CERTIFICATE EXAMINATIONS FOR DAY VOCATIONAL COURSES, 1964.

MECHANICAL DRAWING.

THURSDAY, 18th June – 10 a.m. to 12.30 p.m.

INSTRUCTIONS

(a) Not more than <u>four</u> questions may be attempted; <u>two</u> of these must be selected from Section I and <u>two</u> selected from Section II.
(b) The number of the question must be distinctly marked by the side of each answer.
(c) Work on one side of the paper only.
(d) All questions carry equal marks; a maximum of 5 marks will be awarded for accuracy and neatness of arrangement in respect of each question.
(e) Examination number must be distinctly marked on each sheet of paper used.

SECTION I.

(Answer <u>either</u> 1 (A) <u>or</u> 1 (B), and any <u>one</u> other question from this Section.)

1(A). The drawing at Fig. 1A represents a woodwork joint. Make a full size drawing of the assembled joint showing:-

    (a) an elevation looking in the direction of arrow X,
    (b) an end elevation looking in the direction of arrow Y,
    (c) a plan view projected from (a).

    All dimensions required for making the joint should be shown on the completed drawing.

1(B). The drawing at Fig. 1B represents a metalwork project.
    Draw free-hand on the $\frac{1}{8}$" squared paper supplied, the following views of the project in good proportion and correct projection:-

    (a) an elevation,
    (b) an end elevation,
    (c) a plan.

    Show by means of properly drawn dimension lines the number of dimensions you would require in order to make the project.
    (It is not necessary to give actual dimensions.)

2. The single line outline of a container having a semicircular head is shown at Fig. 2. Draw to the dimensions given the development of this container.

3. The elevation and plan of model entrance steps are shown at Fig. 3. Draw to the dimensions given an ISOMETRIC <u>or</u> an OBLIQUE projection of the steps.

4. The elevation of a regular hexagonal based prism is shown at Fig. 4. The prism is cut by an inclined plane at an angle of 30° as indicated. Draw full size:-

    (a) the plan and elevation of the sectioned prism,
    (b) a new elevation of the same prism when the edge d', j' is inclined at 30° to the horizontal plane,
    (c) a new plan of the sectioned prism projected from (b).

Index correctly the corners of each view.

SECTION II.

(Answer any <u>two</u> questions from this Section.)

5. Construct a scale of $1\frac{1}{2}$ inches representing one foot, to read up to five feet. Using this scale draw the pier and wall elevation shown at Fig. 5.

6. The perimeter of an isosceles triangle measures nine inches. The sides of the triangle are in the ratio of 5 : 4 : 5.

    (a) Construct this triangle.
   (b) Draw geometrically the smallest circular disc from which this isosceles triangle may be cut.

Measure and write down the diameter of this disc.

7. The balance arm of a weighing scale is shown at Fig. 6.
Draw this arm to the dimensions given.
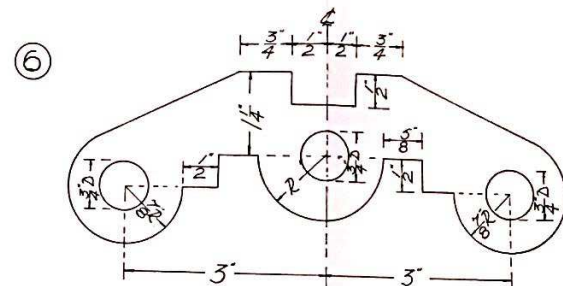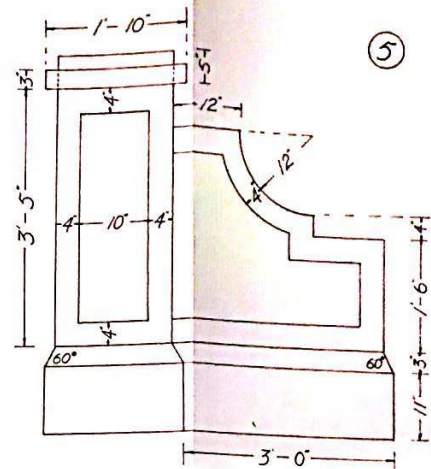All construction lines must be clearly shown.

