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LEAVING CERTIFICATE EXAMINATION, 2002

TECHNICAL DRAWING – ORDINARY LEVEL – PARPER II (B)

BUILDING APPLICATIONS

FRIDAY, 14 JUNE – AFTERNOON 2.00 p.m. to 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 questions, distinctly, on the answer paper.
(e)   First or third angle projection must be used.
(f)   All measurements are given in metres.

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 18m from the corner A, the picture plane touching the corner A, and the horizon line 16m above the ground line.
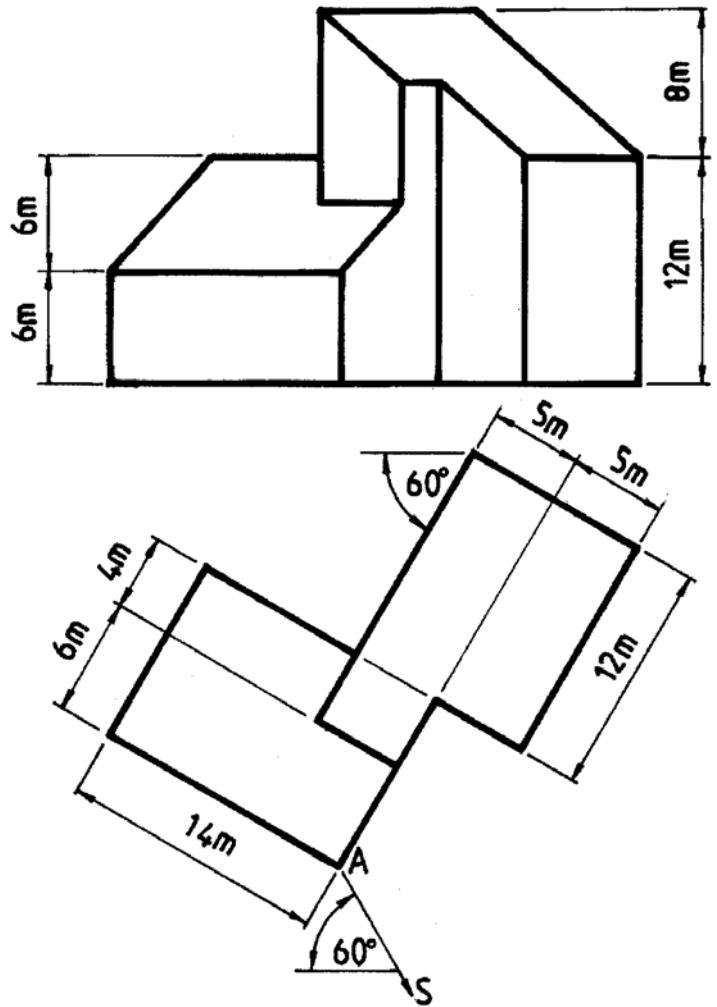
Scale 1 : 200

Fig. 1

2. Fig. 2 shows the outline plan and elevation of a roof. Surface A has a pitch of 40°, surface B has a pitch of 30° and the surfaces C and D have a pitch of 60°.

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

    (b)   Develop the surface D.

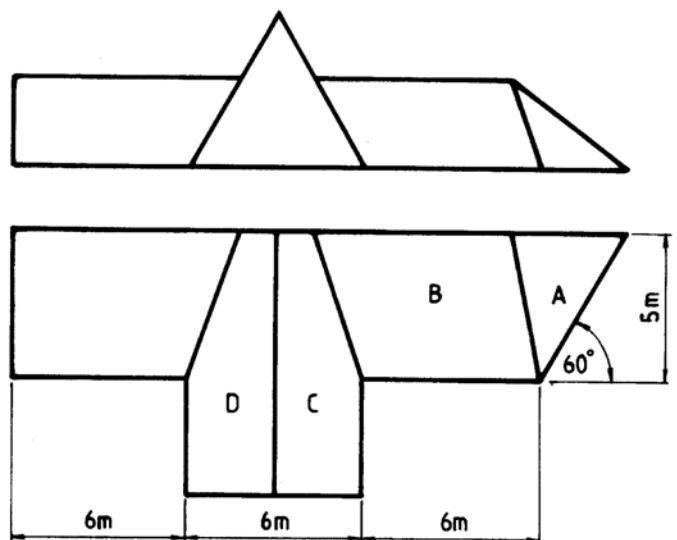   (c)   Find the dihedral angle between the surfaces A and B.

