



Leaving Certificate Examination 2005

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

(200 Marks)

Friday 17 June
Afternoon, 2.00 – 5.00

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) 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 10m from the corner A, the picture plane is touching the corner A, and the horizon line is 7m above the ground line.

Scale 1 : 100

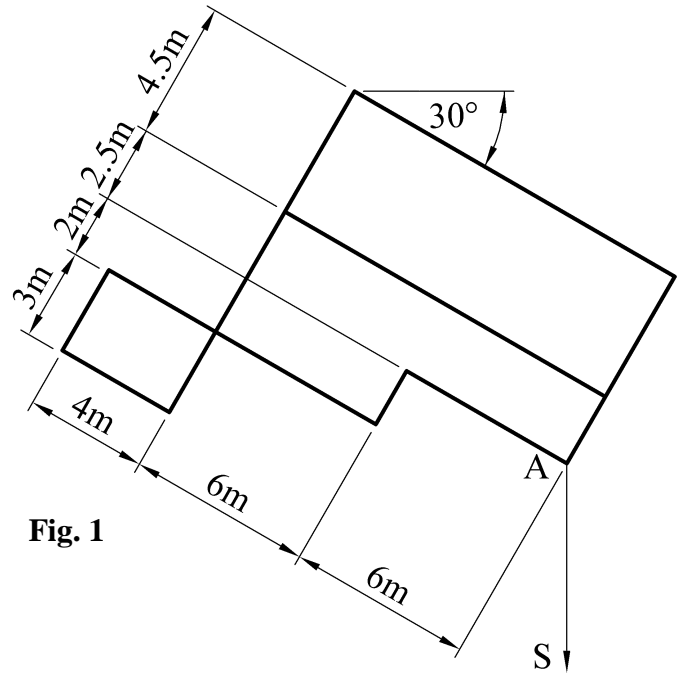
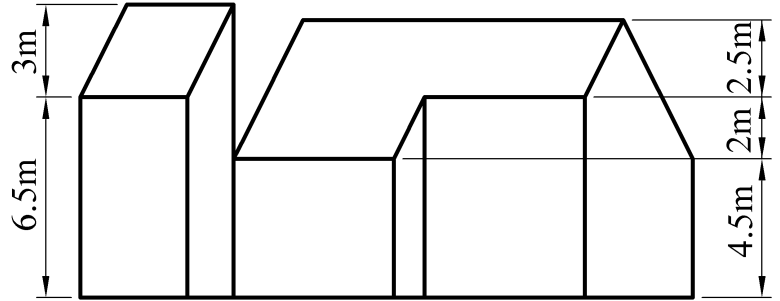


Fig. 1

2. Fig. 2 shows the outline plan and elevation of a roof.

Surfaces A and B have a pitch of 50° . Surface C has a pitch of 30° , surface D has a pitch of 60° and surface E has a pitch of 25° .

- Draw the given plan and elevation of the roof.
- Develop the surface B.
- Find the dihedral angle between the roof surfaces B and D.

Scale 1 : 100

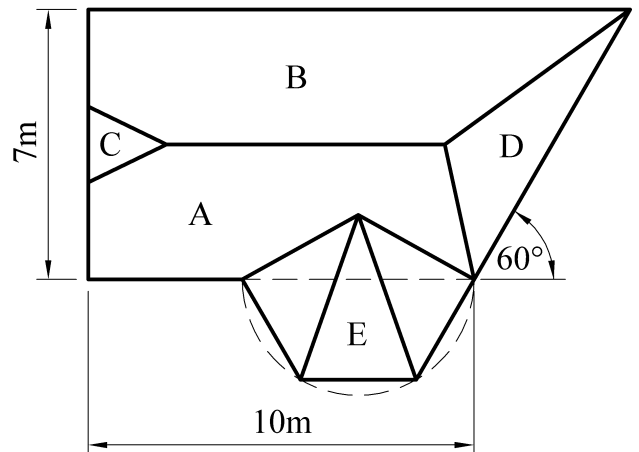
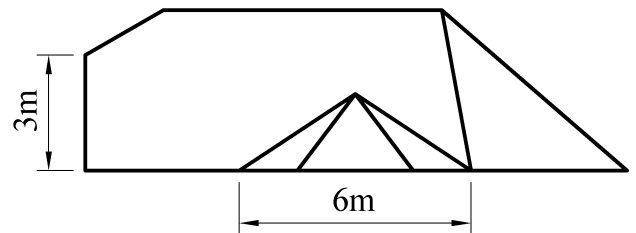


Fig. 2

3. Fig. 3 shows the plan and elevation of a sculpture for a children's playground. 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 : 100

