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LEAVING CERTIFICATE EXAMINATION, 2002

TECHNICAL DRAWING - ORDINARY LEVEL - PAPER 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 question, distinctly, on the answer paper.
(e)   First or third angle projection may be used.
(f)   All dimensions are given in metres or millimetres.

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.
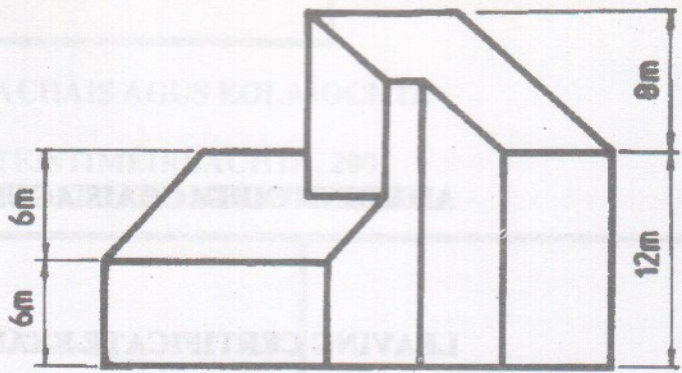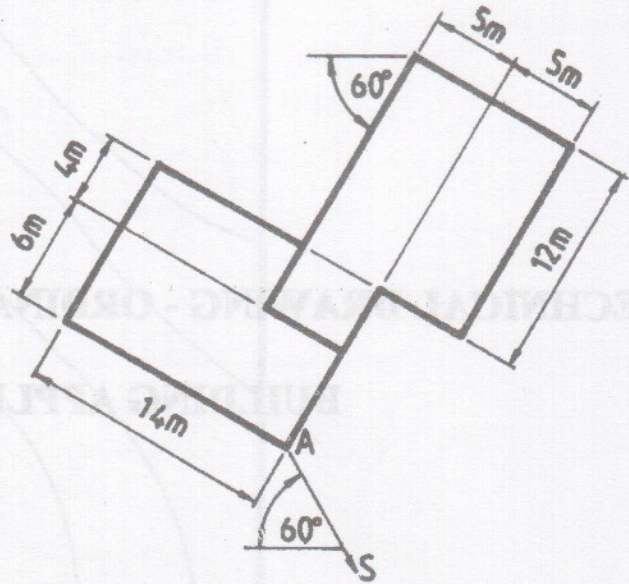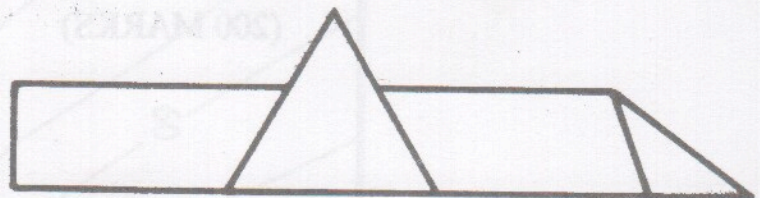
Scale 1 : 200

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.

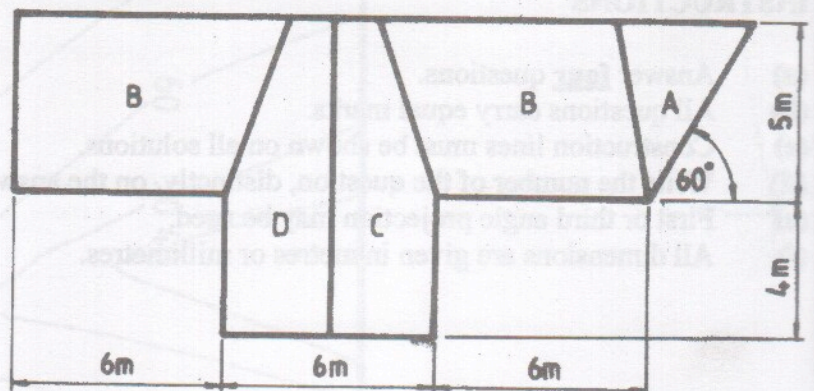   (c) Find the dihedral angle between the surfaces A and B.

