

AN ROINN OIDEACHAIS
INTERMEDIATE CERTIFICATE EXAMINATION, 1976

MECHANICAL DRAWING

Wednesday, 23 June—Morning, 9.30 to 12.30

400 marks

INSTRUCTIONS

- (a) Five questions to be answered; one of these *must* be question No. 1, Section A. Two must be selected from Section B and two must be selected from Section C.
- (b) All questions carry equal marks. A maximum of 12 marks will be awarded for draughtsmanship in respect of each question and a maximum of 20 marks will be awarded for neatness, arrangement and presentation of answer sheets.
- (c) The number of the question must be distinctly marked by the side of each question.
- (d) Work on one side of the paper only.
- (e) Examination number must be distinctly marked on each sheet of paper used.
- (f) All construction lines must be clearly shown.
- (g) All measurements are in millimetres.

SECTION A

(This question must be attempted)

1. A shaped solid is shown in fig. 1. Make a full-size orthographic projection of the solid showing—
 - (a) an elevation looking in the direction of arrow X,
 - (b) an end-view looking in the direction of arrow Y,
 - (c) a plan projected from (a).

SECTION B

(Two questions to be attempted from this section)

2. Fig. 2 shows the incomplete plan and incomplete elevation of a cube of side 55mm. The cube is cut as shown.
 - (a) Draw full size the complete plan and elevation of the cut cube in the given position.
 - (b) Project an end elevation looking in the direction of the arrow A.
 - (c) Draw the true shape of the cut surface of the cube.

3. The elevation, plan and end elevation of a shaped solid are shown in fig. 3.
 - (a) Draw full size the elevation and the plan.
 - (b) Project a new elevation of the solid looking in the direction of the arrow P.
 - (c) Take any four corners on the solid and index them on the three views.
4. Fig. 4 shows the elevation, plan and end view of a solid. Draw a full size isometric view of this solid.

OR

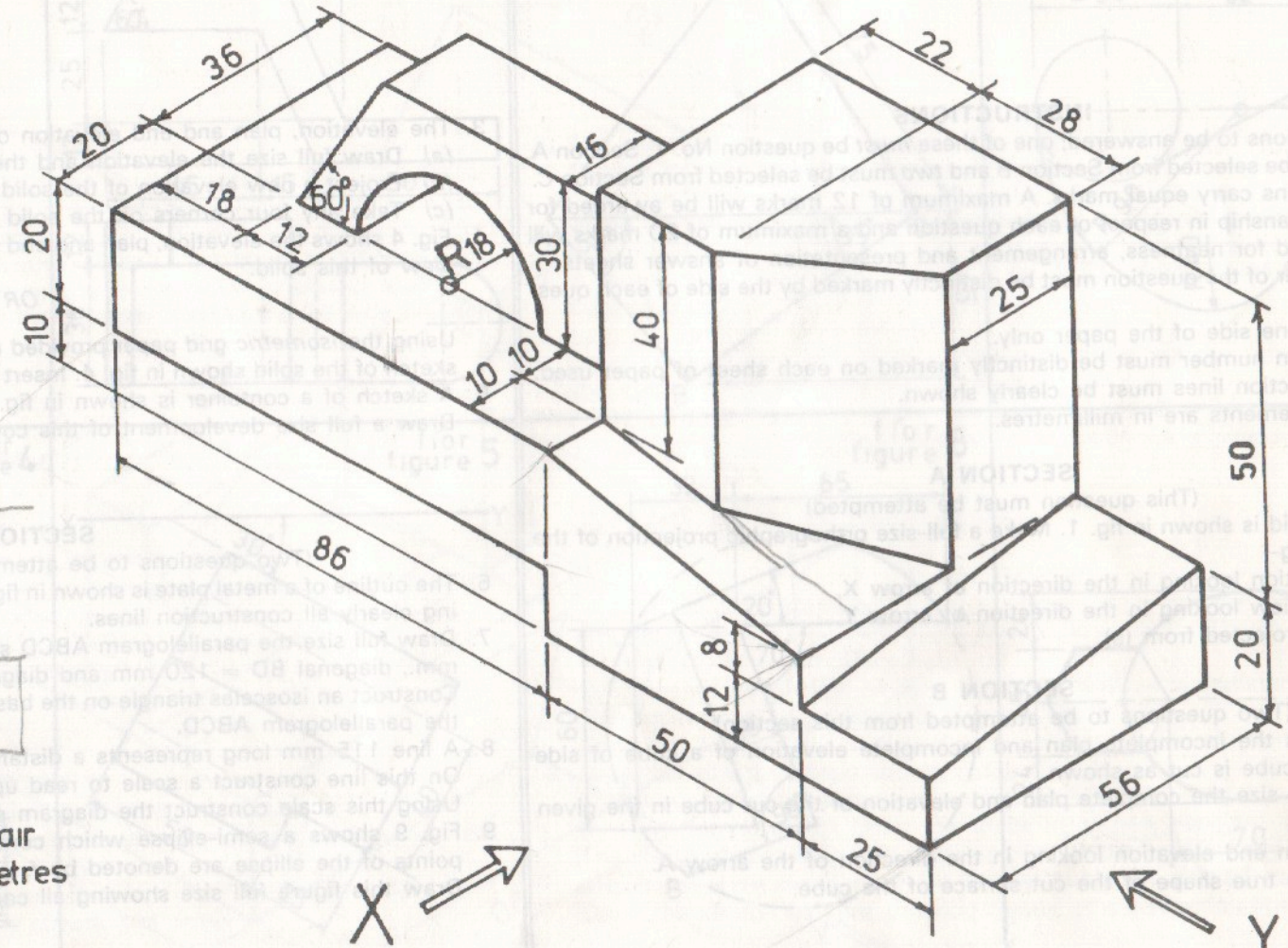
- Using the *isometric* grid paper provided make a neat well-proportioned freehand sketch of the solid shown in fig. 4. Insert all necessary dimensions on the sketch.
5. A sketch of a container is shown in fig. 5. Draw a full size development of this container.

