AN ROINN OIDEACHAIS AGUS EOLAÍOCHTA
LEAVING CERTIFICATE EXAMINATION, 1998

6506

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

TUESDAY, 23 JUNE - AFTERNOON 2.00 - 5.00 p.m.

(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 plan and elevation of an entrance gateway. Draw the given plan and make a perspective drawing of the entrance gateway when the position of the spectator is 8 m from the corner A, the picture plane touching the corner A, and the horizon line 8.5 m above the ground line.

Scale 1 : 100

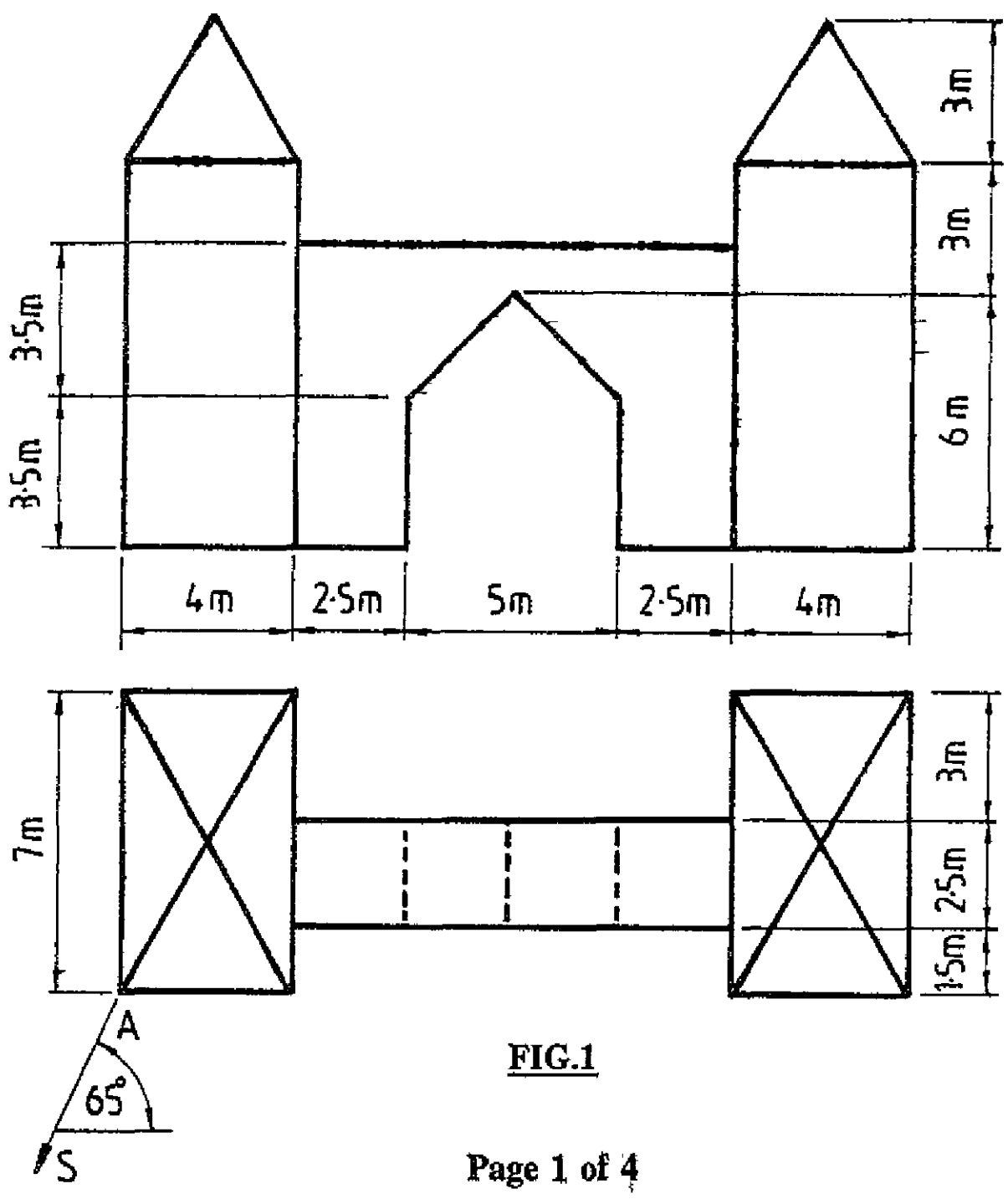


FIG.1

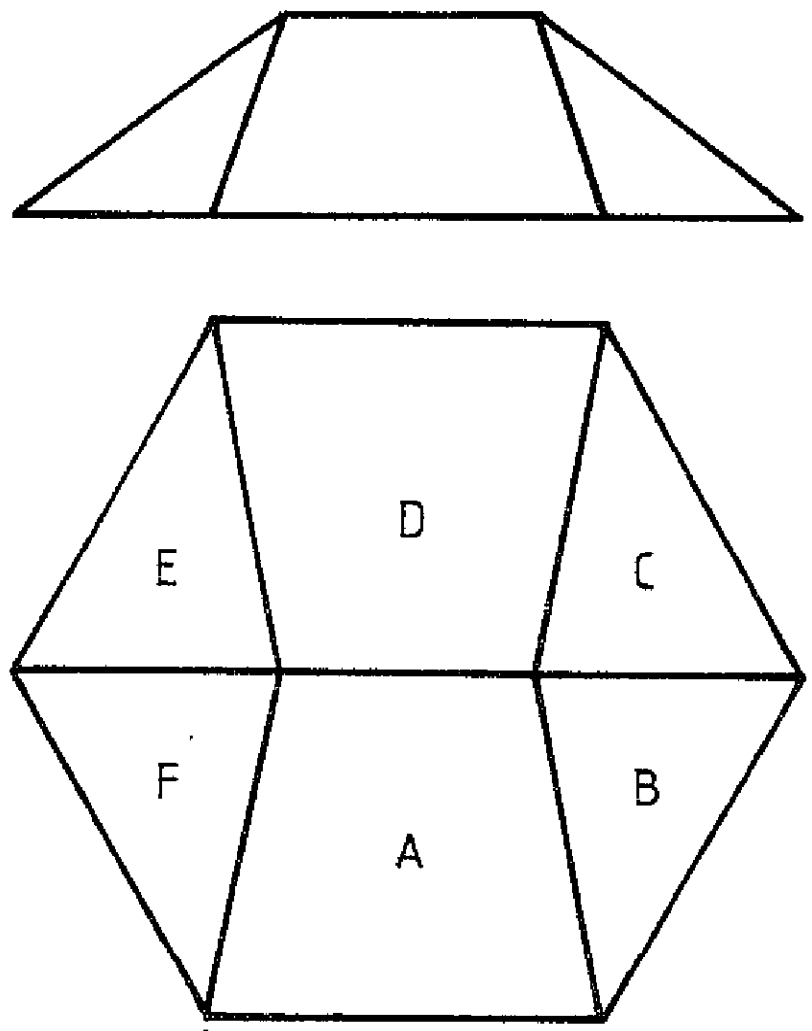
OVER →

2. Fig. 2 shows the outline plan and elevation of a roof. The roof perimeter is a regular hexagon in plan. The surfaces A and D have a pitch of 30° and surfaces B, C, E and F have a pitch of 40°.

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

(b) Develop the roof surfaces A and B.

(c) Determine the dihedral angle between the surfaces A and F.

