

LEAVING CERTIFICATE EXAMINATION, 1991

TECHNICAL DRAWING - ORDINARY LEVEL - PAPER II (B)

BUILDING APPLICATIONS.

THURSDAY, 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.

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 18 m from the corner A, the picture plane touching the corner A, and the horizon line 10 m above the ground line.

Scale 1 : 200

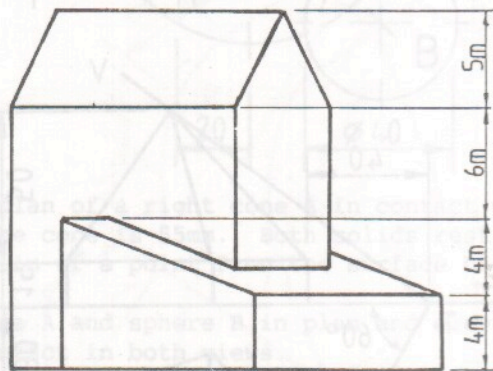
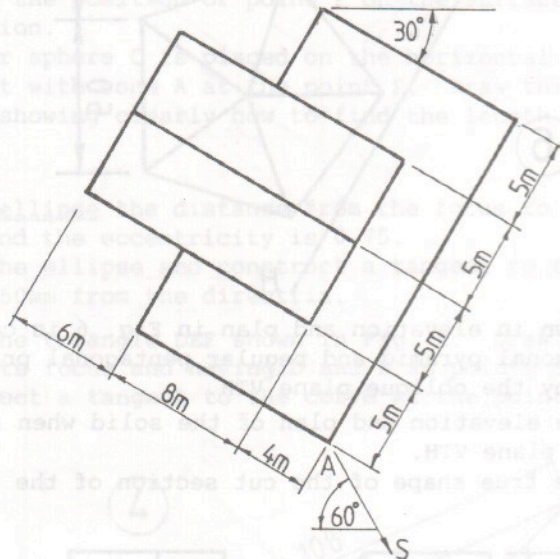


Fig. 1



2. Fig. 2 shows the outline plan of a roof. Surface A has a pitch of 55° , surfaces B and C have a pitch of 35° , and surface D has a pitch of 45° .

- (a) Draw the plan and project the elevation of the roof.
- (b) Develop the surface B.
- (c) Find the dihedral angle between the surfaces A and C.

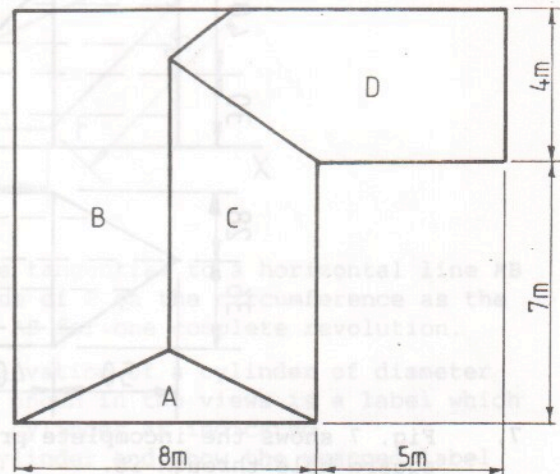


Fig. 2

Scale 1 : 100

3. Fig. 3 shows the 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

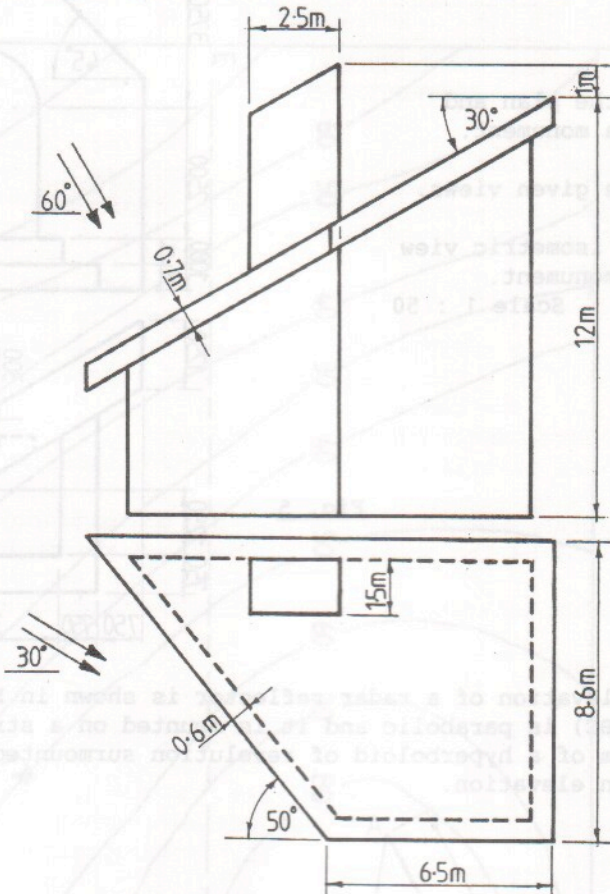


Fig. 3

4. Fig. 4 shows the plan and elevation of two adjoining hyperbolic paraboloid roof surfaces ABCD and ADEF. The roof perimeter is a regular hexagon in plan.