SECTION C

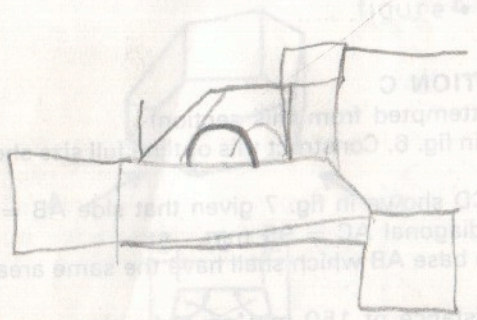
(Two questions to be attempted from this section)

6. The outline of a metal plate is shown in fig. 6. Construct this outline full size showing clearly all construction lines.
7. Draw full size the parallelogram ABCD shown in fig. 7 given that side $AB = 90$ mm., diagonal $BD = 120$ mm and diagonal $AC = 95$ mm. Construct an isosceles triangle on the base AB which shall have the same area as the parallelogram ABCD.
8. A line 115 mm long represents a distance of 150 mm on a drawing. On this line construct a scale to read up to 150 mm. Using this scale construct the diagram shown in fig. 8.
9. Fig. 9 shows a semi-ellipse which contains a right-angled triangle. The focal points of the ellipse are denoted by f_1 and f_{11} . Draw this figure full size showing all construction lines.

ROINN A — SECTION A



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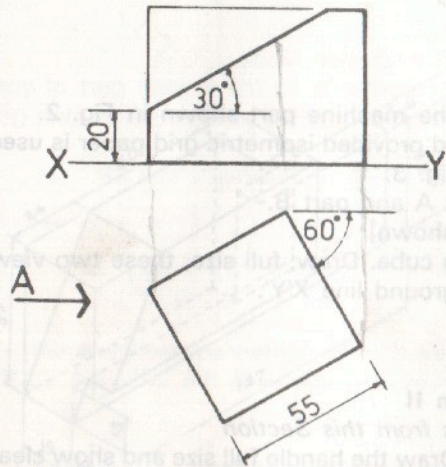
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All measurements in millimetres

