AN ROINN OIDEACHAIS

LEAVING CERTIFICATE EXAMINATION, 1976

TECHNICAL DRAWING - COMMON LEVEL - PAPER II

TUESDAY, 15 JUNE - AFTERNOON, 2·00 to 4·30

N.B. Answer either Section A or Section B

Section A (Engineering)

INSTRUCTIONS

(a) All questions to be attempted.
(b) Drawings and sketches should be in pencil.
(c) Where dimensions are omitted they may be estimated.
(d) Credit will be given for neat orderly presentation of work.
(e) Candidates must work on one side of the paper only.
(f) The Examination Number must appear on each drawing sheet used.

1. Details of a crane hook assembly are given in Fig. 1 with the parts tabulated below:-

INDEX	PART	NO. REQD.
1	Shackle	1
2	Hook	1
3	Link	1
4	Nut	1
5	Thrust Bearing	1
6	Pin	1
7	Collar	1

(a) Assemble the parts to the shackle (1) and draw the following views:-

(i) Elevation A showing all hidden detail.

(ii) A sectional elevation on B-B projected from (i).

First or third angle projection may be used in drawing the solution, but the method used must be stated on the drawing sheet.

(b) Label the cutting plane and title the sectional view.

(c) Title the drawing 'CRANE HOOK ASSY' and add four dimensions.

(110 marks)

2. Figure 2 shows two views of a machine component.

(a) Sketch freehand in isometric projection and in good proportion a sectional pictorial view of the component.
The sketch should be approximately full size with the section taken on the plane A-A and the sectioned face should be shown.

(b) Title the sketch MACHINE COMPONENT IN SECTION.

NOTE: The sketch should be drawn on the isometric grid paper provided and the candidates are strongly advised to use the non-printed side of the paper.

(40 marks)

3. (a) Figure 3 shows the half plan 'B' and an incomplete elevation of a casting.
Trace and complete the half sectional elevation.
The left-hand half should be an outside view with the hidden detail shown and the right-hand half should be shown in section. All hole axes should be shown.

(50 marks)

OR

(b) Make a fully detailed working drawing of a handwheel from the following data.

Hub:- 60 mm diameter x 40 mm thick. Bored 30 mm diameter.
Counterbored 50 mm diameter x 5 mm deep.

Rim:- Circular cross section 30 mm diameter. Mean diameter 200 mm.

Spokes:- Three (3) equally spaced. Rectangular in cross-section
Tapering from 40 mm x 20 mm at the hub to 30 mm x 15 mm at the rim.

The drawing should be in orthographic projection.

(50 marks)

OVER →

(Section B (Building)

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 millimetres.

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1. The plan and section of a splayed hopper are shown in Fig. 1. Draw the true shape of the surfaces A, B and C. Scale 1 : 5.

2. Fig. 2 shows the plan and elevation of the outline of a building. Draw the given plan and make a perspective drawing of the building when the spectator (station point) is as shown and the picture plane is 9000 mm from the spectator. The horizon line is 2000 mm above the ground level. Scale 1 : 100.

3. Fig. 3 shows a side elevation and a plan of a canopy to a wall. Draw a front elevation of the canopy and show the shadows cast on the wall when the direction of the light is 45° in plan. Scale 1 : 50.

4. Make an isometric drawing of the pillar and capping shown in Fig. 4. Scale 1 : 10.

5. The plan of the centre-line of a continuous handrail for a stair which rises uniformly from A to E is shown in Fig. 5. The rise for each step is 150 mm and the width of tread is 275 mm. Draw the plan and elevation. Determine the true length of BC and find the angle between BC and CD. Scale 1 : 50

6. Fig. 6 shows the plan of a roof where all surfaces have a pitch of 40°. Draw the plan and project an elevation of the roof. Determine the true shape of all the roof surfaces. Also determine the dihedral angle between the surfaces A and B. Scale 1 : 100

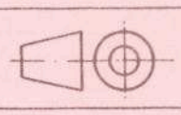
7. Fig. 7 shows the cross section of a moulding fixed between a wall and a ceiling. This ceiling intersects another ceiling which slopes upwards at 30°. Determine the cross-section of the moulding which is fixed between the sloping ceiling and the wall if both mouldings intersect on a vertical mitre plane. Scale 1 : 1.

