



***Leaving Certificate Examination 2004***

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

***(200 Marks)***

***Friday 18 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 building.

Draw the given plan and make a perspective drawing of the building when the position of the spectator is 22m from the corner A, the picture plane touching the corner A, and the horizon line 14m above the ground line.

Scale 1 : 200

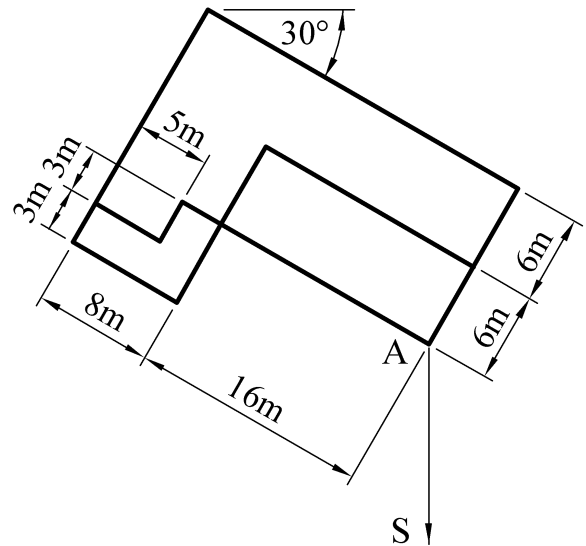
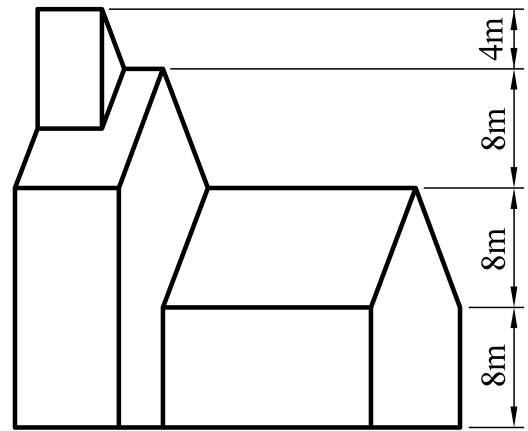
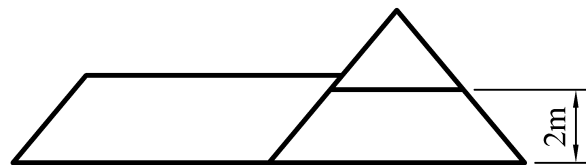


