

LEAVING CERTIFICATE EXAMINATION, 1974

TECHNICAL DRAWING - COMMON LEVEL - PAPER II

WEDNESDAY, 19 JUNE - AFTERNOON, 2.30 to 5

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. Fig. 1 shows two parts of a bar vice. Assemble the screw to the body and tighten down on an 80 mm diameter bar.

Draw, full size, the following views of the assembly:-

- (i) a side elevation showing the body as in view C;
- (ii) a sectional end elevation on the cutting plane B-B viewed in the direction of the arrows;
- (iii) a half plan view of the assembly projected from (i).

Hidden edges are not to be shown in any of these views. First or third angle projection may be used. Title the drawing 'BAR VICE ASSEMBLY' in block letters 8 mm high and show six leading dimensions.

(100 marks)

2. An exploded view of a machine vice is shown in Fig. 2. Sketch freehand on plain drawing paper the following views of the assembled vice:-

- (i) a sectional elevation viewed in the direction of the arrow X;
- (ii) a complete plan view.

The views should be in orthographic projection and approximately full size to the dimension given. Hidden edges are not to be shown.

Letter the title 'MACHINE VICE ASSEMBLY' in block letters 6 mm high and state the type of orthographic projection used.

(50 marks)

3. (a) Two views of a casting are shown in Fig. 3. Trace, in ink, on the tracing paper provided a sectional elevation on the cutting plane X-X viewed in the direction of the arrows. (The casting is drawn in first angle projection).

OR

- (b) Construct a plain scale twice full size with a range of 110 mm and an accuracy of 1 mm. Fig. 4 shows part views of the table and angle plate to which the bar vice of Question 1 would be secured in a machining operation. Make dimensioned drawings twice full size of (i) a bolt suitable for securing the vice to the table and (ii) a bolt suitable for securing the vice to the angle plate. (Do not show nuts on either of these bolts).

Draw, also, three views in third angle projection of a nut suitable for one of the above bolts.

(50 marks)

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.
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1. Fig. 1 shows the plan of the intersection of two roofs. Both are pitched at 35° . Draw the given plan and project an elevation. Determine the true length of the hip rafter M. Find the dihedral angles between the surfaces A and B and between the surfaces B and C, respectively. Scale 1 : 100.

Note - 1st or 3rd angle projection may be used.

2. Fig. 2 shows the cross-section through a parabolic concrete shell roof with a cylindrical chimney penetrating it. Draw the given cross-section and develop the surface of the chimney which is showing above the roof. Scale 1 : 100.

3. Fig. 3 shows the elevation, plan and cross-section of entrance steps and supporting walls. Each step measures 270 mm by 175 mm. Draw the plan and elevation. Show, in plan and elevation, the shadows cast when the direction of the light is as indicated by the arrows. Scale 1 : 10.

4. The elevation and sectional plan of a gothic-headed window ope are shown in Fig. 4. Draw the given views and show a development of surfaces A, B and C. Scale 1 : 10.

5. Fig. 5 shows the plan of a timber moulding fixed to a wall. Piece A is horizontal and has a cross-section as shown. Piece B is inclined upwards at an angle of 30° . If A and B intersect on a vertical mitre plane, determine the cross-section of piece B. Scale 1 : 1.

6. In Fig. 6 are shown 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 22 metres from the spectator. The horizon line is 10 metres above the ground level. Scale 1 : 200.

