AN ROINN OIDEACHAIS M.118

LEAVING CERTIFICATE EXAMINATION, 1975

TECHNICAL DRAWING - COMMON LEVEL - PAPER II

TUESDAY, 17 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. The drawing Fig. 1 shows the components of a two-way switch mechanism. Assemble the parts to the body (view F) and draw, full size, the following views:-

(a) elevation F;
(b) sectional plan on the cutting plane A-A and viewed in the direction of the arrows.

The solution may be drawn in either first or third angle projection. Title the drawing TWO-WAY SWITCH MECHANISM and state the type of projection used. Show six dimensions in the solution, two of which should be diameters and two radii.

NOTE: Position the drawing sheet with the short edge to the top of the drawing board.

(100 marks)

2. An exploded view of a tool post and clapper box assembly for a shaping machine is shown in Fig. 2. Sketch, freehand on plain paper, two views of the completed assembly. The views should be in orthographic projection and selected to describe the shape and assembly of all the parts clearly. The sketch should be in good proportion and approximately full size to the dimension given.

Label the sketch using leaden lines and part names in blick capitals.

PARTS LIST

| PART NO. | NAME OF PART | MATERIAL | NO. OFF |
|---|---|---|---|
| 1 | Slide | Cast iron | 1 |
| 2 | Body | Cast iron | 1 |
| 3 | Nut | Brass | 1 |
| 4 | Clapper | Steel | 1 |
| 5 | Tool post | Steel | 1 |
| 6 | Pin | Steel | 1 |
| 7 | Stud | Steel | 1 |
| 8 | Stud | Steel | 1 |
| 9 | Nut | Steel | 1 |

(50 marks)

3. (a) Fig. 3 shows two views of a casting in third angle projection. Trace, in ink on the tracing paper provided, a sectional elevation on the cutting plane B-B, viewed in the direction of the arrows.

OR

(b) Make fully dimensioned working drawings of

(i) a catch plate with the following dimensions:-

150 mm diameter x 15 mm thick, central boss 50 mm diameter x 20 mm thick, central hole tapped 38 mm coarse metric thread, four (4) 10 mm diameter holes equally spaced on 100 mm PCD.;

(ii) a catch plate pin with the following dimensions;

70 mm long of which 30 mm is screw-threaded 10 mm coarse metric thread and 40 mm is 15 mm diameter.

(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.

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1. Fig. 1 shows the plan and elevation of a tapering square column standing on a square base. Make a perspective drawing of the column and base when the spectator (station point) is as shown and the picture plane is 11 metres from the spectator. The horizon line is 4 metres above ground level. Scale 1 : 100.

2. The line diagram in Fig. 2 represents the vertical section through an overhead garage door in a partly open position. AD represents the section of the door. As the door opens the top of the door A slides horizontally and C slides vertically to E. The arm BE is pivoted at B and E. Plot the locus of the bottom of the door D as the door is opened fully. Scale 1 : 20.

3. Fig. 3 shows a design in plaster. It consists of a moulded border which contains a raised circular panel.

(a) Draw the design according to the given dimensions.

(b) Determine the curved mitre line between surfaces A and B. Scale 1 : 10.

4. The sectional plan of an oblique door arch is shown in Fig. 4. The arch is semi-circular when viewed in the direction of the arrow. Determine the front view of the arch and also show a development of the soffit. Scale 1 : 10.

5. Fig. 5 shows the elevation and end view of a buttress to a wall. Draw the elevation, project the plan and show the shadows cast when the direction of the light is 45° in elevation and 45° in plan. Scale 1 : 20.

6. The plan of two intersecting roofs is shown in Fig. 6. If the roof ABCD has a pitch of 35° determine the pitch of the roof ADEF. Find the true length of the hip rafter AD and find the dihedral angle between the roof surfaces. Scale 1 : 100.

7. Fig. 7 shows a pointed parabolic roof rib. Also shown are two joint lines which are normal to the curve. Draw the rib and the joint lines according to the given dimensions. Scale 1 : 100.

