LEAVING CERTIFICATE EXAMINATION, 1990

TECHNICAL DRAWING - ORDINARY LEVEL - PAPER II (B)

BUILDING APPLICATIONS

THURSDAY, 21 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.

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1. Fig. 1 shows the outline plan and elevation of a building. Make a perspective drawing of the building when the position of the spectator is 55 m from corner A, the picture plane touching the corner A and the horizon line 22.5 m above the ground line.

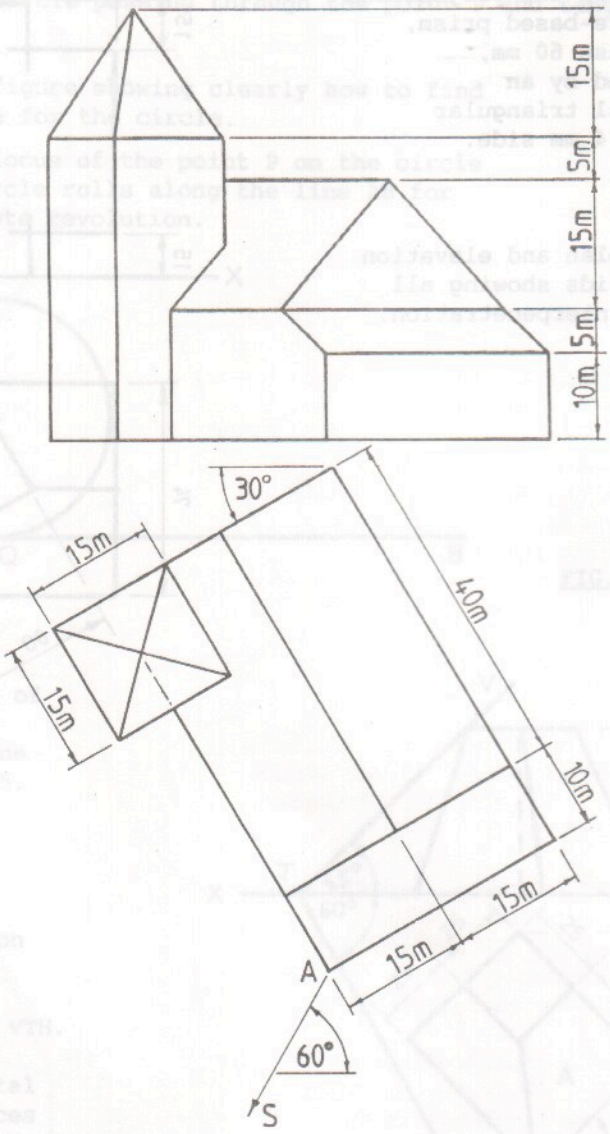

FIG.1

2. Fig.2 shows the outline plan of a lean-to roof. The surfaces B and C have a pitch of 30°.

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

Scale 1 : 100

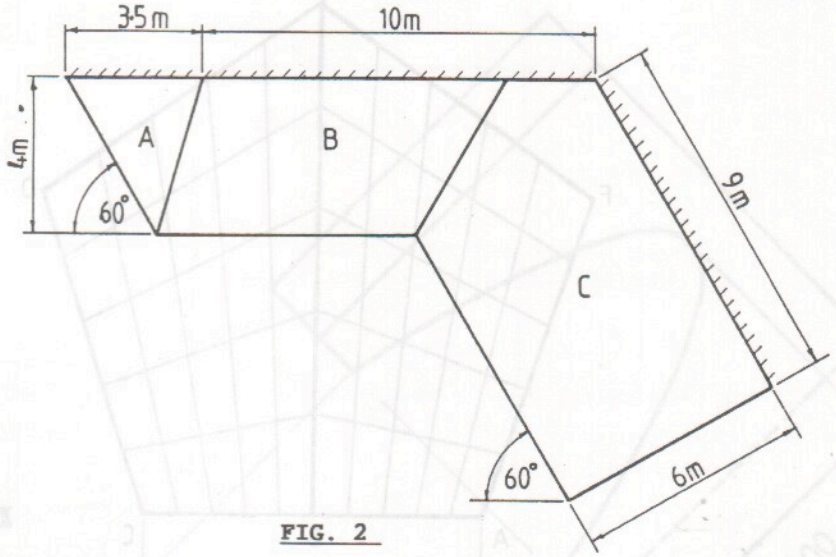

FIG. 2

3. Fig. 3 shows the plan and elevation of a kiosk whose base is a regular octagon. Draw the given views and determine the shadows cast in plan and elevation when the direction of light is as shown.