7. Make an isometric drawing of the wooden sawing stool which is shown in plan and elevation in Fig. 7. Scale 1 : 10.

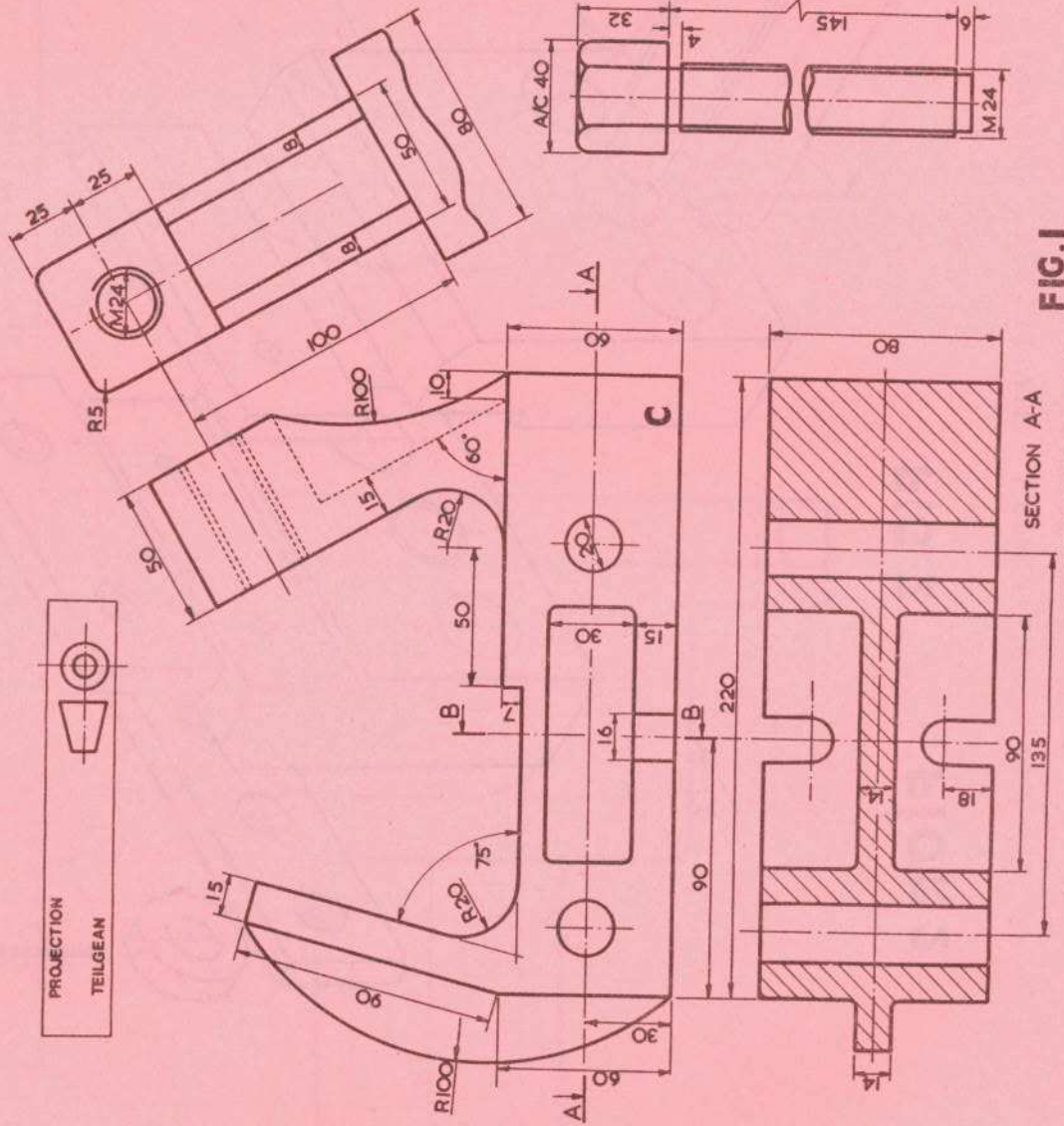
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LÍNÍOCHT TEICNIÚIL
TECHNICAL DRAWING