Fig. 1

2. Fig. 2 shows the outline plan and elevation of a roof.  
All roof surfaces have a pitch of  $50^\circ$ .



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

Scale 1 : 100

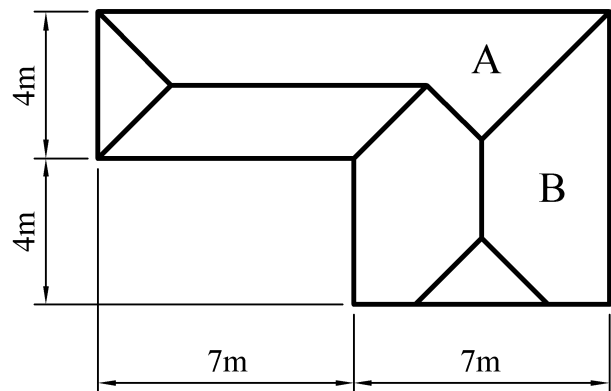


Fig. 2

3. Fig. 3 shows the plan and elevation of a sundial. A pictorial view is also shown.

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

Scale 1 : 10

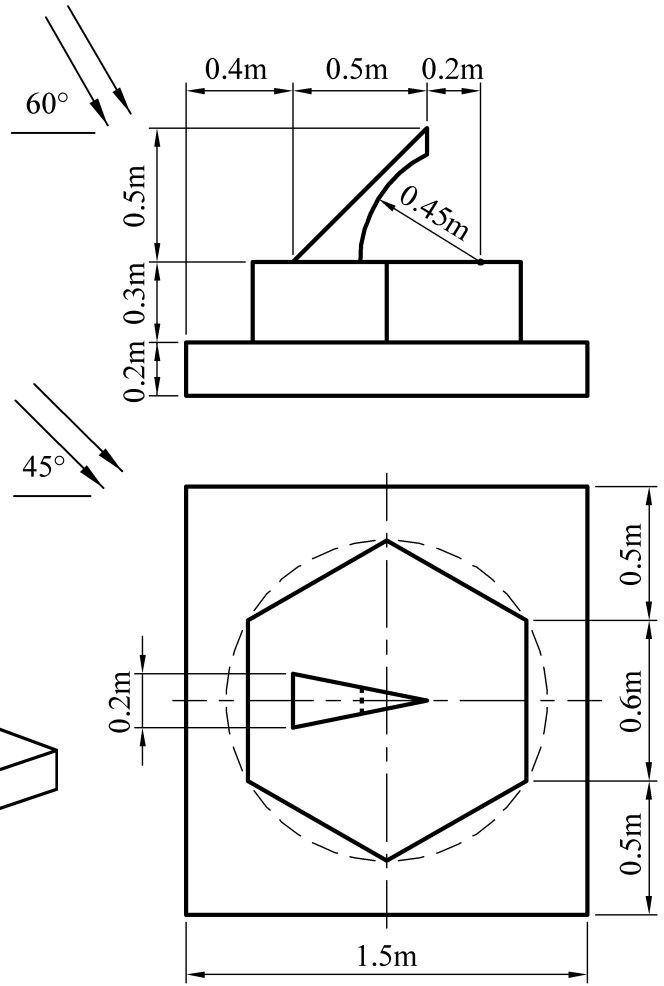
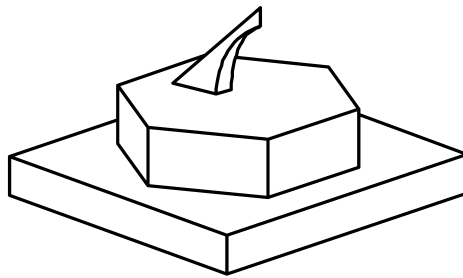


Fig. 3

4. Fig. 4 shows the outline plan of two adjoining hyperbolic paraboloid roof surfaces ABCD and BEDC. The corners B and D are at ground level. Corners A and E are 6m above ground level and corner C is 8m above ground level.

- (a) Draw the given plan of the roof and project an elevation.  
 (b) Determine the true shape of the section S-S through the roof surfaces.