Scale 1 : 50

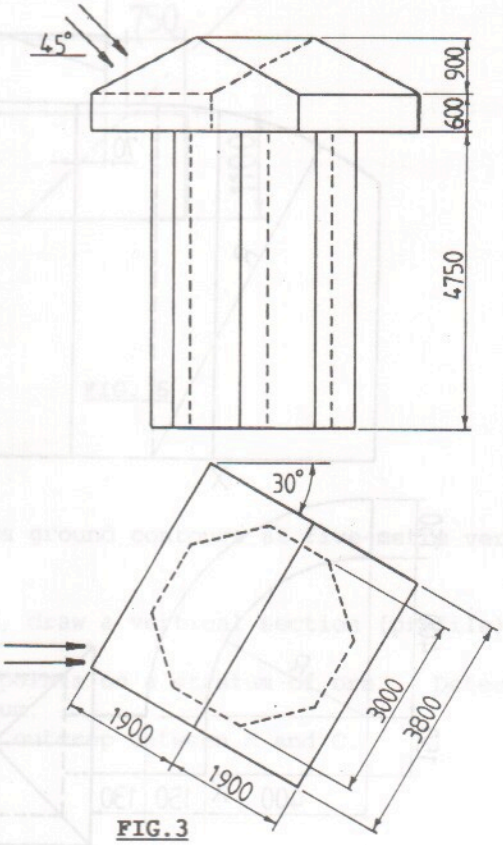

FIG.3

4. Fig. 4 shows the outline plan of two adjoining hyperbolic parabaloid roof surfaces ABEF and BCDE. The roof perimeter is a regular pentagon in plan. The corners A, C and E are 12 m above the ground, corner B is at ground level and corners F and D are 6 m above ground level.

(a) Draw the plan of the roof and project the elevation.
(b) Show the curvature of the roof along the line EC.

Scale 1 : 200

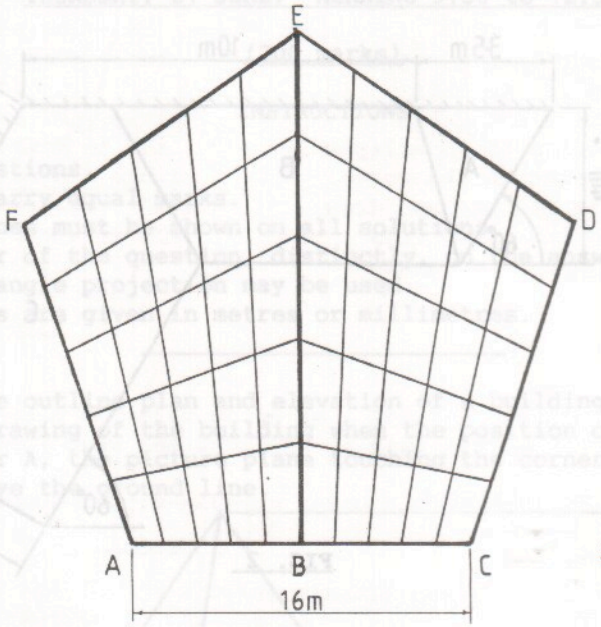

FIG 4

5. Fig 5. shows the plan and elevation of a pillar and a wall. Draw the given views and draw an isometric view of the pillar and wall, having the point X as the lowest point of the drawing.

Scale 1 : 10

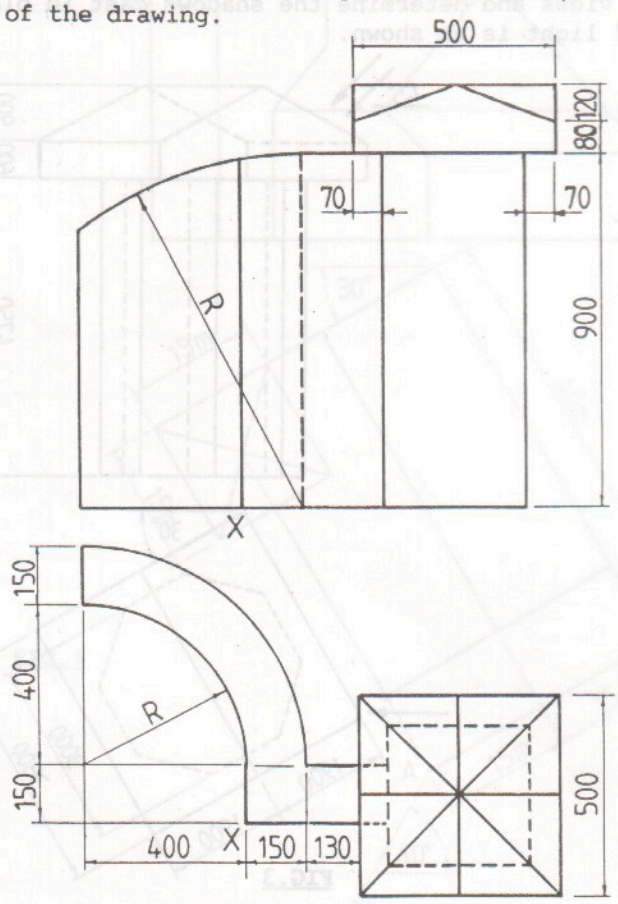

FIG. 5

6. Fig. 6 shows the plan of portion of a wall which contains an arched opening. The opening is in the shape of a parabola when viewed in the direction of the arrow as shown in the auxiliary elevation.
Draw the given views and project a front elevation of the wall.