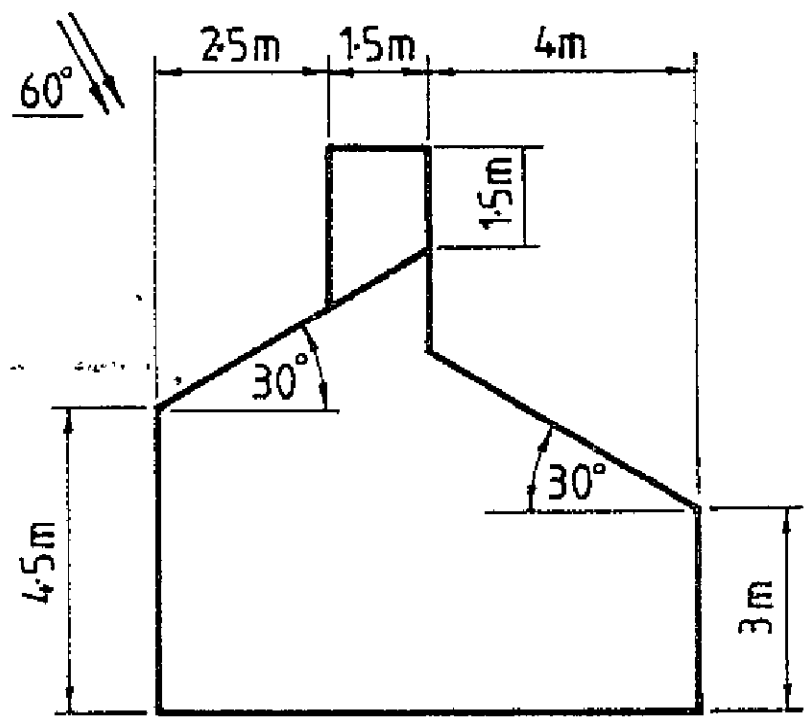


Scale 1 : 100

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 when the direction of light is as shown.



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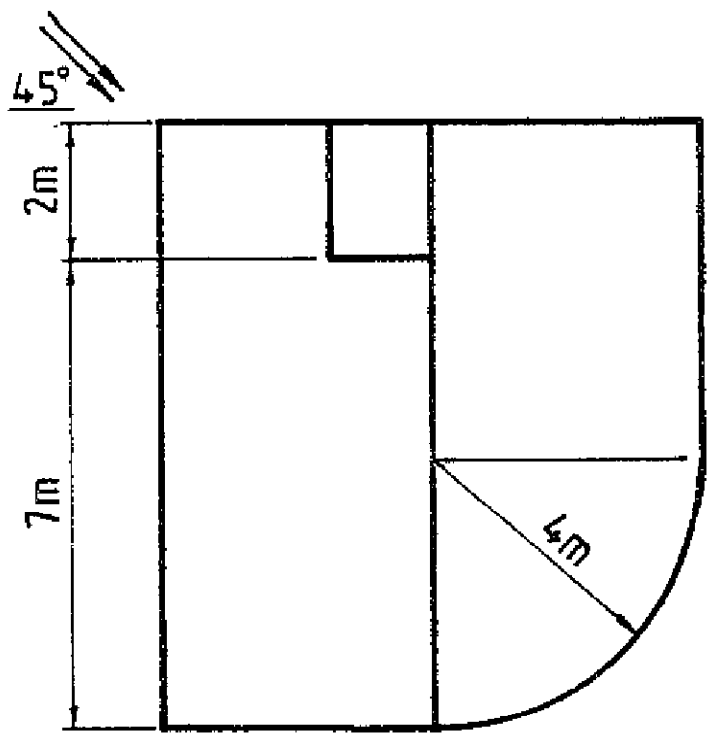


FIG.3

4. Fig. 4 shows the outline plan of a hyperbolic paraboloid roof surface. The roof perimeter is a square in plan. The corners A and C are at ground level, corner B is 8 m above ground level and corner D is 22 m above ground level.

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

(b) Determine the true shape of the section S-S through the roof.