8. A design based on three equal circles inscribed in an equilateral triangle, is shown at Fig. 7.
Draw the design to the dimensions given.
All construction lines must be clearly shown.

SECTION I

SECTION II

(1A)

(1B)

(5)

(2)

(3)

(6)
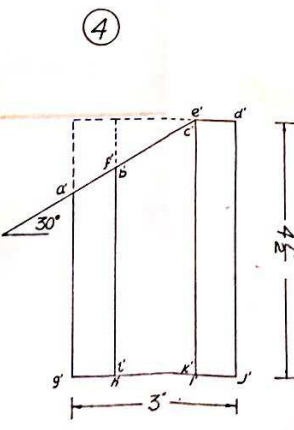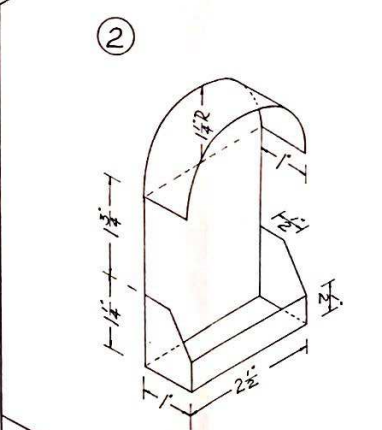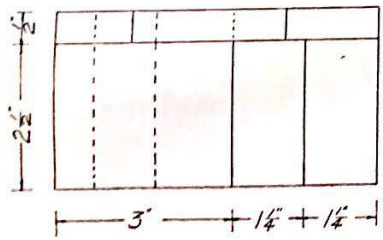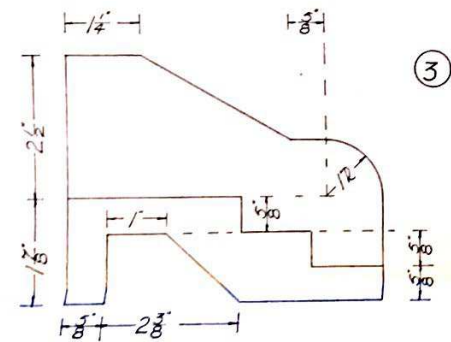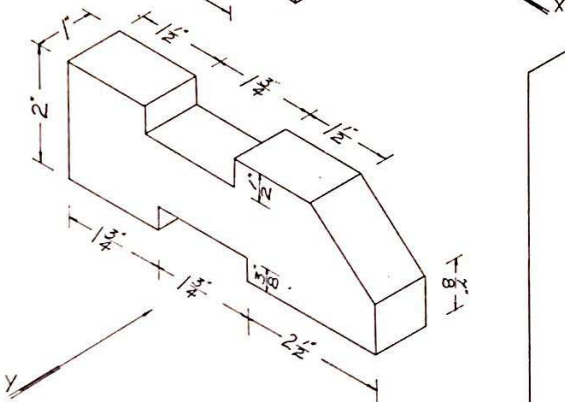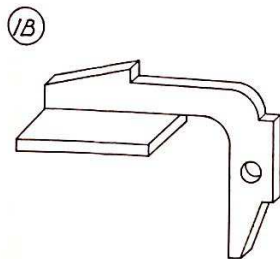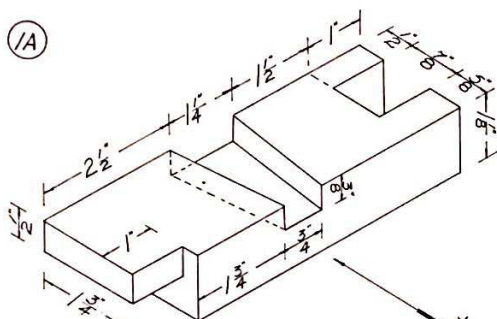
NOTE — GEOMETRICAL CONSTRUCTION OF BOTH TANGENTS MUST BE CLEARLY INDICATED IN ANSWER.

(4)

(7)