CUID II — AN ROINN OIDEACHAIS
PART II — LÍNIOCHT TEICNIÚIL
TECHNICAL DRAWING

SCRUDÚ ARDTEISTIMÉIREACHTA, 1976
LEAVING CERTIFICATE EXAMINATION, 1976

A. INNEALTÓIREACHT
A. ENGINEERING

PROJECTION
TEILGEAN



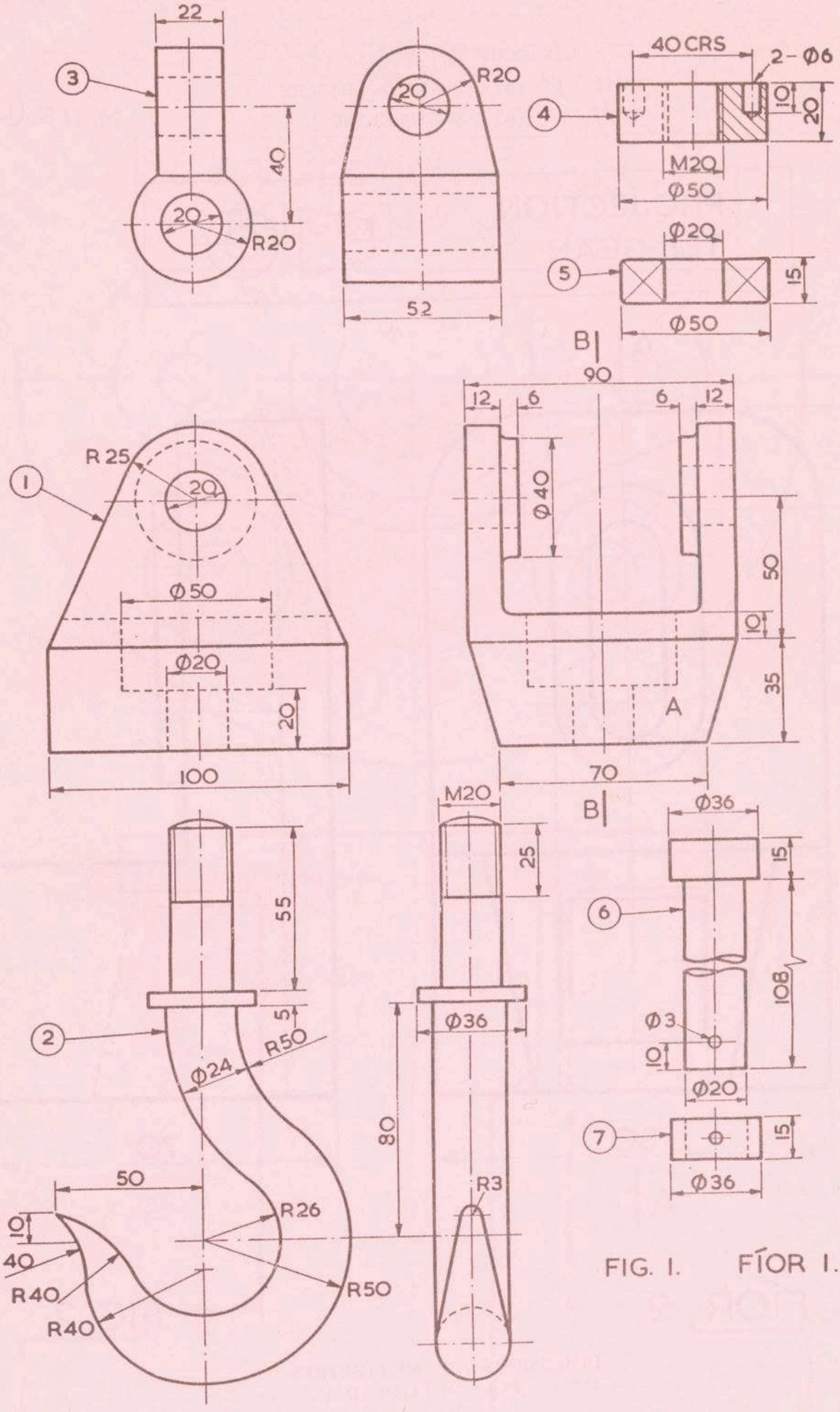


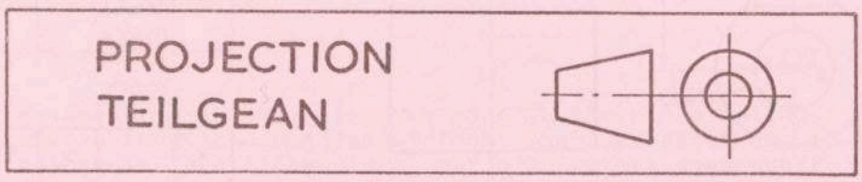
FIG. 1. FÍOR 1.

