

AN ROINN OIDEACHAIS.

AN BRAINSE GAIRM-OIDEACHAIS.

CERTIFICATE EXAMINATIONS

for

DAY VOCATIONAL COURSES, 1955.

MECHANICAL DRAWING.

Tuesday, June 21st—10 a.m. to 12.30 p.m.

INSTRUCTIONS.

1. *Either 1A or 1B of the first question in Section A is compulsory.*

If 1B is selected, the sketching must be done on the squared paper provided.

2. *Not more than four questions may be attempted, two of these must be selected from Section A and two selected from Section B. All attempted questions, except 1B, may be drawn on one sheet of paper.*

3. A maximum of *ten* marks will be awarded for accuracy and neatness of arrangement.

4. The number of the question must be distinctly marked by the side of each answer.

5. *Work on one side of the paper only.*

6. Examination Number must be distinctly marked on

SECTION A.

- 1A. The drawing represents a "Bridle Joint." Make a fully dimensioned working drawing, giving a front elevation, end elevation and plan of the joint.
[25 marks.]

Or,

- 1B. The figure represents a "Metalwork Exercise." Make a *freehand*, fully dimensioned workshop sketch in GOOD PROPORTION, giving a front elevation, end elevation and plan of the object. All dimensions necessary for the making of the exercise should be shown. Compasses must not be used.

[25 marks.]

2. The drawing represents the plan and elevation of a hollow square prism cut by a plane at 30° with the horizontal. Draw the two given views and also (a) an elevation looking in the direction of the arrow, and (b) the true shape of the section. Indicate points A, B, C, D in ALL VIEWS.

[25 marks.]

3. Make an oblique projection of the solid shown in Fig. 3.

4. Draw the development of the sheet metal container shown in Fig. 4. The shape is to be cut out of ONE PIECE, and no allowance is to be made for thickness of metal or amount of lap at joints. The two end portions (A—A), and the bottom (B) are bent at RIGHT ANGLES with the back (C). The front (D) is developed with the bottom, and it folds on edge X—X.

[25 marks.]

SECTION B.

5. The outline of an anvil is shown in Fig 5. Construct the figure to the dimensions given. Show all necessary construction lines (Intersecting circles).

[20 marks.]

6. Draw (full size) the outline of the figure shown in Fig. 6. Adopting "Polar Projection," enlarge the figure proportionately, leaving the side marked X 3 inches long (Tangents).

[20 marks.]

7. The outline of an elliptical arch is shown in Fig. 7. Draw the figure to a scale of one inch to one foot, and show clearly the method adopted for obtaining the outline of the elliptical curve. (Ellipse from given axis.)

[20 marks.]

8. Draw a regular pentagon with a side of $1\frac{1}{2}$ inches (5 sides). Write down the magnitude of the external angle.

[20 marks.]