Scale 1 : 100

Fig. 2

3. Fig. 3 shows the 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.
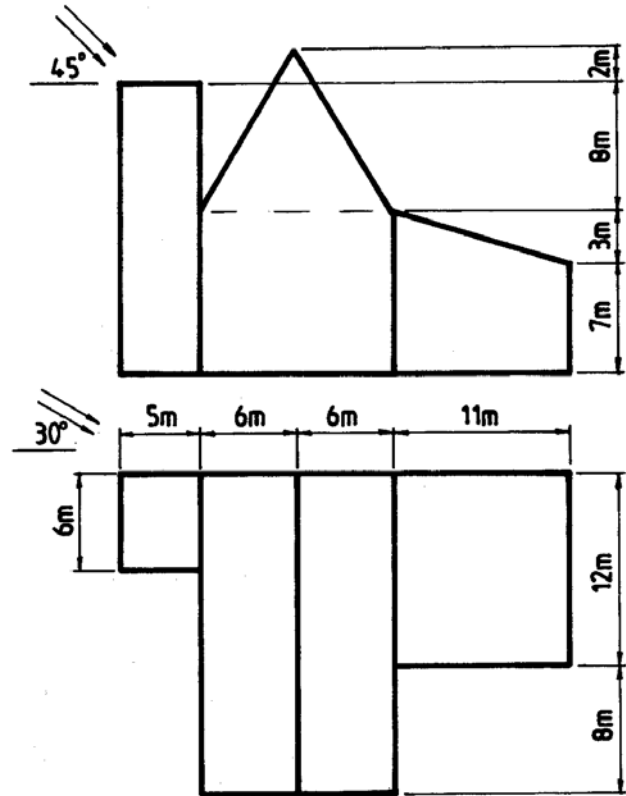
Scale 1 : 200

Fig. 3

4. Fig. 4 shows the outline plan of four adjoining hyperbolic paraboloid roof surfaces ABOH, BCDO, DEFO and FGHO. The roof perimeter is a square in plan.
The corners, A, B, C, D, E, F, G and H are at ground level, corner O is 22m above ground level.

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

    (b)   Show the true shape of the section S-S through the roof.
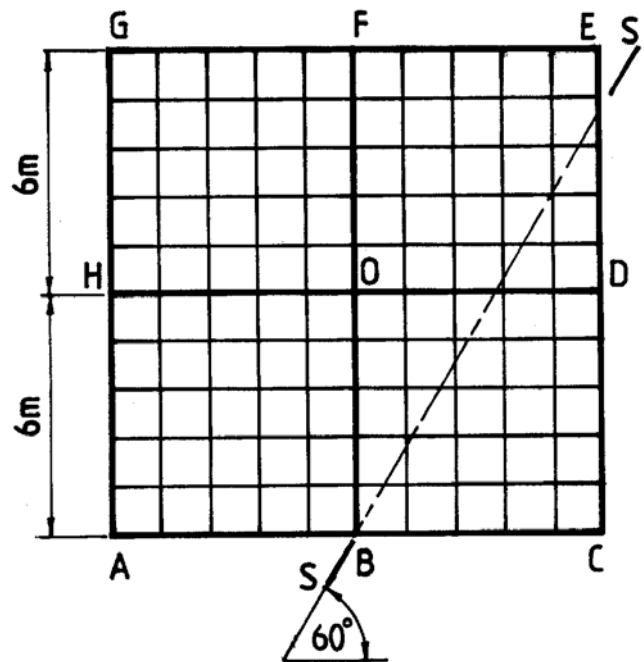
Scale 1 : 200

Fig. 4

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

(a) Draw the given views.