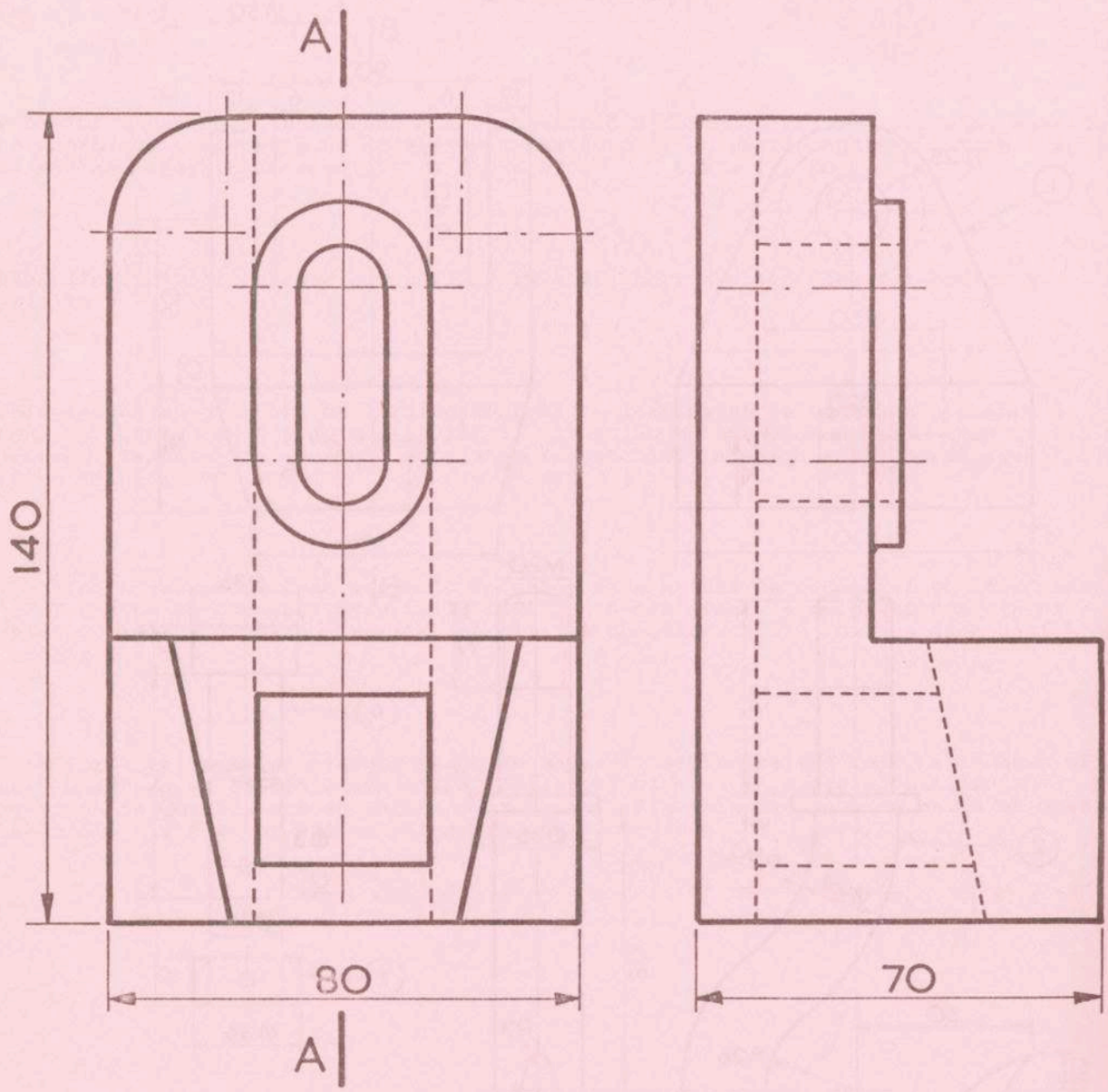
DIMENSIONS IN MILLIMETRES
TOISÍ INA MILLIMÉADAIR

(FÍOR 2 - FÉACH THALL)
(FIG. 2 - SEE OVER)

LÍNÍOCHT TEICNIÚIL
CUID II (A) INNEALTÓIREACHT
PART II (A) ENGINEERING

M. 118 (L.1)





FÍOR 2. FIG. 2.