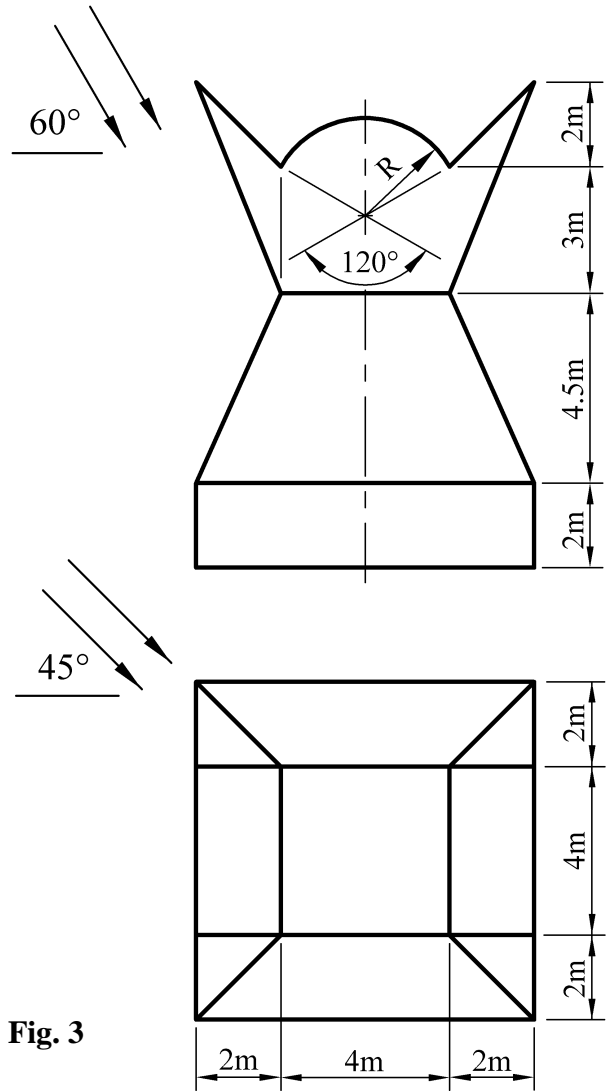
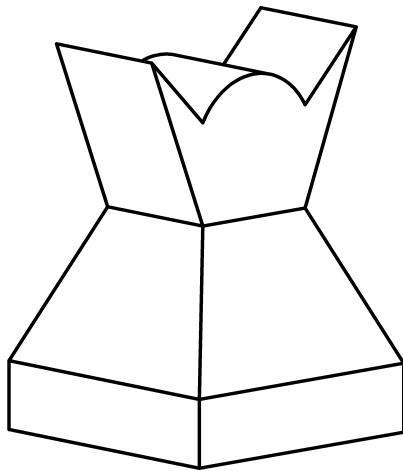


Fig. 3

4. Fig. 4 shows the outline plan of a hyperbolic paraboloid roof surface ABCD. The corner D is at ground level, corner B is 5m above ground level and corners A and C are 10m above ground level.

- Draw the given plan of the roof and project an elevation.
- Determine the true shape of the section S-S through the roof surface.
- Draw a new elevation of the roof which will show the true length of the edge AD.

Scale 1 : 100

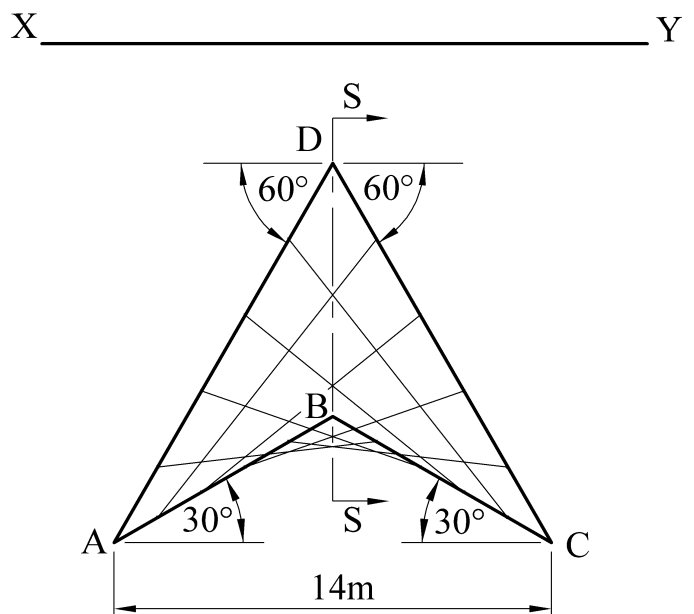


Fig. 4

5. Fig. 5 shows the plan, elevation and end elevation of a stage for outdoor concerts.

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

(Omit the text and logo, shown on the front of the stage, from your drawing)

