

FIG.1

2. Fig. 2 shows the outline plan of a roof. Surfaces A and D have a pitch of 60°, surfaces B and E have a pitch of 50°, and surface C has a pitch of 35°.

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

(b) Develop the surface D.

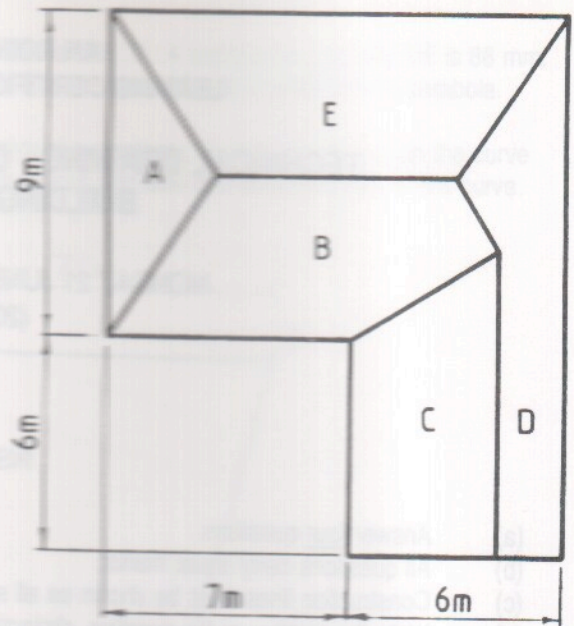(c) Find the dihedral angle between the surfaces A and B.

Scale 1 : 100

FIG.2

3. Fig. 3 shows the elevation, plan and end view of a building. Draw the given views and determine the shadows cast in plan and elevation when the direction of light is as shown.
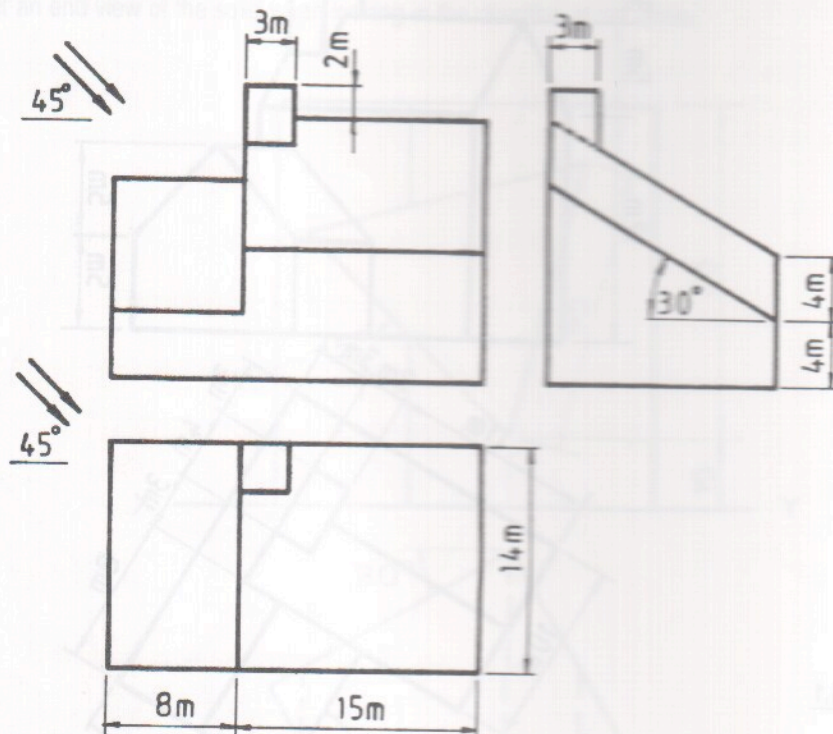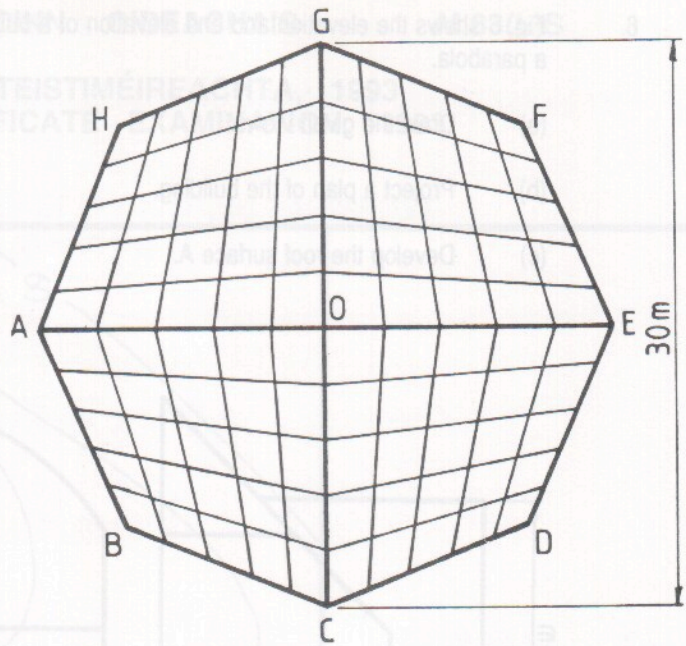
Scale 1 : 200

FIG.3

4. Fig. 4 shows the outline plan of four hyperbolic paraboloid roof surfaces ABCO, CDEO, EFGO, and GHAO.
The roof perimeter is a regular octagon in plan.
The corners A, C, E, and G are at ground level, corners B, D, F and H are 9 m above ground level, and corner 0 is 16 m above ground level.

