

MECHANICAL DRAWING

WEDNESDAY, 25th JUNE, - 2 - 4.30 p.m.

INSTRUCTIONS

- (a) Not more than four questions may be attempted; TWO of these must be selected from Section I and TWO from Section II.
- (b) Question No. 1 is compulsory and candidates have a choice of doing either 1(A) or 1(B) or 1(C).
- (c) The number of the question MUST be distinctly marked by the side of each answer.
- (d) All questions carry equal marks; a maximum of five marks will be awarded for accuracy and neatness of arrangement in respect of each question.
- (e) Work on one side of the paper only.
- (f) Examination number must be distinctly marked on each sheet of paper used.

SECTION I

Candidates may select either 1(A), or 1(B), or 1(C) and one other question from this section.

- 1(A). The drawing Fig. 1A represents a Woodwork Joint. Make a full-size dimensioned drawing of the assembled joint showing:-
- (a) An elevation looking in direction of arrow A.
 - (b) An end elevation looking in direction of arrow B.
 - (c) A plan view projected from (a).

All dimensions required to make this joint should be shown on the finished drawing. Print the title of each view neatly.

OR

- 1(B). The drawing in Fig. 1B represents a Metalwork Project. On the $\frac{1}{8}$ in. squared paper supplied, draw free-hand, in good proportion and correct projection the following:-
- (a) An elevation.
 - (b) An end elevation.
 - (c) A plan projected from (a).

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

OR

- 1(C). The drawing in Fig. C represents a solid shaped to the given dimensions. Make a full-size drawing of this solid showing:-
- (a) An elevation looking in the direction of arrow A.
 - (b) An end elevation looking in the direction of arrow B.
 - (c) A plan view projected from (a).

All dimensions required for the shaping of the solid should be shown on the completed drawing. Print title of each view neatly.

2. The elevation of an Hexagonal Prism, lying on one of its rectangular faces, is given in Fig. 2. It is cut by an inclined plane at an angle of 30° to the H.P.

Draw full-size the following:-

- (a) The given front elevation.
- (b) Looking along arrow X complete the sectional end elevation.
- (c) Project a plan from (a).
- (d) A True shape of the sectional surface.

Index all points in each view.

3. Develop the surface of the scoop shown in Fig. 3.

4. Draw the plan and elevation of the solid shown in Fig. 4. From the plan project a new elevation on the Auxiliary Line X'Y'.

Index correctly the points in each view.

SECTION II

(Two questions may be selected from this Section)

5. Draw full-size the outline of the vase shown in Fig. 5. All necessary construction lines must be shown lightly. (No marks will be given for guesswork.)

6. Construct the regular Pentagon given in Fig. 6 and then inscribe in this the largest possible square. Measure to the nearest $\frac{1}{16}$ in. the length of the side of the square and indicate this on your drawing. Geometrical construction must be shown lightly. (No marks for guesswork.)

7. Fig. 7 represents a lever. Draw the lever full-size in the position shown. The lever is now rotated until the hole A coincides with hole A'. Draw the lever in its new position.

8. Fig. 8 shows an elevation of an offset right angled Vee Block supporting two cylindrical rollers. The top of each roller must be level with the top surface of the block (shown by broken line) as indicated. Make a full-size drawing of the block and determine by geometrical construction the diameters of the two rollers. Measure and write down the diameters in each roller.