DIMENSIONS IN MILLIMETRES
TOISÍ INA MILLIMÉADAIR

AN ROINN OIDEACHAIS M.118(L2)
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CUID II
PART II

LÍNÍOCHT TEICNIÚIL
TECHNICAL DRAWING

A. INNEALTÓIREACHT
A. ENGINEERING

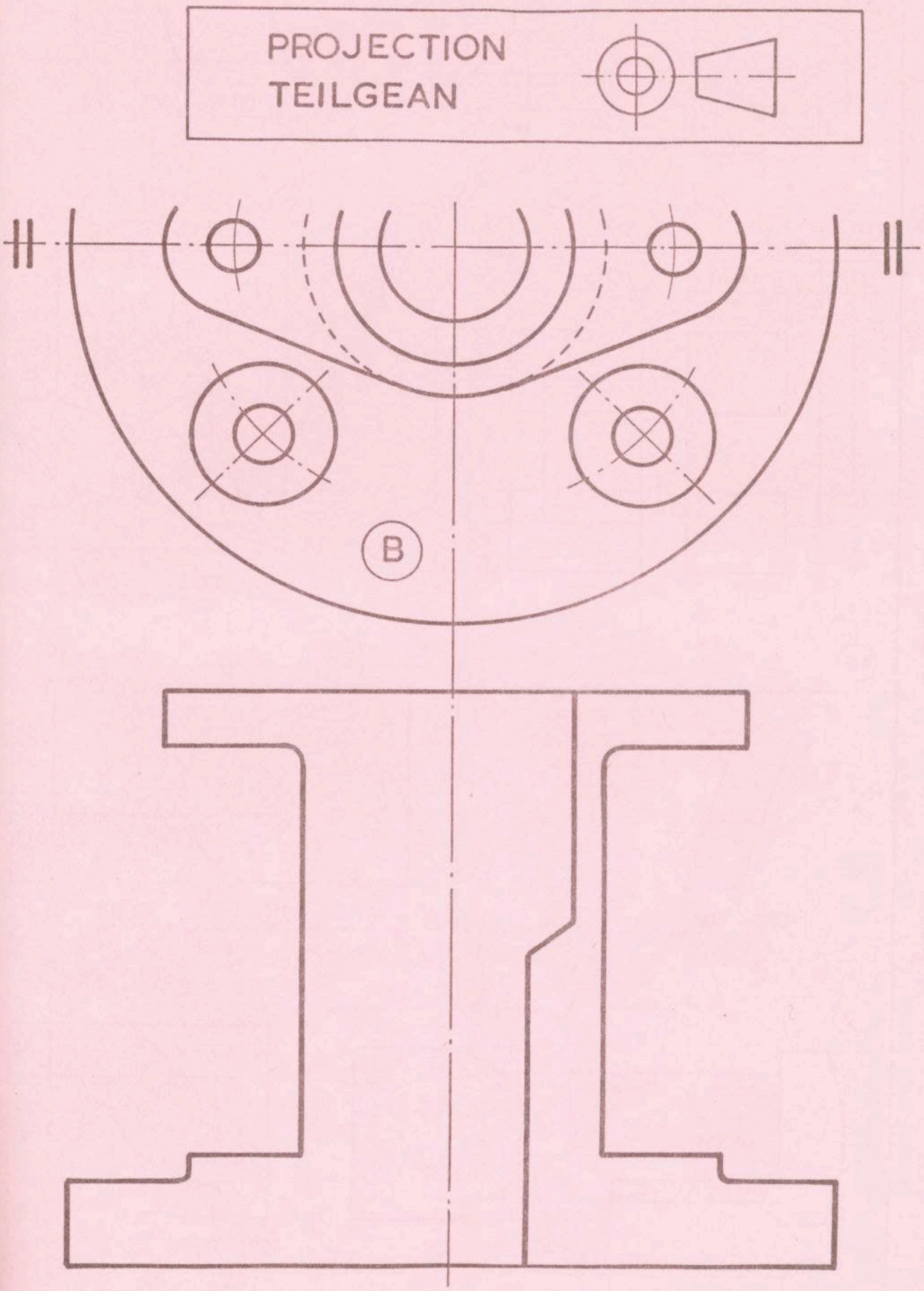

FIG. 3. HALF SECTION.
FÍOR 3. GEARRADH AR LEATH.