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

    (b)   Show the curvature of the roof along the diagonals OB and AC.

            Scale 1 : 200

FIG.4

5. Fig. 5 shows the outline elevation and sectional elevation S-S of an advertising hoarding made in concrete.

    (a)   Draw the given views.

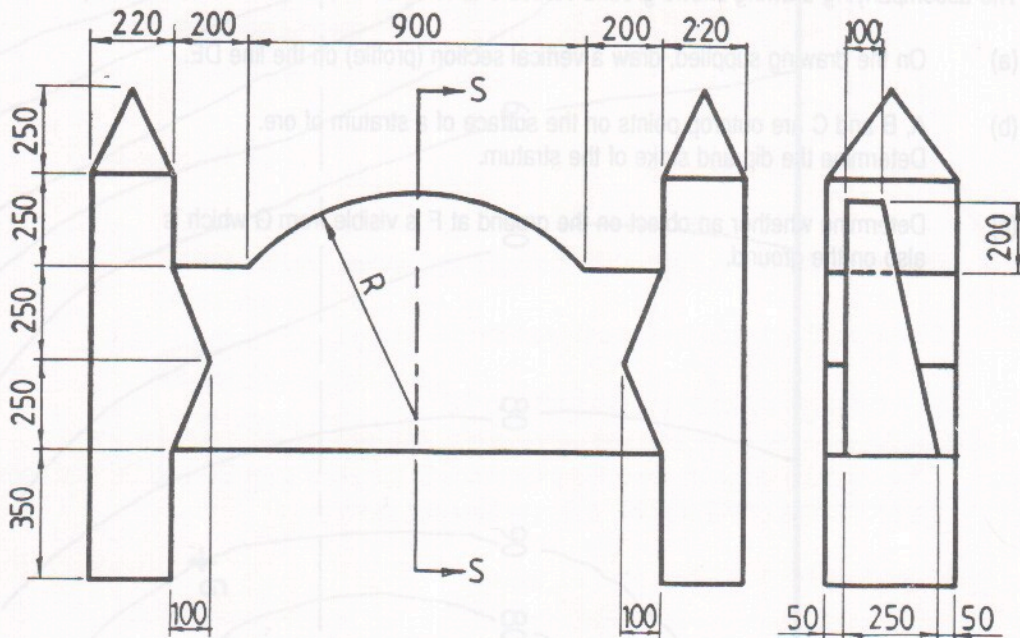   (b)   Draw an isometric view of the hoarding.

            Scale 1 : 10

FIG.5

6. Fig. 6 shows the elevation and end elevation of a building. The elevation of the entrance is a parabola.

(a) Draw the given views.

(b) Project a plan of the building.
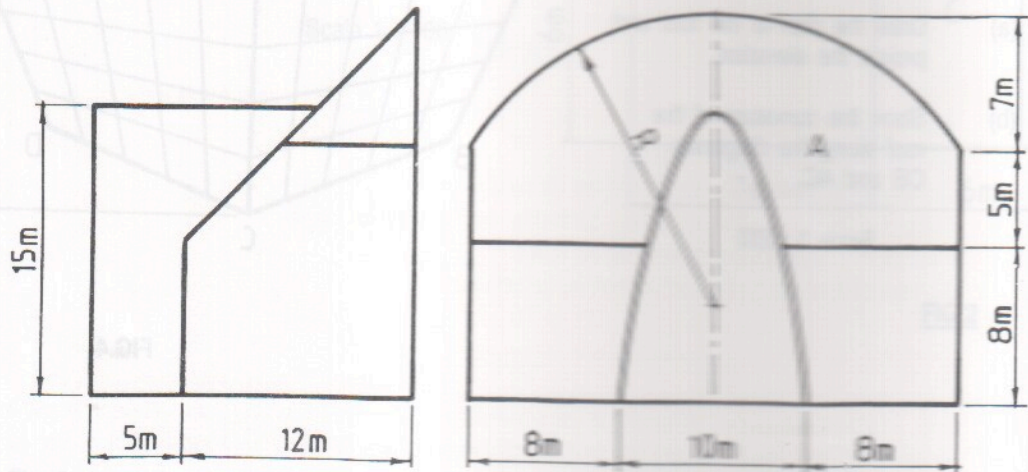
(c) Develop the roof surface A.

Scale 1 : 200

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) Determine whether an object on the ground at F is visible from G which is also on the ground.

Scale
Scála
1:1000