Scale 1 : 100

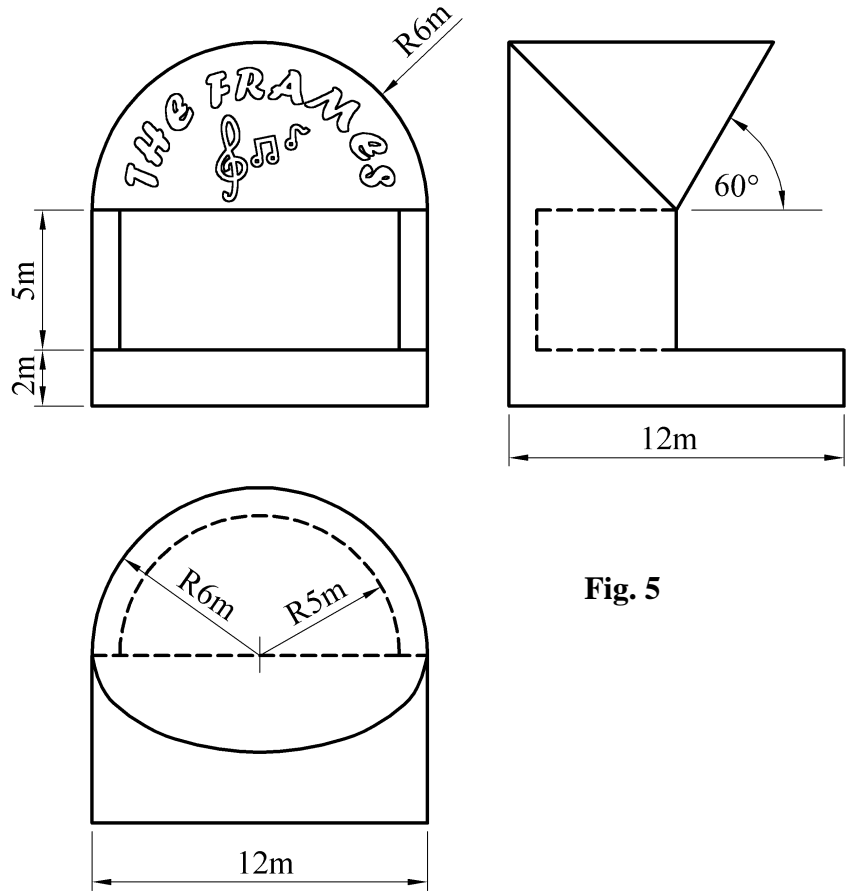


Fig. 5

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

The curves on the stand are semi parabolic in elevation. The outer curve is elliptical in plan.

- (a) Draw the given plan and elevation.
 (b) Determine the true shape of surface A.

Scale 1 : 10

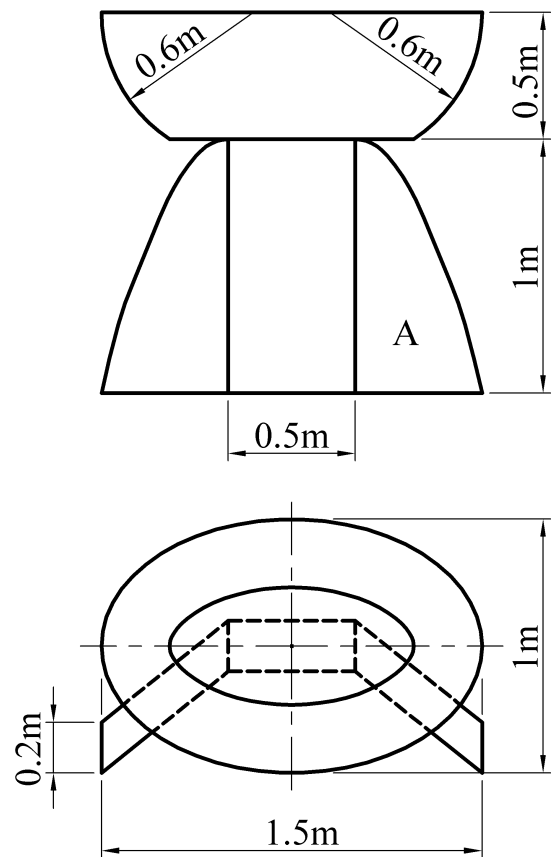
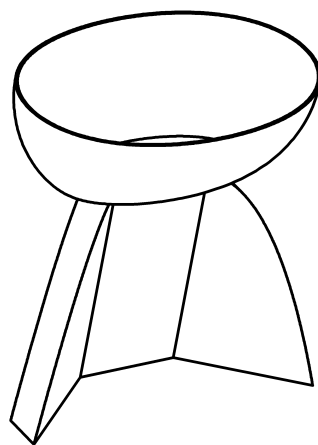


Fig. 6

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) A tower is to be erected at F.
Planning permission requires that the tower must not break the skyline, that means it must not project above the hill in the background when viewed from the ground at G.
Determine the maximum height of the tower.

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