AN ROINN OIDEACHAIS
LEAVING CERTIFICATE EXAMINATION, 1994

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

MONDAY, 20 JUNE - MORNING 9.30 to 12.30

(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 measurements are given in metres or millimetres.

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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 18 m from corner A, the picture plane touching corner A and the horizon line 12 m above the ground line.
Scale 1 : 200

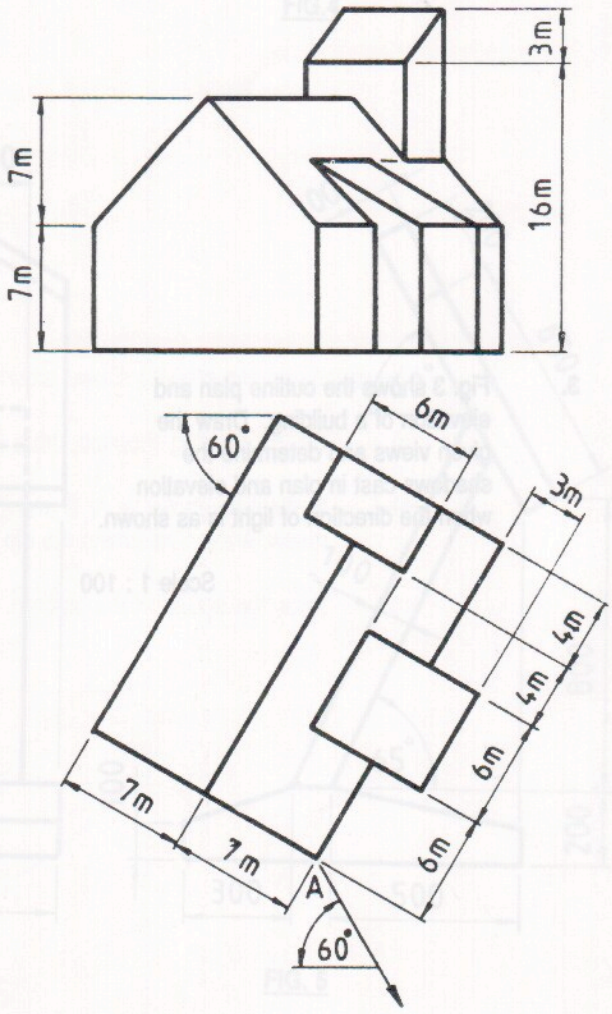

FIG.1

2. Fig. 2 shows the outline plan and elevation of a building. The roof surfaces C and D have a pitch of 50°, surfaces B and E have a pitch of 35°, and surface A has a pitch of 55°.

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

(b) Develop the roof surface B.

