

B JUNIOR CERTIFICATE EXAMINATION, 2001
TECHNICAL GRAPHICS — HIGHER LEVEL
THURSDAY 14 JUNE — MORNING, 9.30 - 12.30

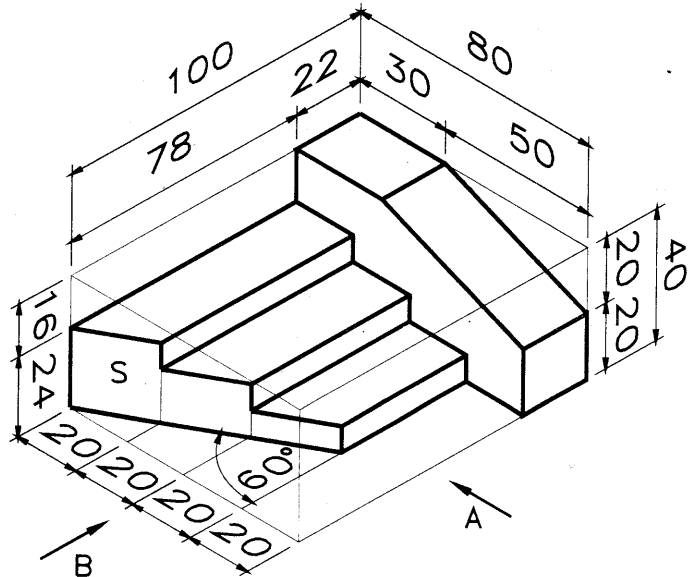
SECTION B — 280 MARKS

INSTRUCTIONS FOR SECTION B

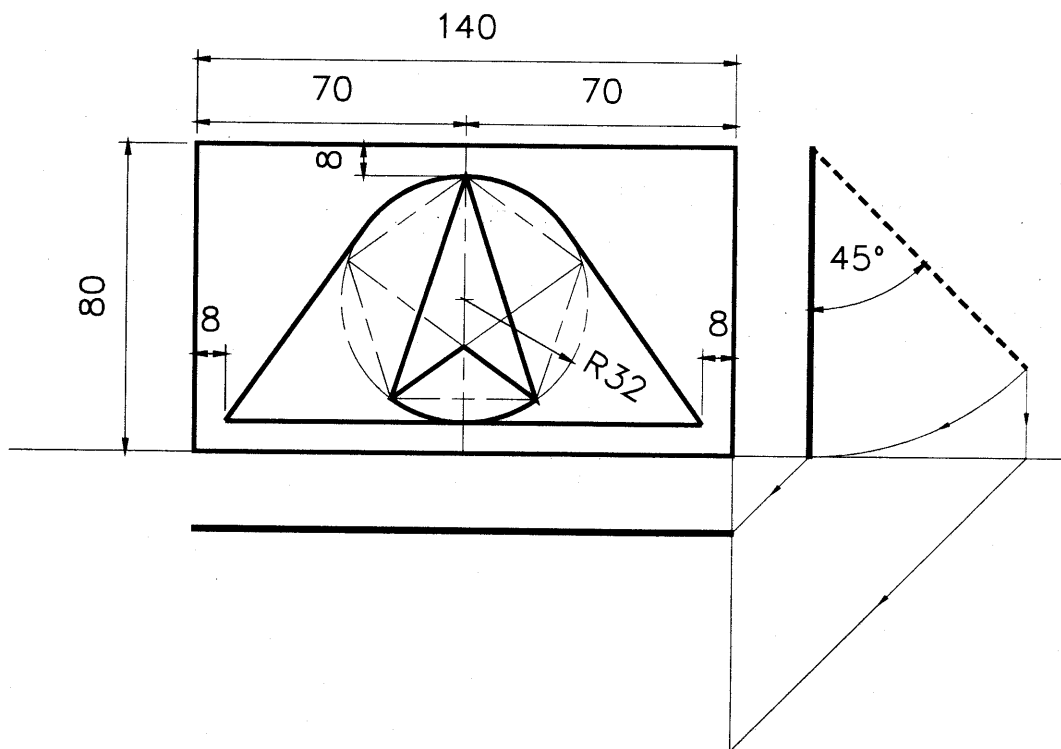
- (a) Any four questions to be answered.
- (b) All questions in this Section carry equal marks.
- (c) The number of the question must be distinctly marked by the side of each answer.
- (d) Work on one side of the paper only.
- (e) Examination number must be distinctly marked on each sheet of paper used.

1. The figure shows a flight of steps.
Each step is of equal height.

- (a) Draw an elevation looking in the direction of the arrow A.
 (b) Draw an end view looking in the direction of the arrow B.
 (c) Draw a plan projected from (a) above.
 (d) Draw an auxiliary elevation of the figure to show the true shape of the surface S.



2. The figure shows the elevation, plan and end view of the tailboard of a tipper truck.
The tailboard features a design based on a regular pentagon and tangents to a circle.
 (a) Draw the given views.
 (b) Draw the plan of the tailboard when it has rotated to a position at 45° to the vertical plane as indicated by the dotted line in the end view.