Scale 1 : 50

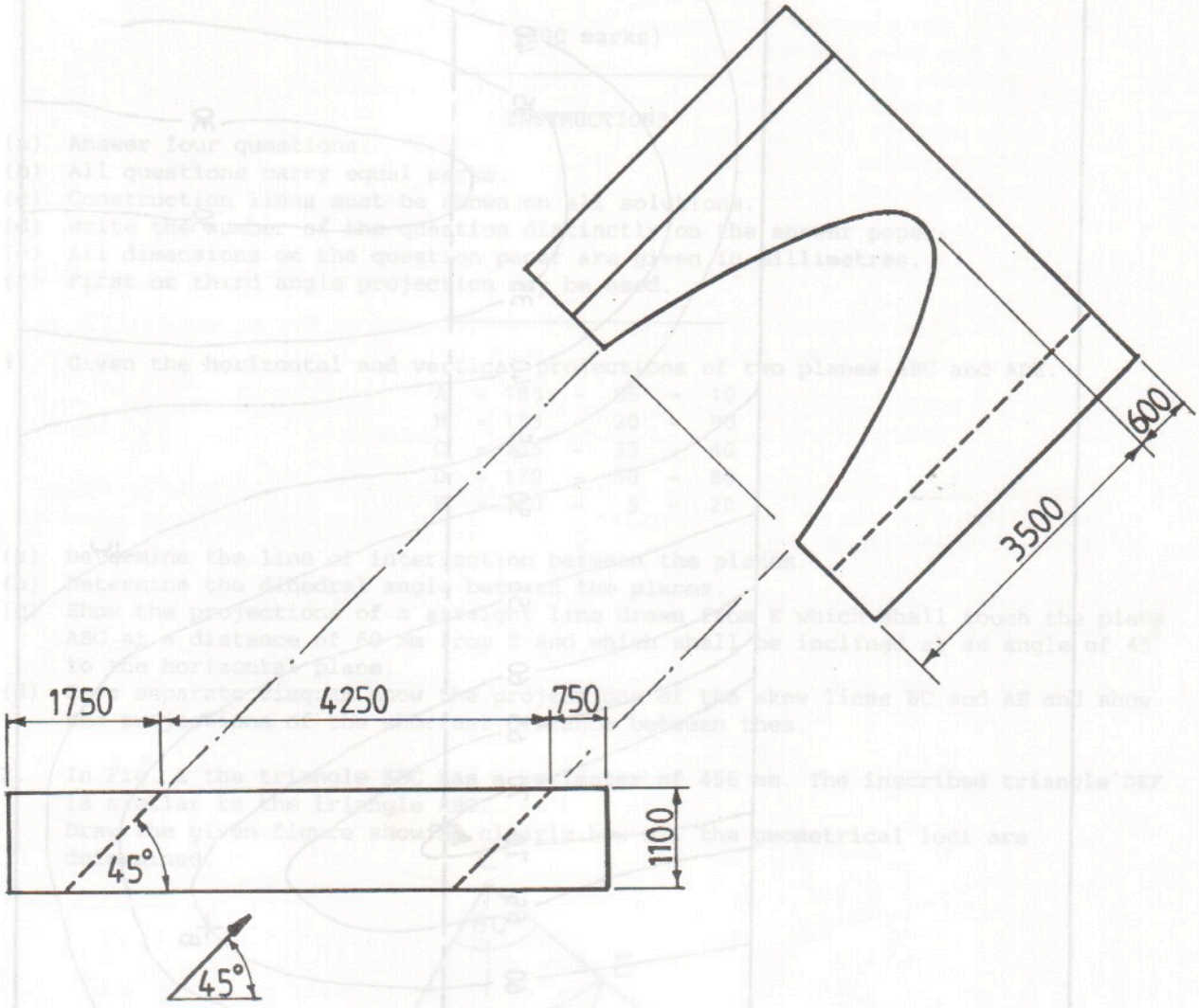

FIG. 6

7. The accompanying drawing shows ground contours at five-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 a stratum of ore. Determine the dip and strike of the stratum.
(c) Draw the outline of the outcrop between A and C.

Scale 1:1000
Scála
A
B
C
D
E
40
45
50
55
60
65
70
70
65
60
55
50
45
40
35
30
30
35
40
45
50
55
60
65
70