X →

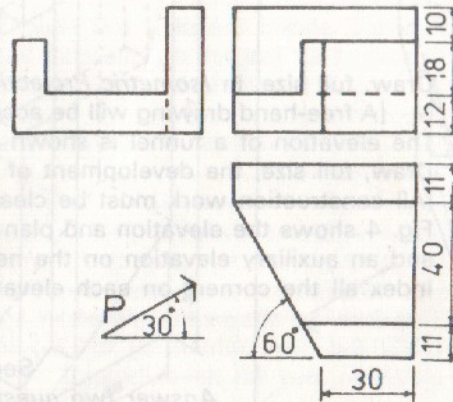
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ROINN B — SECTION B

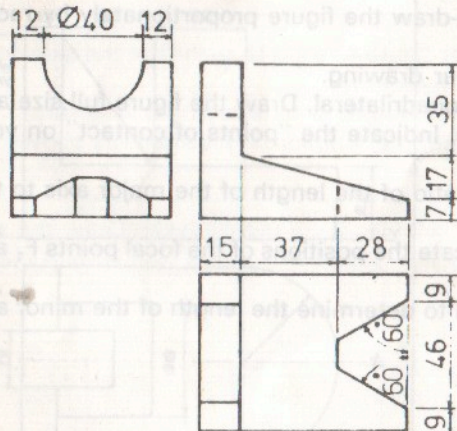
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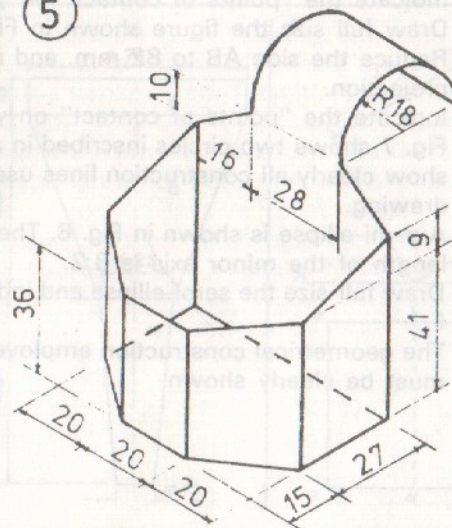
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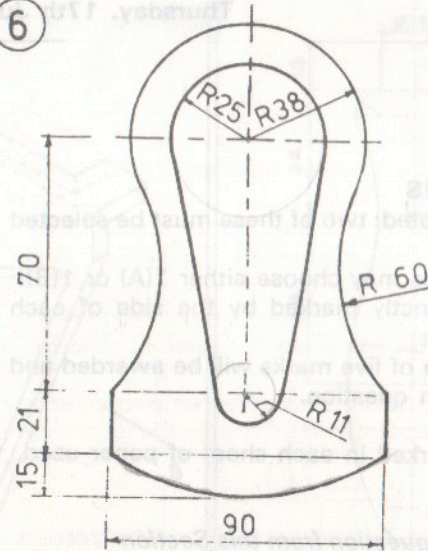


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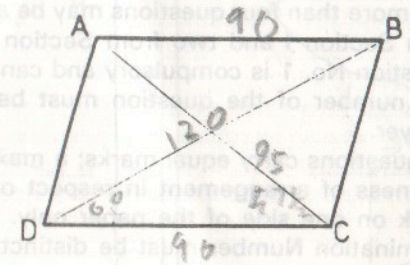


ROINN C — SECTION C

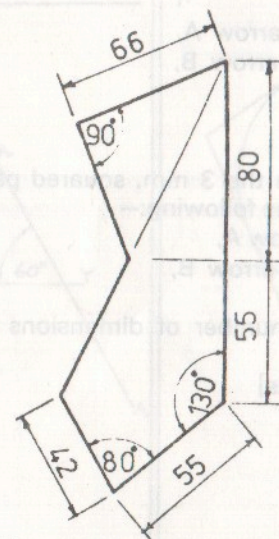
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