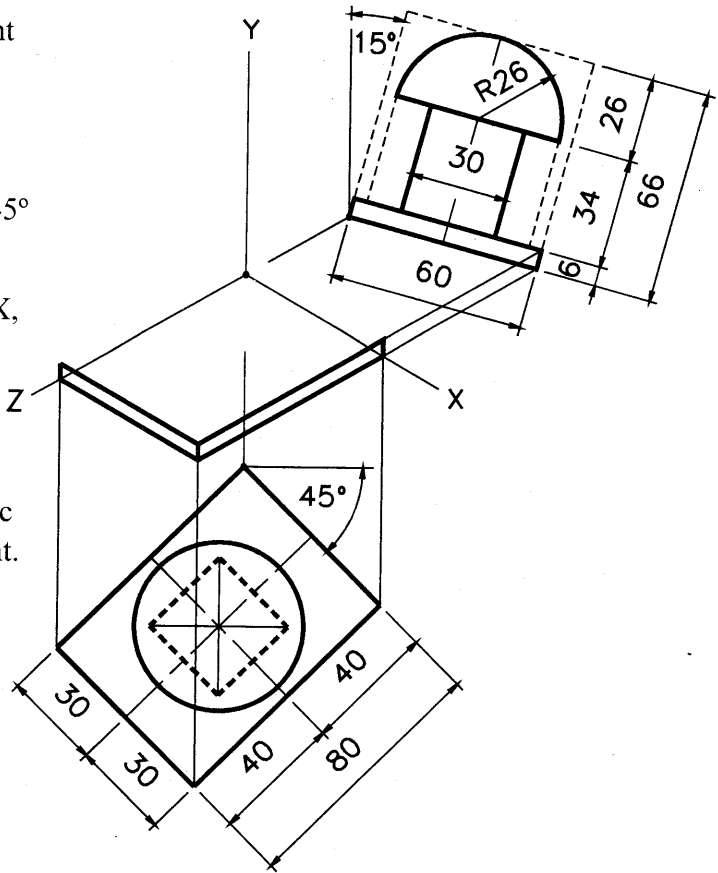


3. The figure shows the incomplete isometric projection of a paper weight using the axonometric axes method. The side elevation and plan are also shown in their required positions.

- (a) (i) Draw the plan orientated at 45° as shown.
- (ii) Draw the axonometric axes X, Y and Z.
- (iii) Draw the side-elevation orientated at 15° as shown.
- (iv) Draw the completed isometric projection of the paper weight.

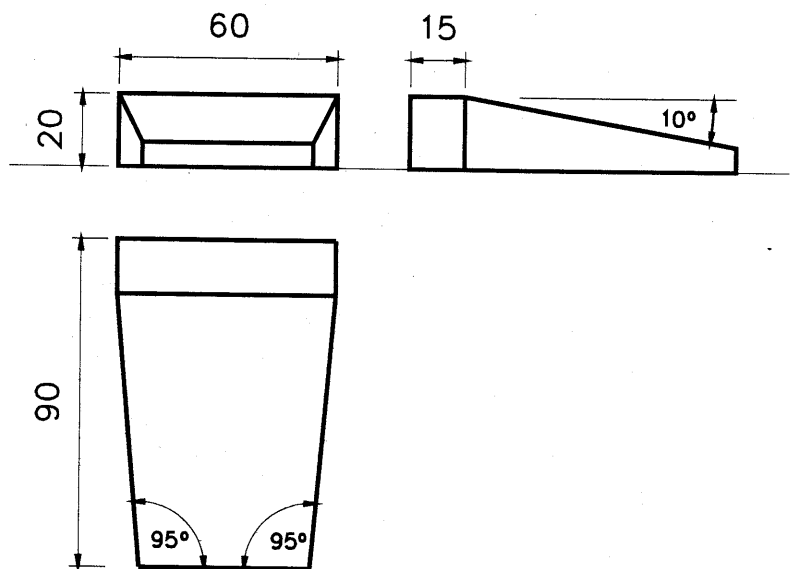
OR

- (b) Draw the completed isometric projection of the paper weight using the isometric scale method.



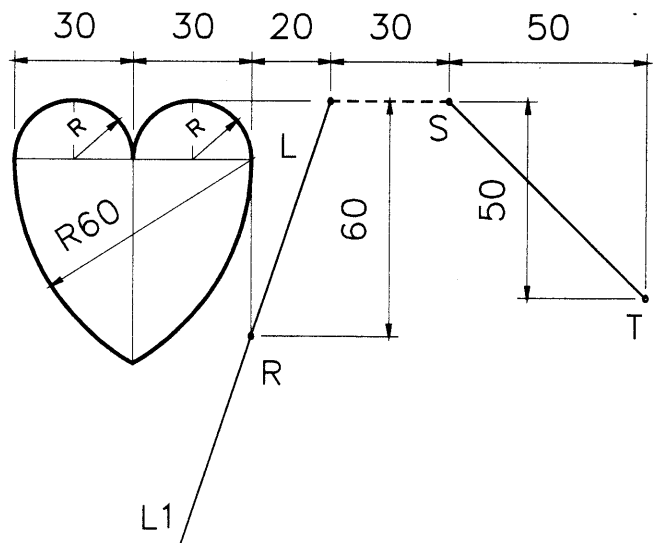
4. The elevation, plan and end view of a laptop writing unit are shown.

- (a) Draw the given views.
- (b) Draw the complete surface development of the unit.



5. The figure shown is subjected to transformations in the following order:-

- (i) Axial symmetry in the line L - L1.
- (ii) Central symmetry in point S.
- (iii) Translation equal to \vec{ST} .
- (iv) Rotation clockwise about point R through an angle of 35° .



Draw the given figure and determine the image figures in each of the transformations.

6. The figure represents a two-button computer mouse and cable.

The curve ABCD is an ellipse with major axis 120mm long.

The curves QA and QR are based on the same semi-parabola with the vertex at Q for each parabola.

Draw the figure to the dimensions given showing all constructions clearly.