Scale 1: 100

Fig. 2

42

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

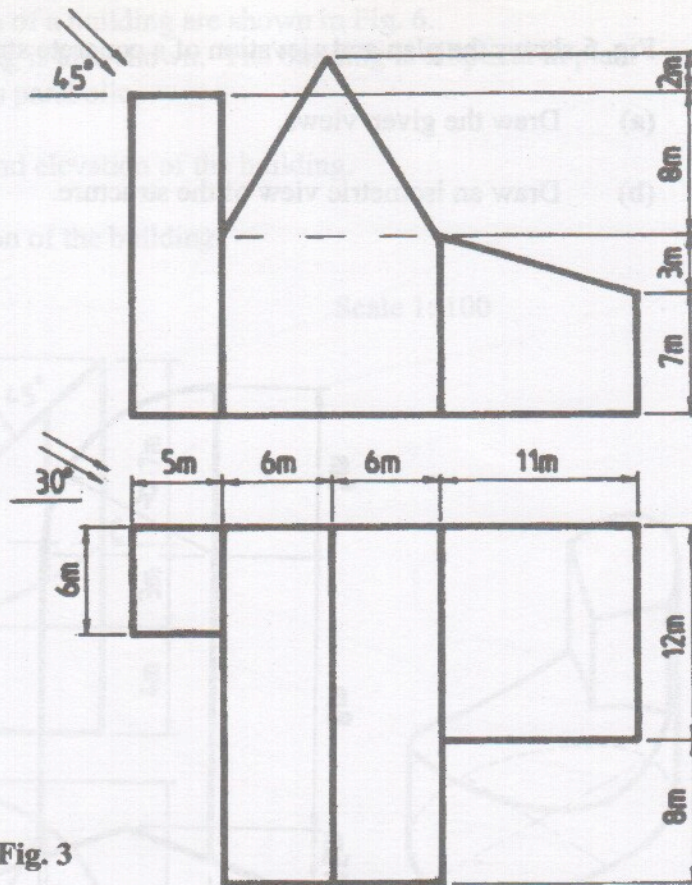45°

2m
8m
3m
7m

30°

5m 6m 6m 11m

6m

12m

8m

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
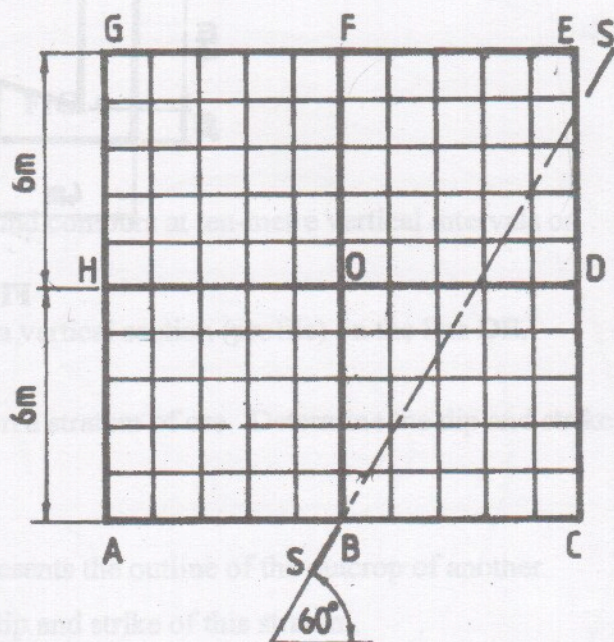section S-S through the roof.

