Junior Certificate Examination 2007

Technical Graphics
Higher Level
Section B
(280 Marks)

Monday 18 June
Morning 9:30 - 12:30

Instructions

(a) Answer any four questions. All questions carry equal marks.

(b) The number of the question must be distinctly marked by the side of each answer.

(c) Work on one side of the answer paper only.

(d) Write your examination number on each sheet of paper used.
SECTION B. Answer any four questions. All questions carry equal marks.

1. A pictorial view of a house is shown.

(a) Draw an elevation looking in the direction of arrow A.

(b) Project a plan from the elevation.

(c) Project an end view in the direction of arrow B.

(d) Determine the true shape of surface S of the chimney.

2. The figure shows the plan and elevation of a mobile phone.

   The shape abcd is a semi-hexagon.

(a) Draw the given plan and elevation.

(b) Project an end elevation looking in the direction of arrow A to show the cover in the open position, as indicated by the broken line in elevation.
3. 
Shown are the axonometric axes for the isometric projection of a toaster.

(a) 
(i) Draw the axonometric axes as shown.

(ii) Draw the plan orientated at 45° as shown.

(iii) Draw the elevation orientated at 15° as shown.

(iv) Draw the completed axonometric projection of the toaster.

OR

(b) Draw the completed isometric projection of the toaster using the isometric scale method.

4. 
The figure shows the elevation and plan of a blender for fruit drinks with the lid removed. A pictorial view is also shown.

(a) Draw the given plan and elevation.

(b) Draw the development of the surface A.

(c) Draw the development of the surface B.
5. The figure shows the head of a bird for a cartoon.

The figure is subject to transformations in the following order:
- Translation;
- Axial Symmetry;
- Central Symmetry;
- Rotation clockwise through $120^\circ$.

$P_1$, $P_2$, $P_3$ and $P_4$ show the position of point $P$ under each of these transformations.

(a) Draw the given figure.
(b) Determine the image of the figure under each of the above transformations.

6. The figure shows the design of a toy aeroplane.

The curve $ABC$ is a parabola with the vertex at $B$.
The curve $AED$ is elliptical with focal points at $F$ and $F_1$.
The line $CD$ is a tangent to the ellipse.
The five rectangular windows are the same size and are equally spaced.

Draw the given design.
Show all constructions clearly.