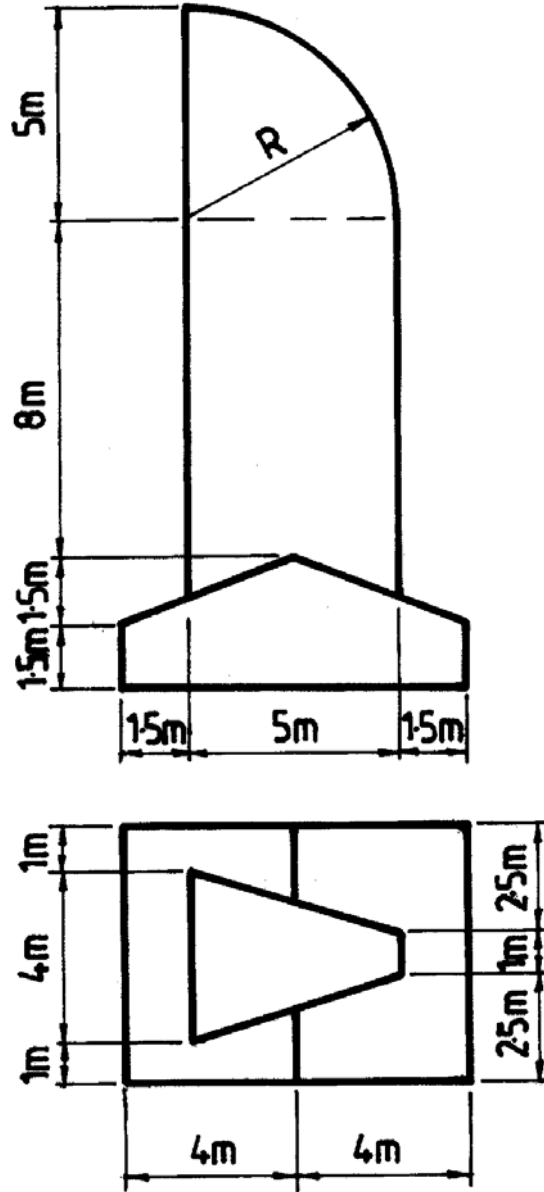(b) Draw and isometric view of the structure.

Scale 1 : 100

Fig. 5

6. The outline plan and elevation of a building are shown in Fig. 6. A pictorial view of the building is also shown. The building is elliptical in plan. The curve ABC in elevation is parabolic.

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

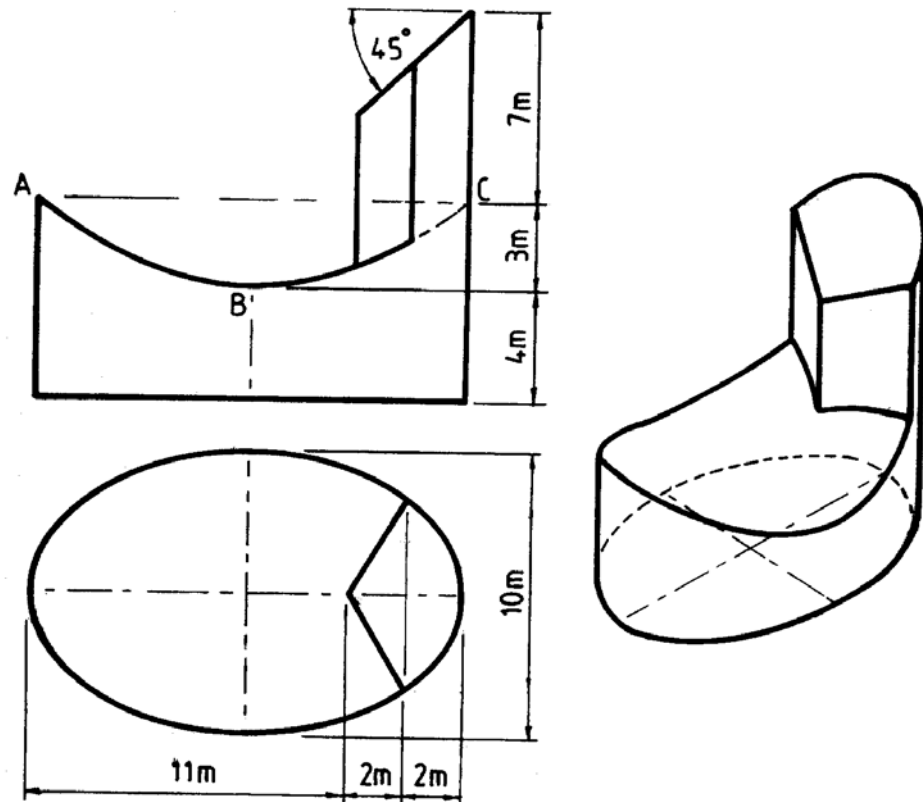(b) Project an end elevation of the building.

Scale 1 : 100

Fig. 6

7. The accompanying map shows ground contours at ten-metre vertical internals 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 stratum of ore. Determine the dip and strike of the stratum.

(c) The curve (dotted line) represents the outline of the outcrop of another stratum of ore. Determine the dip and strike of this stratum.