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PART II

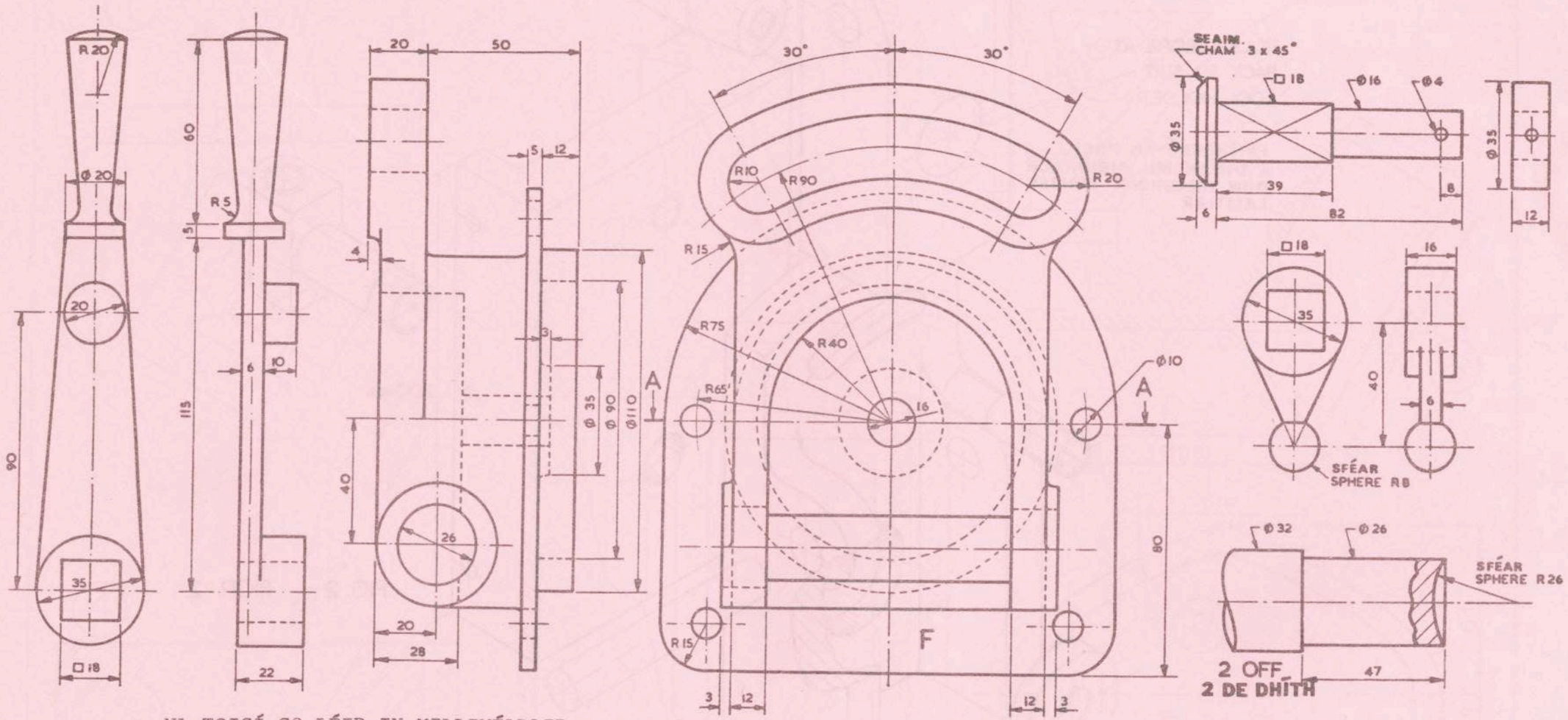
**AN ROINN OIDEACHAIS**

LÍNÍOCHT TEICNIÚIL
TECHNICAL DRAWING

A. INNEALTÓIREACHT
A. ENGINEERING

SCRÚDÚ ARDTEISTIMÉIREACHTA, 1975
LEAVING CERTIFICATE EXAMINATION, 1975

PROJECTION
TEILGEAN




NA TOISÍ GO LÉIR IN MILLIMÉADAIR
ALL DIMENSIONS ARE IN MILLIMETRES

FIG. 1 FÍOR 1

