LEAVING CERTIFICATE EXAMINATION, 1986

TECHNICAL DRAWING - ORDINARY LEVEL - PAPER II (B)

BUILDING APPLICATIONS

THURSDAY, 26 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.

1. Fig 1 shows the outline plan, elevation and end view of a building. Draw a perspective view of the building when the position of the spectator is 15 m from corner A, the picture plane touching the corner A and the horizon line 2 m above the ground line.

Scale 1 : 200

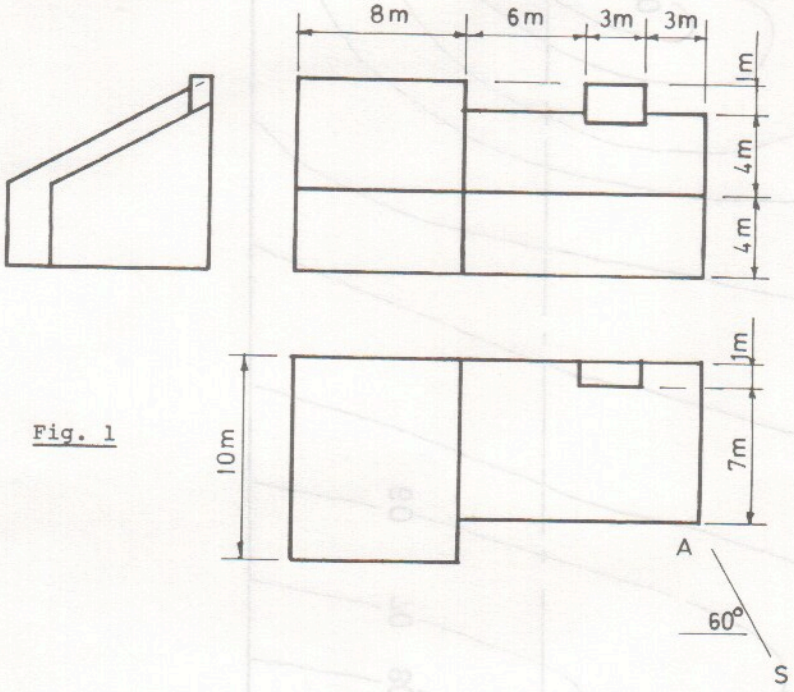


Fig. 1

2. Fig. 2 shows the outline plan of a roof. The surfaces A, B and C have a pitch of 30° and surface D has a pitch of 60°.

(a) Draw the plan and project the elevation.

(b) Develop the surfaces A, C and D.

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

Scale 1 : 100

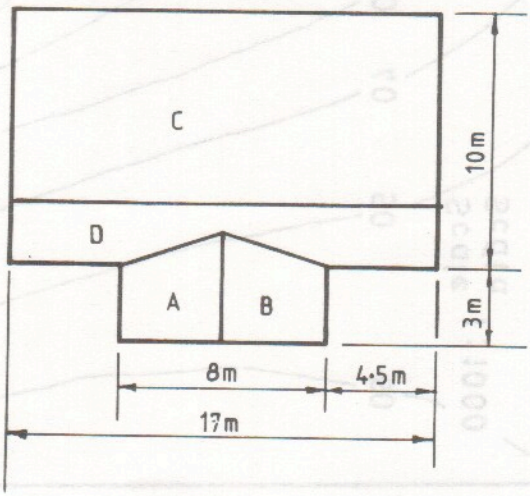


Fig. 2

3. Fig. 3 shows the outline plan of a hyperbolic paraboloid roof surface. The corners A and C are 10 m above ground level and the corners B and D are at ground level.

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

(b) Determine the curvature on the diagonal BD.

(c) Draw a new elevation of the roof to show the edge AB as a true length.

Scale 1 : 200

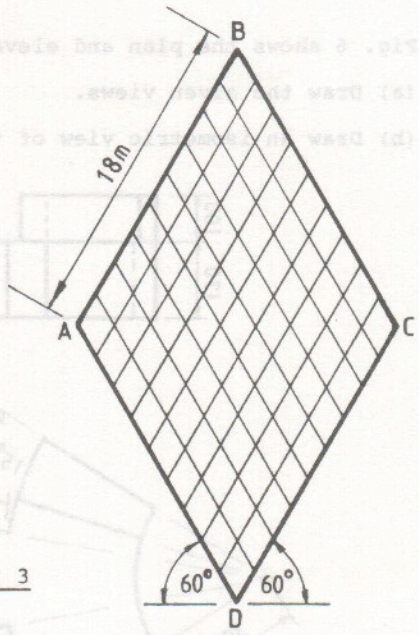


Fig. 3

4. Fig. 4 shows the plan, elevation and end view of a building.
Draw the given views and show the shadows cast in plan and elevation when the direction of the light is as shown.