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

Scale 1 : 200

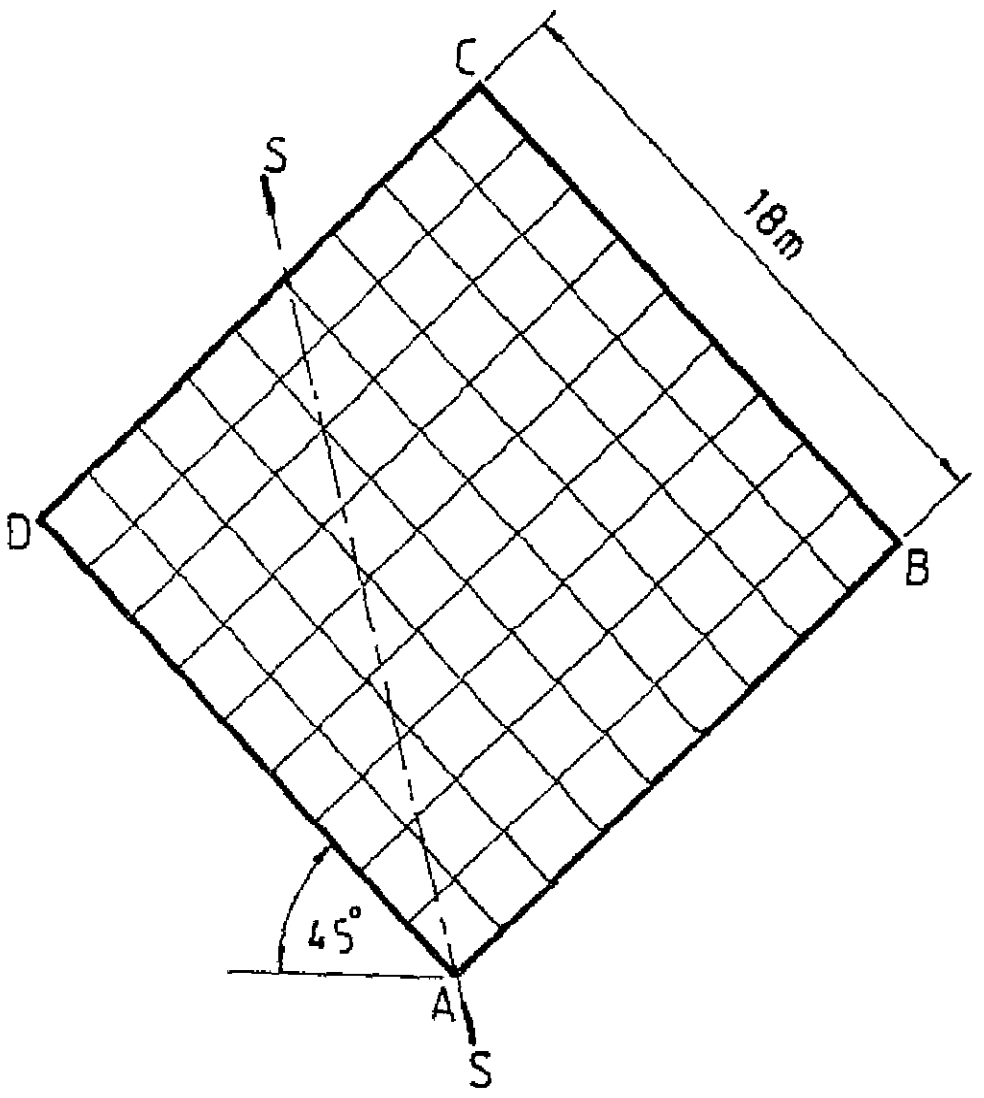


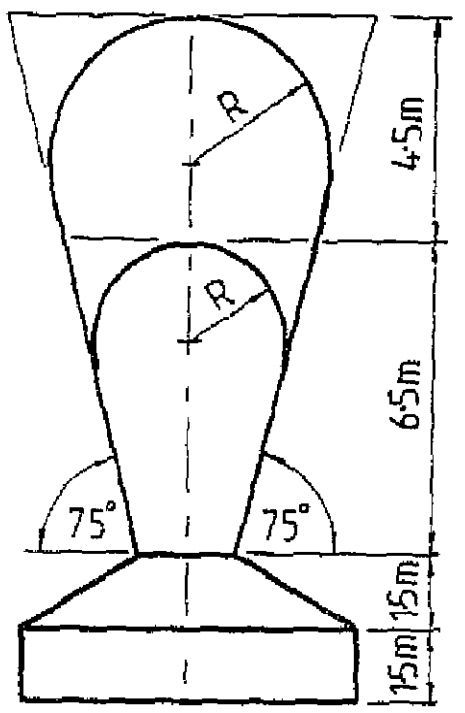
FIG. 4

5. Fig. 5 shows the plan and elevation of a concrete structure.

(a) Draw the given views.

(b) Draw an isometric view of the structure.

Scale 1 : 100



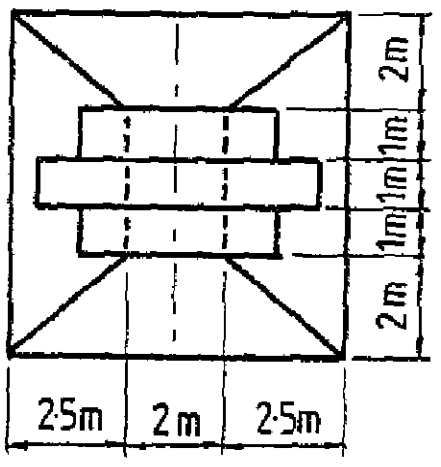


FIG. 5

OVER →

6. Fig. 6 shows the outline plan and elevation of a building which is in the form of a hyperboloid of revolution. It is surmounted by a dome, the curve ABC of which is parabolic in elevation.

Draw the given plan and elevation.