An Roinn Oideachais
Dept. of Education

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TECHNICAL DRAWING

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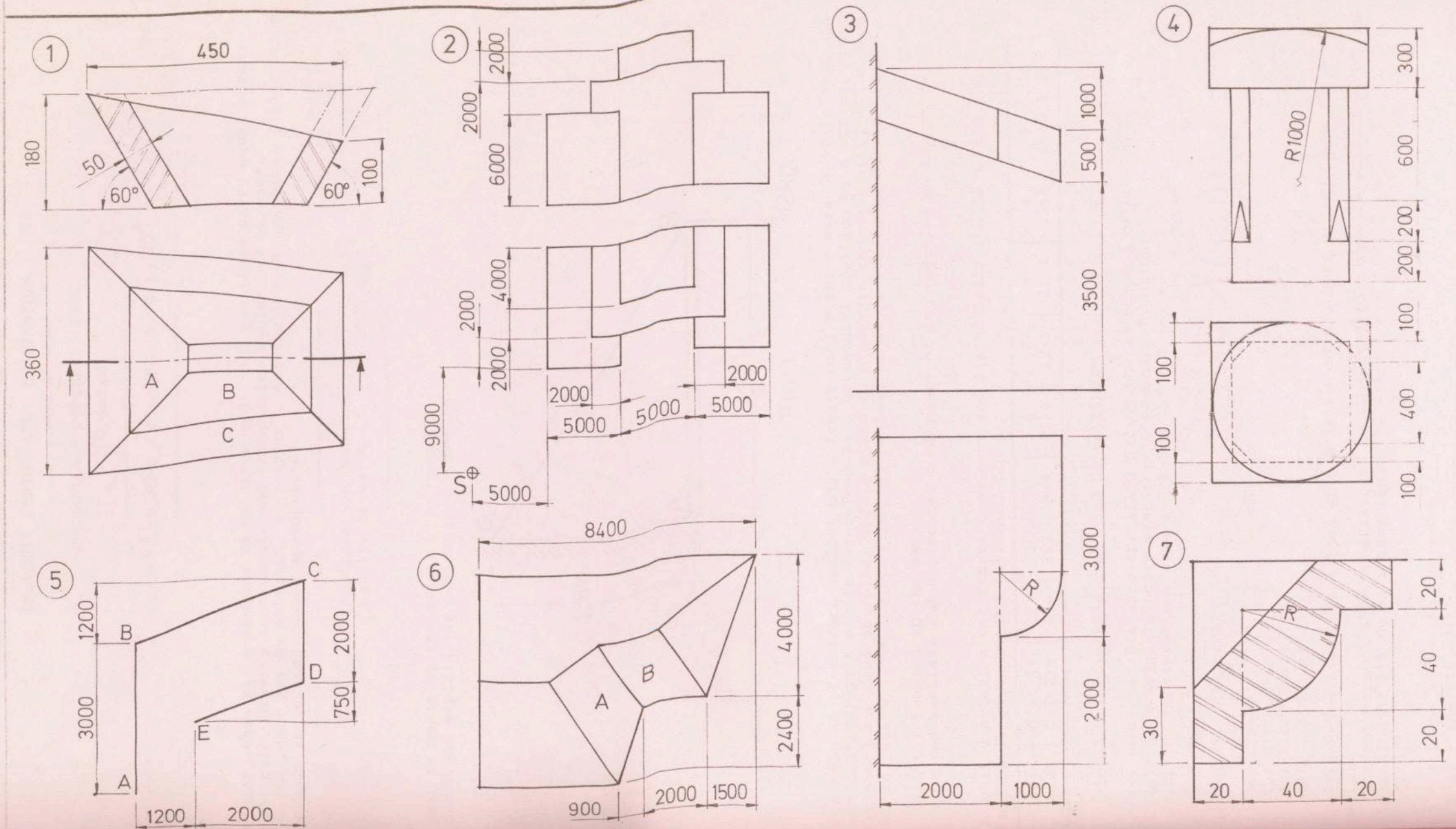
Leaving Certificate Examination 1976

M.118 (L3)



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LÍNÍOCHT TEICNIÚIL Cuid 11(b) Foirgníocht
TECHNICAL DRAWING Part 11(b) Building

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