- Draw the given plan and elevation and project an end view.
- Show the true shape of the section H-H through the roof surface.

Scale 1 : 200

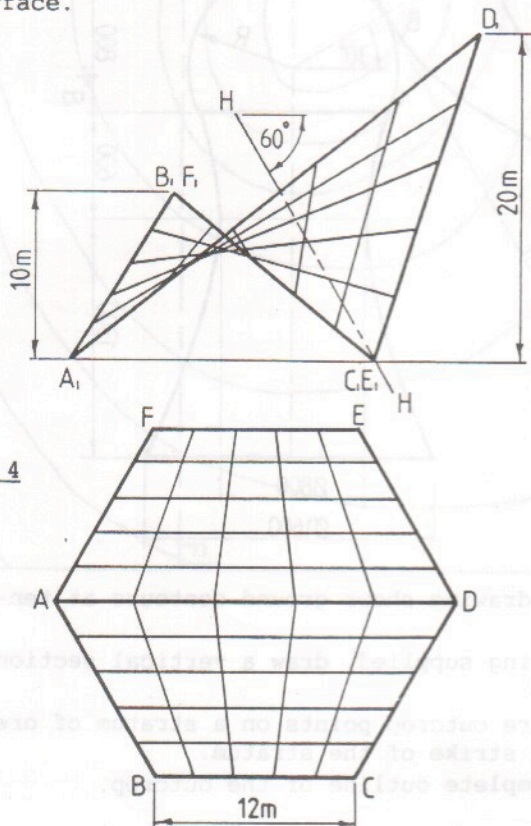


Fig. 4

5. Fig. 5 shows the plan and elevation of a monument.
- Draw the given views.
 - Draw an isometric view of the monument.

Scale 1 : 50

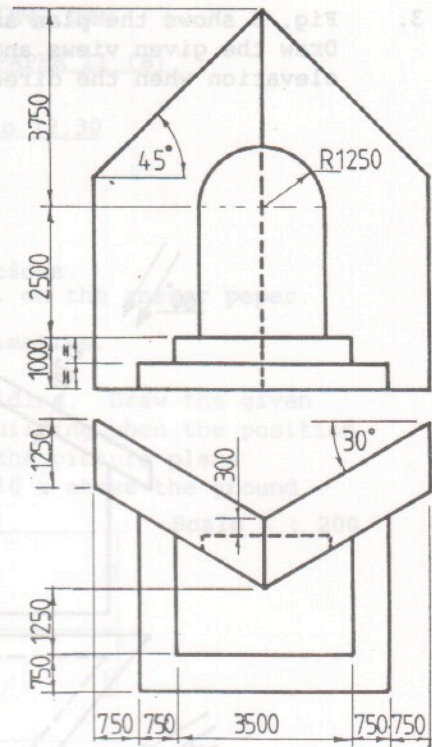


Fig. 5

6. The outline elevation of a radar reflector is shown in Fig. 6. The dish (curve ABC) is parabolic and it is mounted on a structure which is in the form of a hyperboloid of revolution surmounted by a dome. Draw the given elevation.