Scale 1 : 200

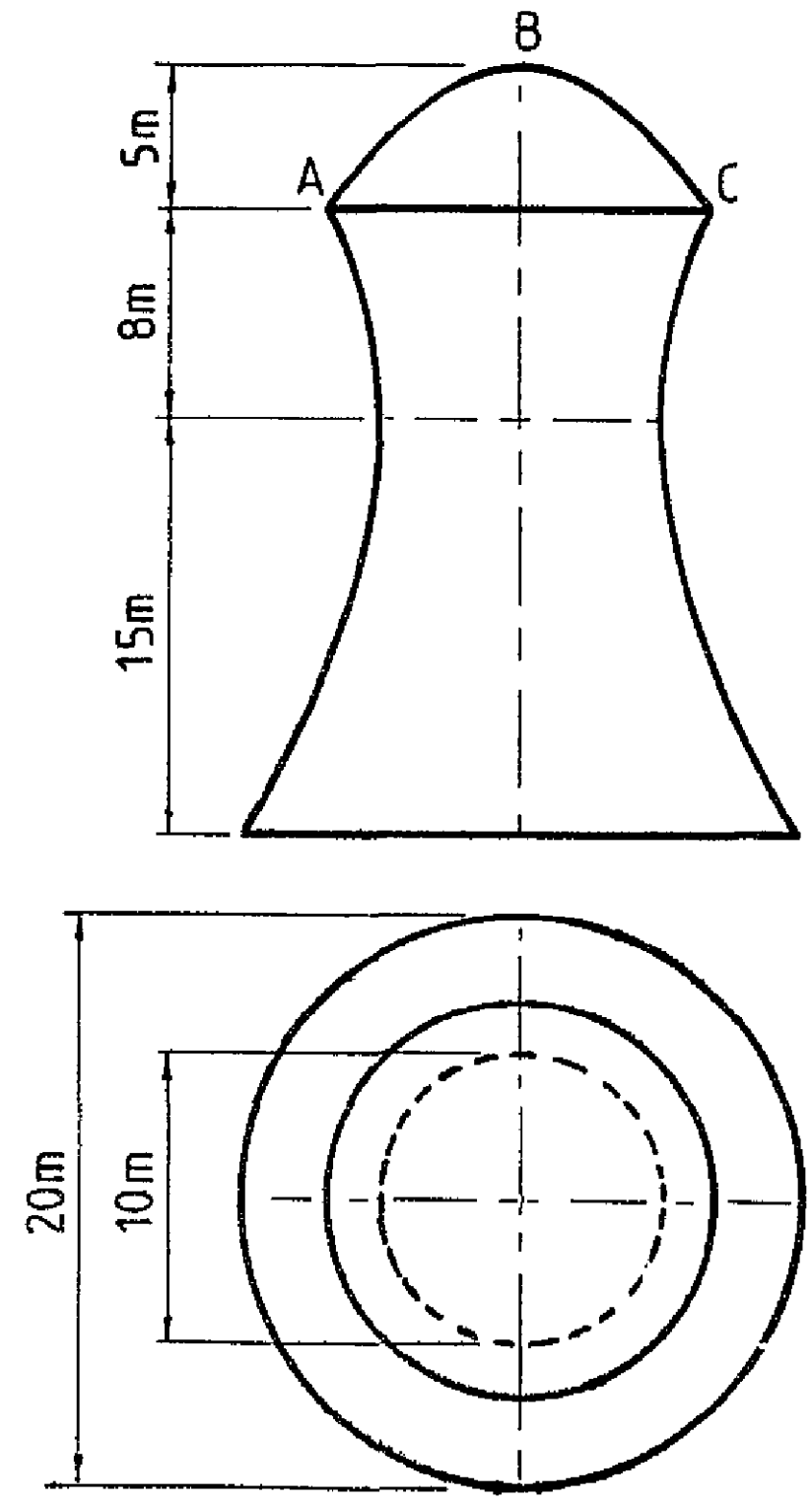


FIG.6

7. The accompanying drawing shows ground contours at ten-metre intervals on a map.

   (a) On the drawing supplied draw a vertical section (profile) on the line DE.

   (b) Vertical boreholes at A, B and C strike a stratum of ore at altitudes of 70 m, 40 m and 50 m respectively. Determine the dip and strike of the stratum.

   (c) Draw the outline of the outcrop.

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Examination Number

AN ROINN OIDEACHAIS AGUS EOLAÍOCHTA **M.83(L)S**

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