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

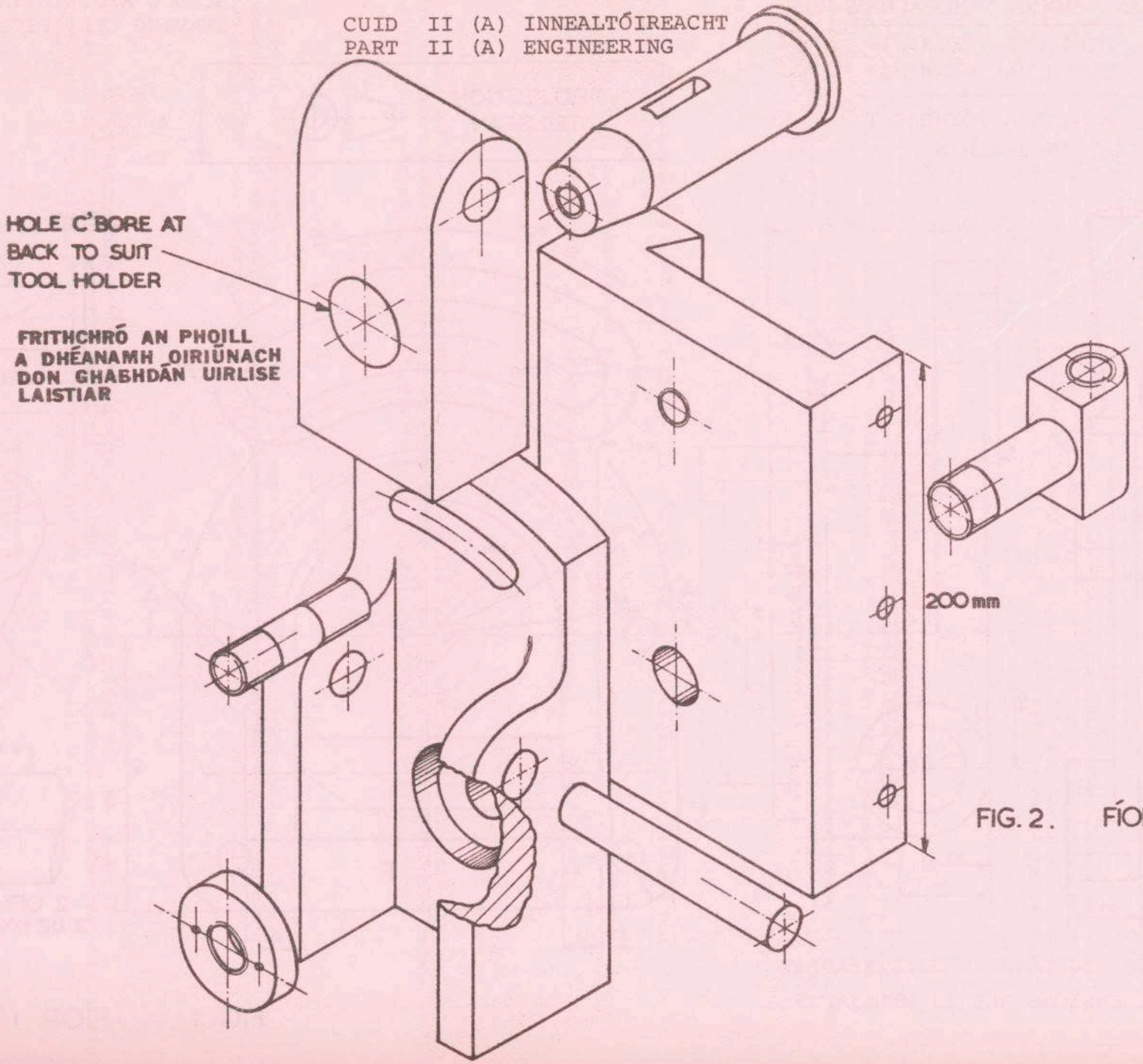

HOLE C'BORE AT
BACK TO SUIT
TOOL HOLDER
FRITHCHRÓ AN PHOILL
A DHÉANAMH OIRIÚNACH
DON GHABHDÁN UIRLISE
LAISTIAR
200 mm

FIG. 2. FÍOR 2.

M.118 (L2)

An Roinn Oideachais
Dept. of Education

# LÍNÍOCHT TEICNIÚIL

Cuid II(b) Foirgníocht
Part II(b) Building

Scrúdú Ardteistiméireachta 1975
Leaving Certificate Examination 1975