A. INNEALTÓIREACHT
A. ENGINEERING

M. 118(L1)

SCRÚDÚ ARDTEISTIMÉIREACHTA, 1974
LEAVING CERTIFICATE EXAMINATION, 1974



NA TOISÍ GO LÉIR IN MILLIMÉADAIR
ALL DIMENSIONS ARE IN MILLIMETRES

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

LÍNÍOCHT TEICNIÚIL

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

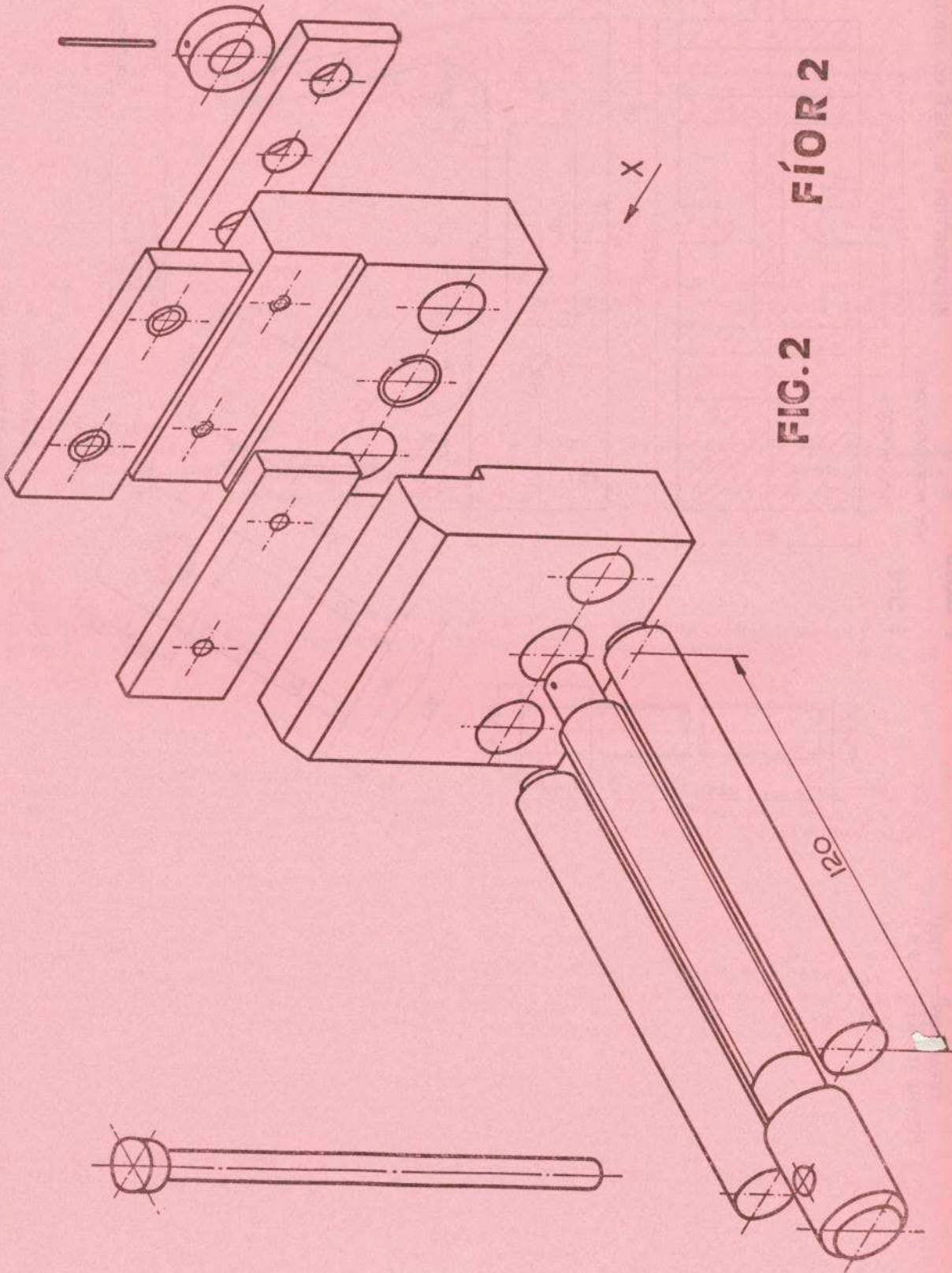


FIG. 2 FÍOR 2