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

Scale 1 : 100

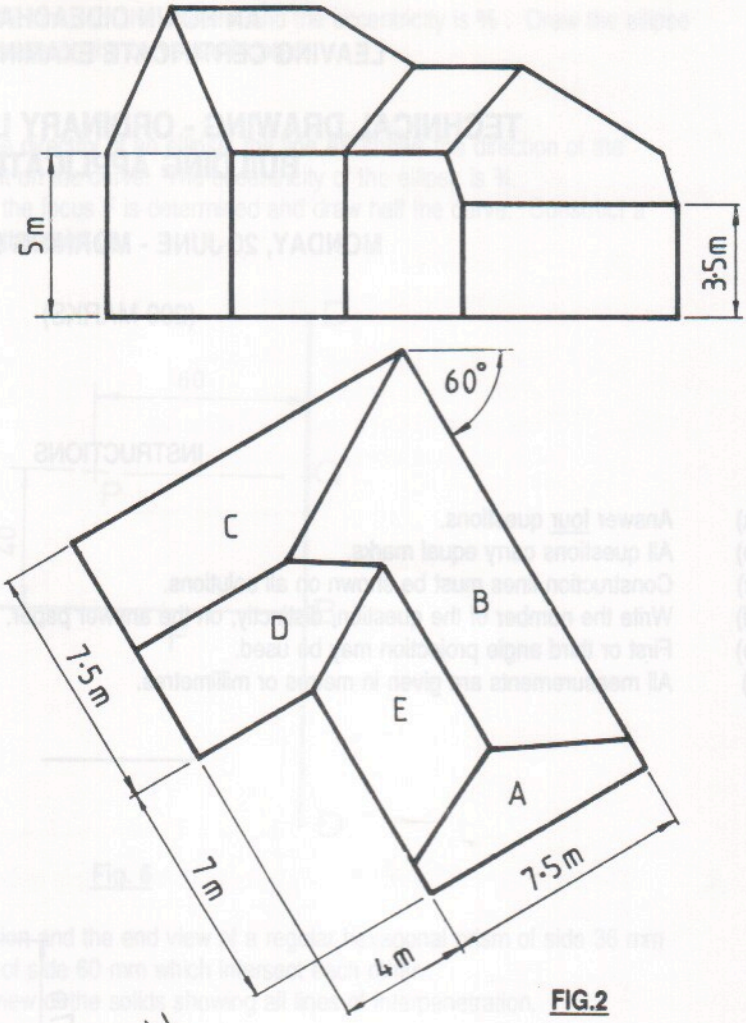

FIG.2

3. Fig. 3 shows the outline plan and elevation 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 : 100

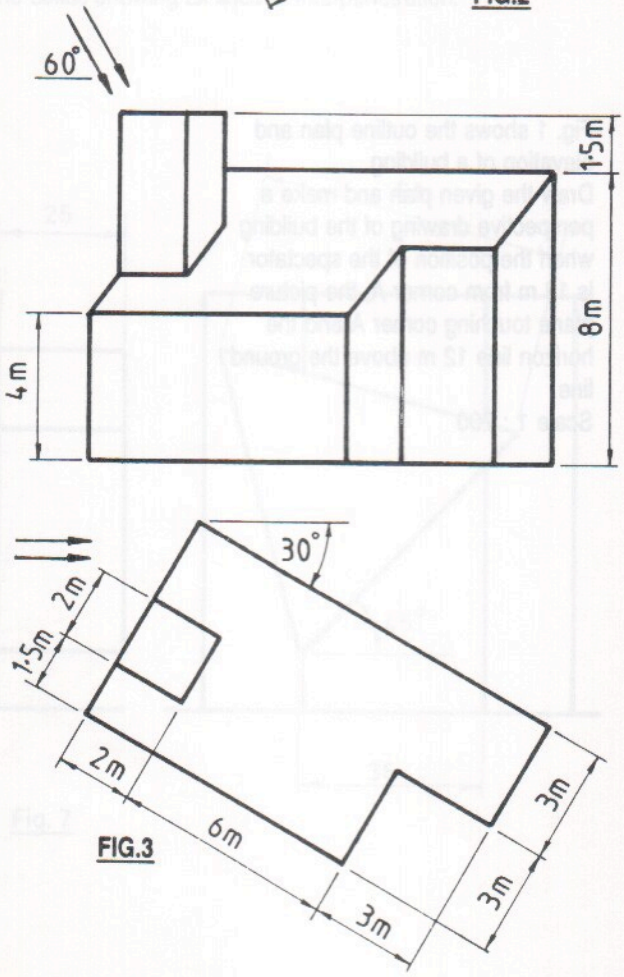

FIG.3

4. Fig. 4 shows the outline plan of four adjoining hyperbolic paraboloid roof surfaces ABOH, BCDO, DEFO, and FGHO. The roof perimeter is a square in plan. The corners A, C, E, and G are 7m above ground level, corners B, D, F and H are at 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 a line joining B and E.

(c) Draw a new elevation of the roof in which the true length of the edge AB will be seen.

Scale 1 : 200

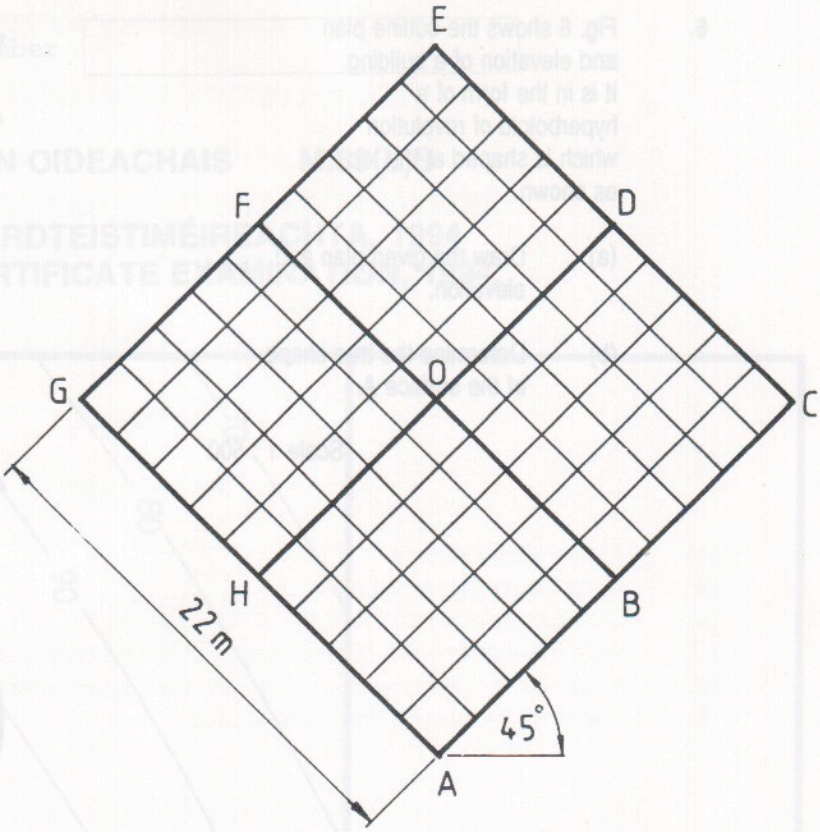

FIG.4

5. Fig. 5 shows the elevation, and end elevation of a display stand.

Draw the given views and draw an isometric view of the stand.