Scale 1 : 100

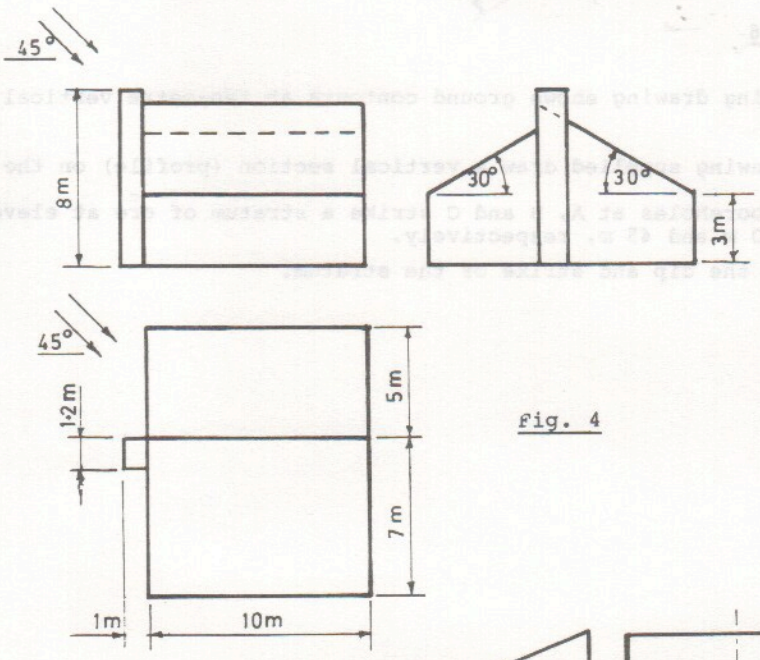


Fig. 4

5. The outline projections of a hall are shown in Fig. 5. The elevation of the entrance lobby is a parabola.

(a) Draw the given views.

(b) Develop the surface A of the entrance lobby.

Scale 1 : 200

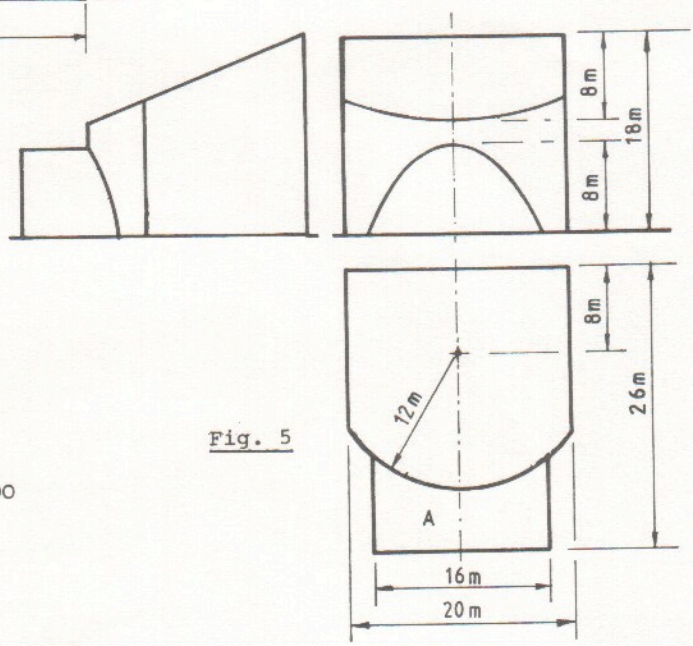


Fig. 5

6. Fig. 6 shows the plan and elevation of a precast concrete step for a spiral stairs.

(a) Draw the given views.

(b) Draw an isometric view of the step.