Scale 1 : 100

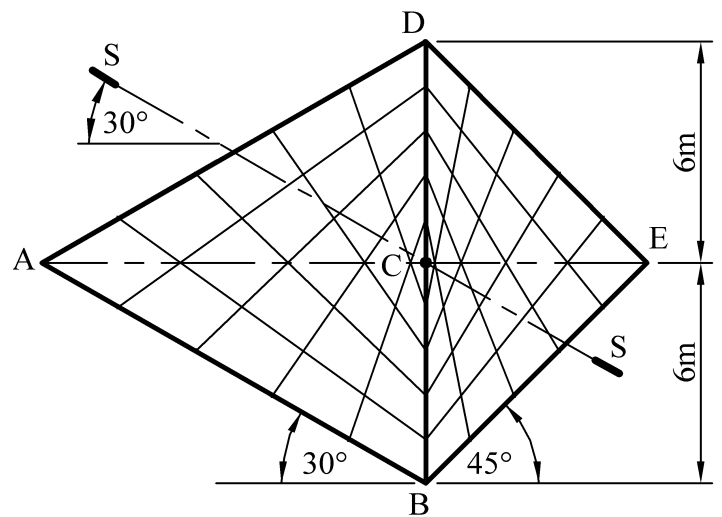


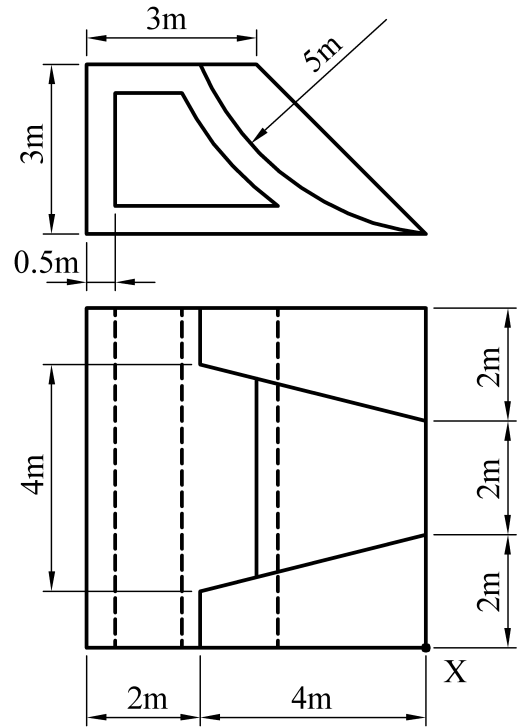
Fig. 4

5. Fig. 5 shows the plan and elevation of a concrete skate board ramp.

Draw the given plan and elevation and draw an isometric view of the structure having corner X as its lowest point.

Scale 1 : 50

Fig. 5



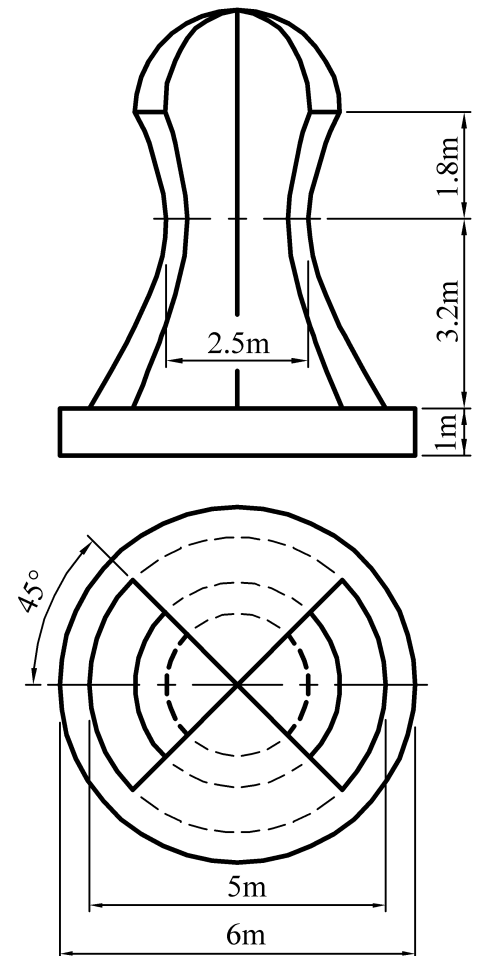
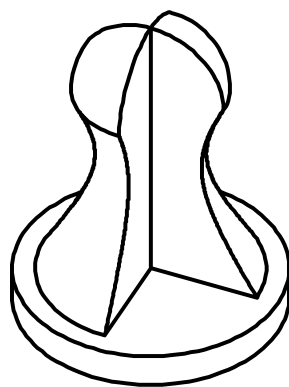
6. Fig. 6 shows the outline plan and elevation of a concrete sculpture. A pictorial view is also shown.

It is in the form of a hyperboloid of revolution and a hemispherical dome which have been cut as shown. The base is cylindrical.

Draw the given plan and elevation.

Scale 1 : 50

Fig. 6



Over

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) F and G are two points on the ground. They are connected by a walking route as shown. An observation tower is to be located at a point along this route. Determine the minimum height for this tower, if points F and G are to be visible from its top.

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