Scale 1 : 10

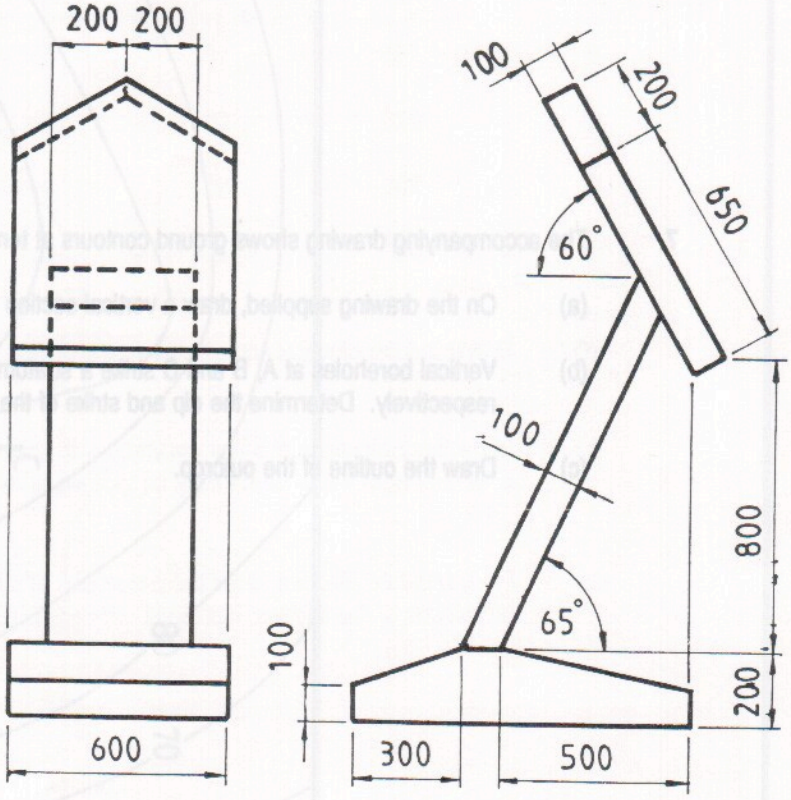

FIG. 5

6. Fig. 6 shows the outline plan and elevation of a building. It is in the form of a hyperboloid of revolution which is shaped at the top as shown.

(a) Draw the given plan and elevation.

(b) Determine the true shape of the surface A.

Scale 1 : 500

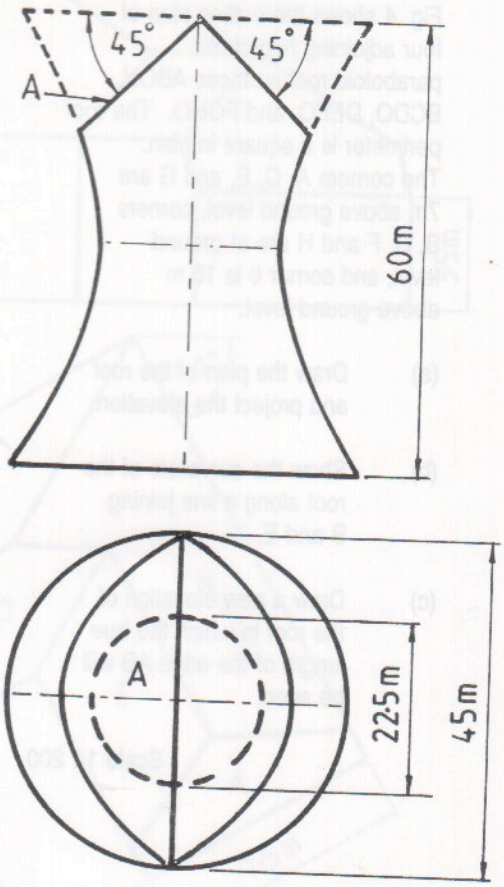

FIG.6

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 EF.

(b) Vertical boreholes at A, B and C strike a stratum of ore at altitudes of 40m, 30m and 65m, respectively. Determine the dip and strike of the stratum.

(c) Draw the outline of the outcrop.

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Examination Number

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