Scale 1 : 10

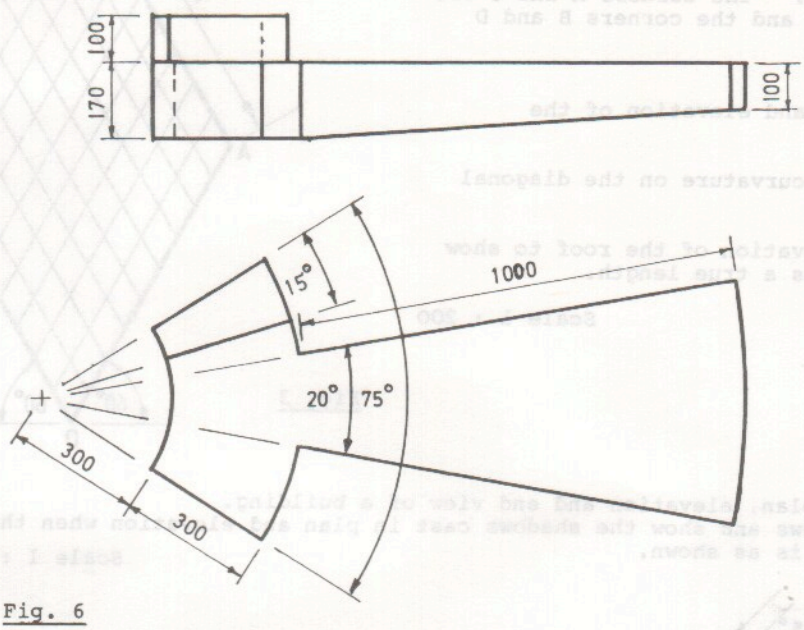


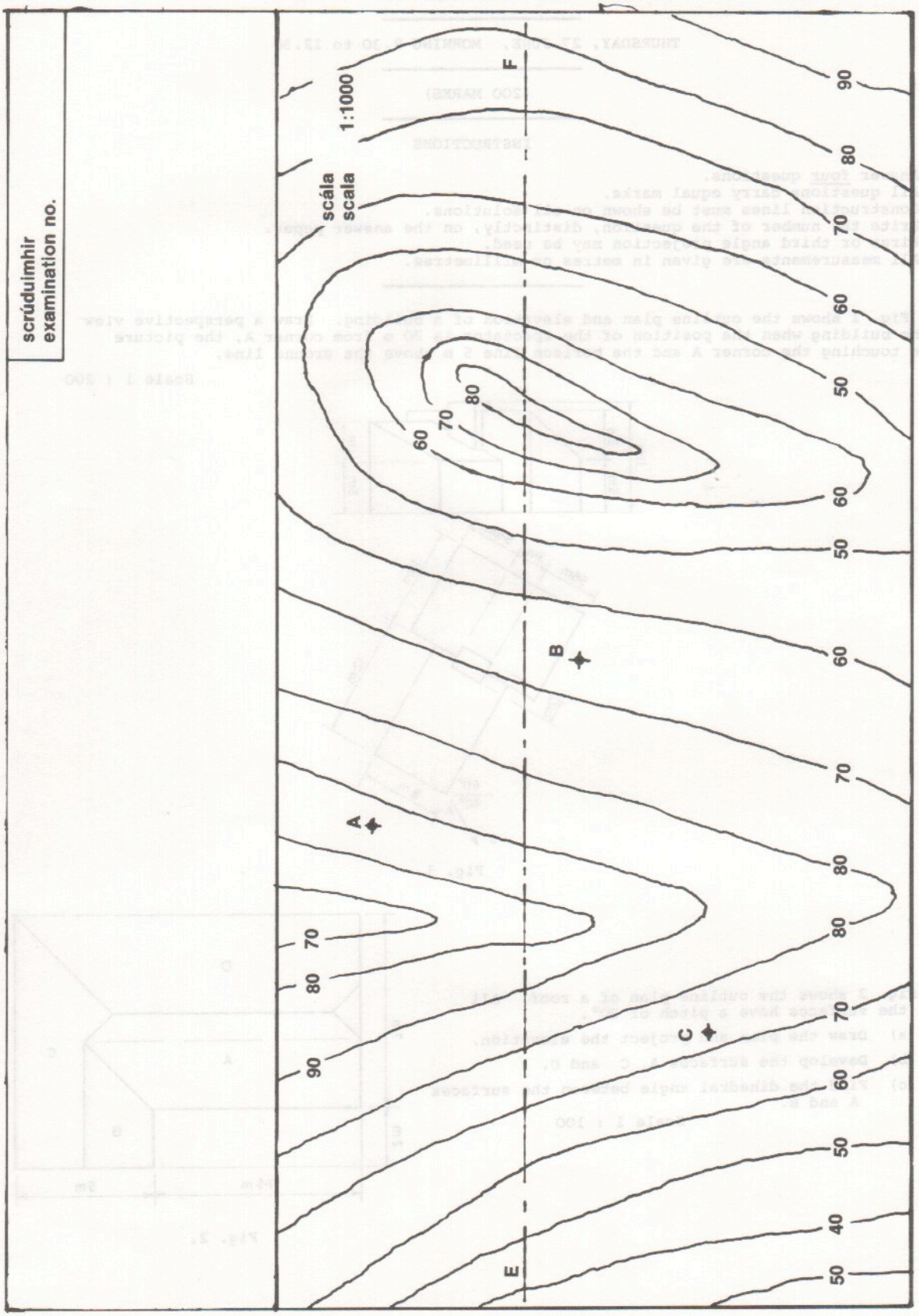
Fig. 6

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 elevations of 70 m, 60 m and 45 m, respectively.

Determine the dip and strike of the stratum.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