Scale 1 : 200

G   F   E S

6m

H   O   D

6m

A   S B   C

60°

Fig. 4

43

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.
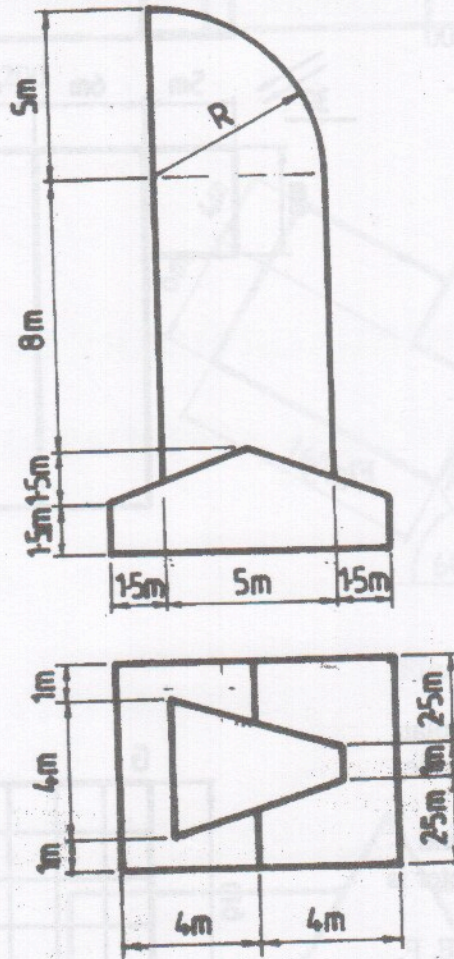
Scale 1: 100

FIG. 5

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.

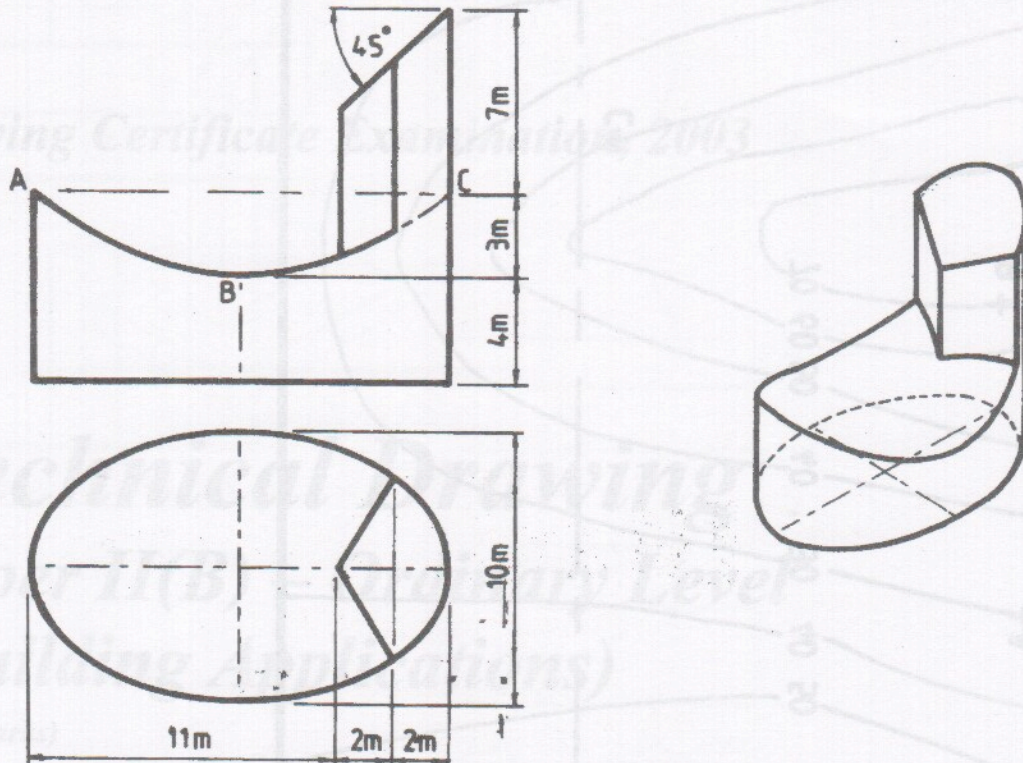   (b) Project an end elevation of the building.

Scale 1: 100

FIG. 6

7. The accompanying 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 a stratum of ore. Determine the dip and strike
   of the stratum.

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

D

C

B

70 60 50

40

30

40

50

60

70 80

90

A

G

E

50

Scála
Scale
1:1000