Scale 1 : 20

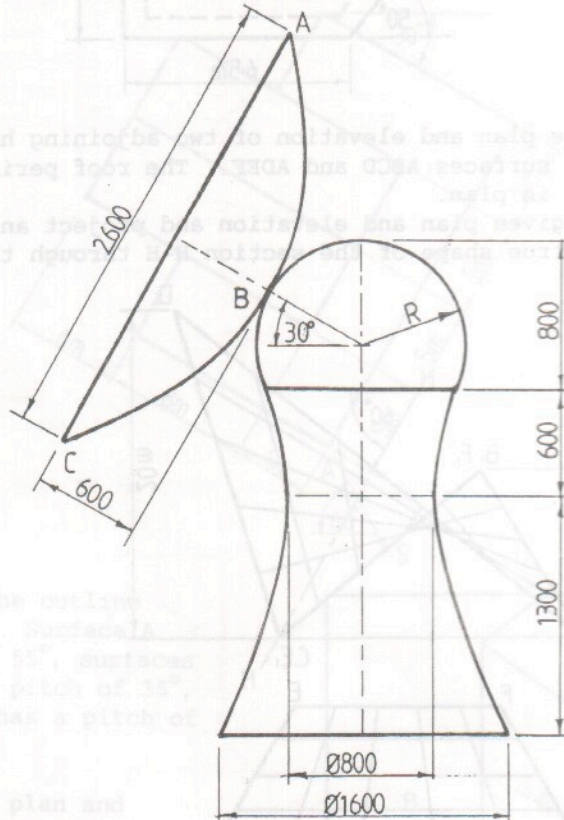
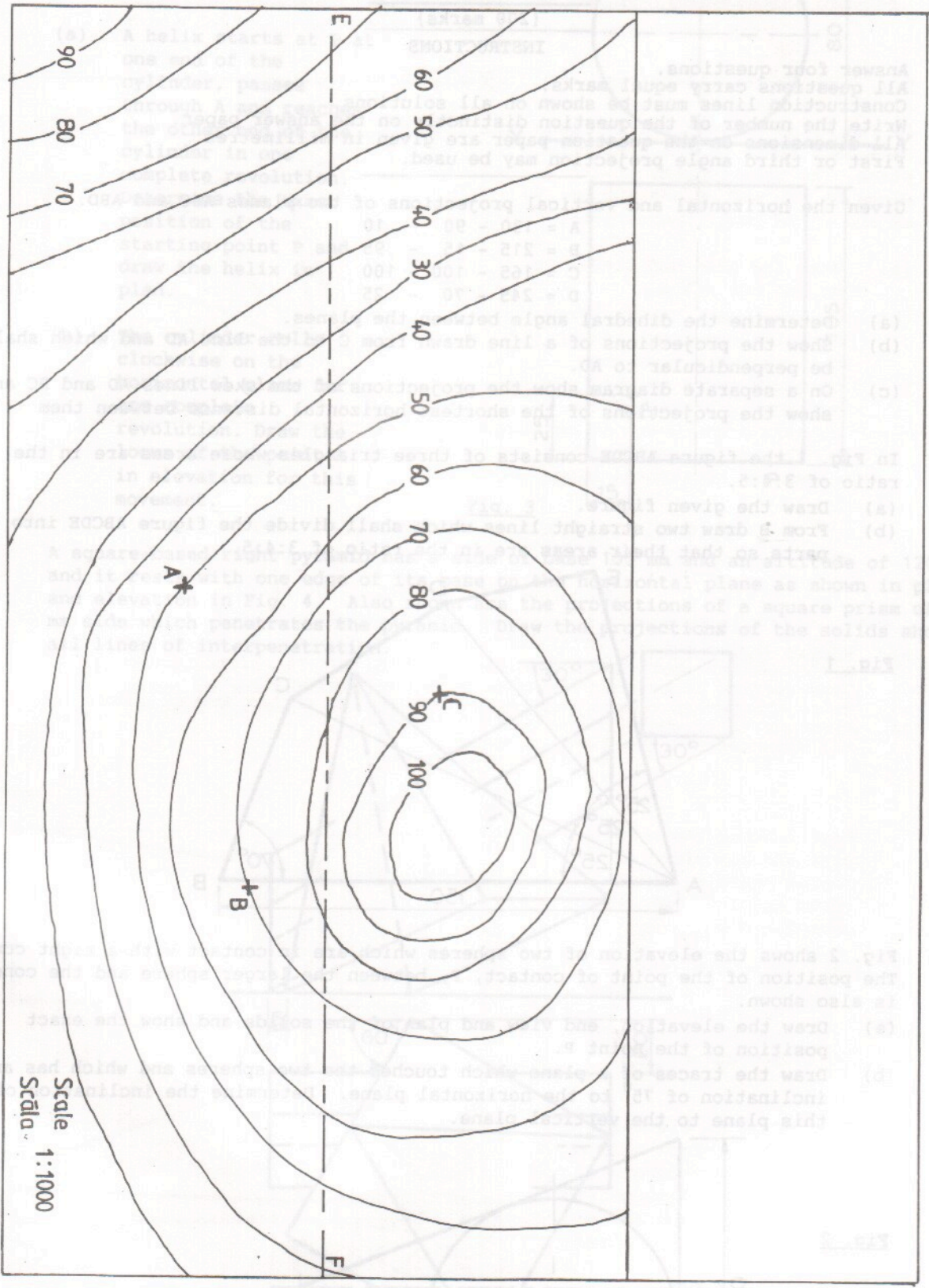


Fig. 6

7. The accompanying drawing shows ground contours at ten-metre intervals on a map.
- On the drawing supplied, draw a vertical section (profile) on the line EF.
 - A, B and C are outcrop points on a stratum of ore. Determine the dip and strike of the stratum.
 - Draw the complete outline of the outcrop.



(a) Answer four questions.
 (b) All questions carry equal marks.
 (c) Construction lines must be shown.
 (d) Write the number of the question in the margin.
 (e) All dimensions on the drawing paper size must be used.
 (f) First or third angle projection may be used.

1. Given the horizontal and vertical projections of a line, draw its true shape and size. (10 marks)

2. In Fig. 1, the figure shows the projections of a line AB. The front view is a line inclined at 30° to the XY line. The top view is a line perpendicular to the XY line. Draw the true shape and size of the line AB. (10 marks)

3. Fig. 2 shows the elevation and plan of a line AB. The elevation is a line inclined at 45° to the XY line. The plan is a line perpendicular to the XY line. Draw the true shape and size of the line AB. (10 marks)

4. Fig. 3 shows the elevation and plan of a line AB. The elevation is a line inclined at 60° to the XY line. The plan is a line perpendicular to the XY line. Draw the true shape and size of the line AB. (10 marks)

5. Fig. 4 shows the elevation and plan of a line AB. The elevation is a line inclined at 75° to the XY line. The plan is a line perpendicular to the XY line. Draw the true shape and size of the line AB. (10 marks)