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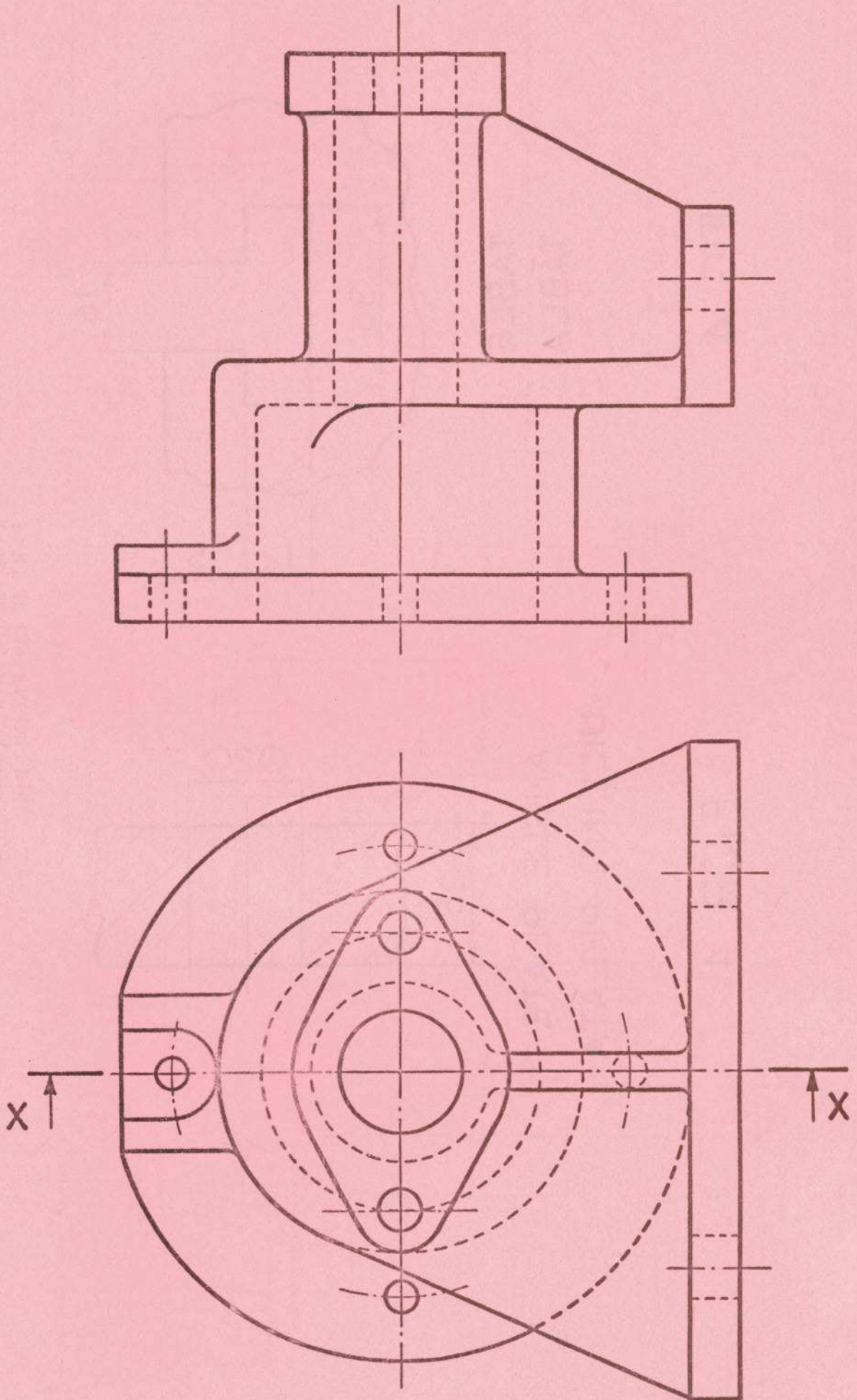


FIG. 3

NA TOISÍ GO LÉIR IN MILLIMÉADAIR
ALL DIMENSIONS ARE IN MILLIMETRES

FÍOR. 3

(FÍOR 4 - FÉACH THALL)
(FIG. 4 - SEE OVER)

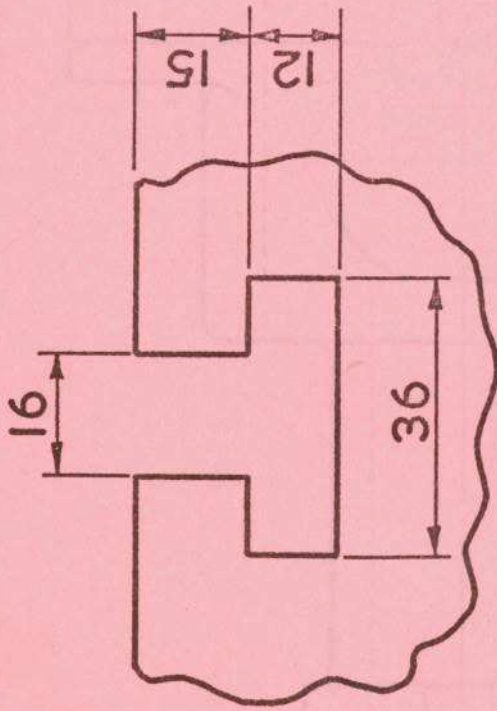
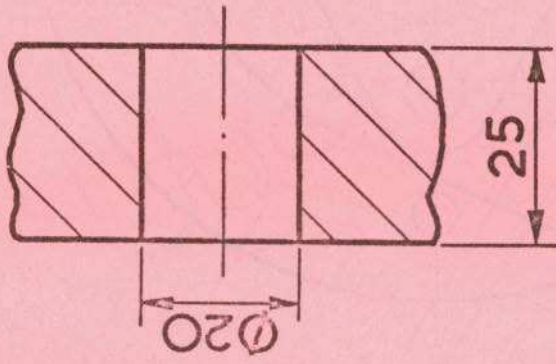


TABLE
TÁBLA



ANGLE PLATE
UILLINN-PHLÁTA

FIG. 4.

FÍOR 4.

