

**B**

**JUNIOR CERTIFICATE EXAMINATION, 1996**

**TECHNICAL GRAPHICS — HIGHER LEVEL**

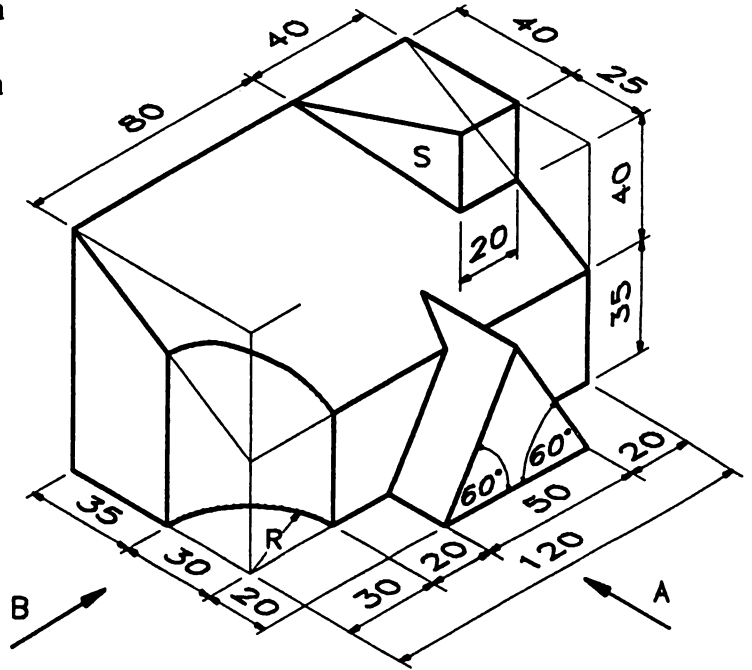
**THURSDAY, 13 JUNE — AFTERNOON, 2.00 - 5.00**

**SECTION B — 280 MARKS**

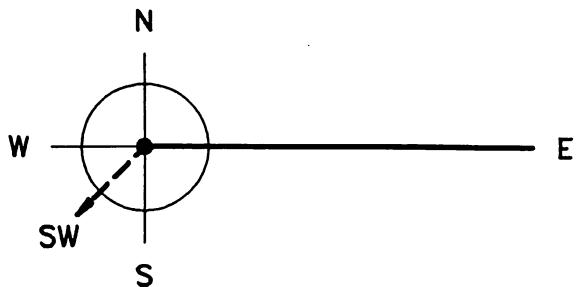
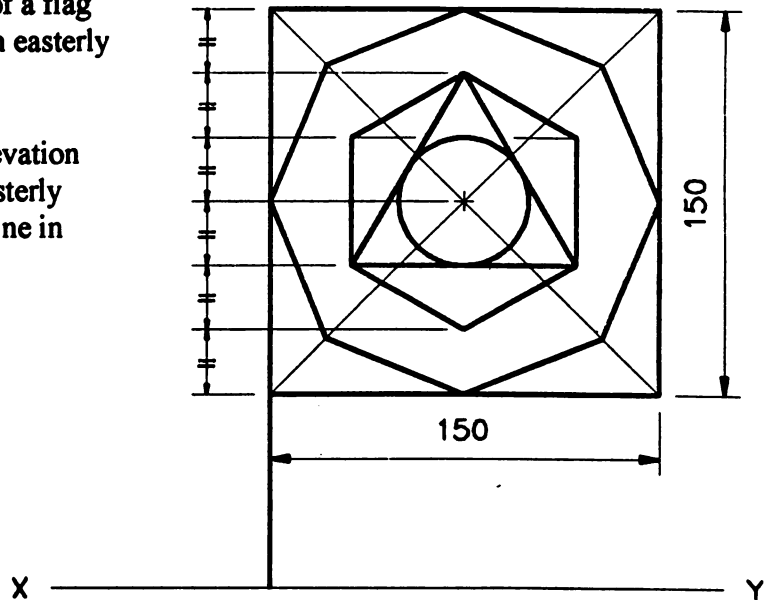
**INSTRUCTIONS FOR SECTION B**

- (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 question.**
- (d) **Work on one side of the paper only.**
- (e) **Examination number must be distinctly marked on each sheet of paper used.**

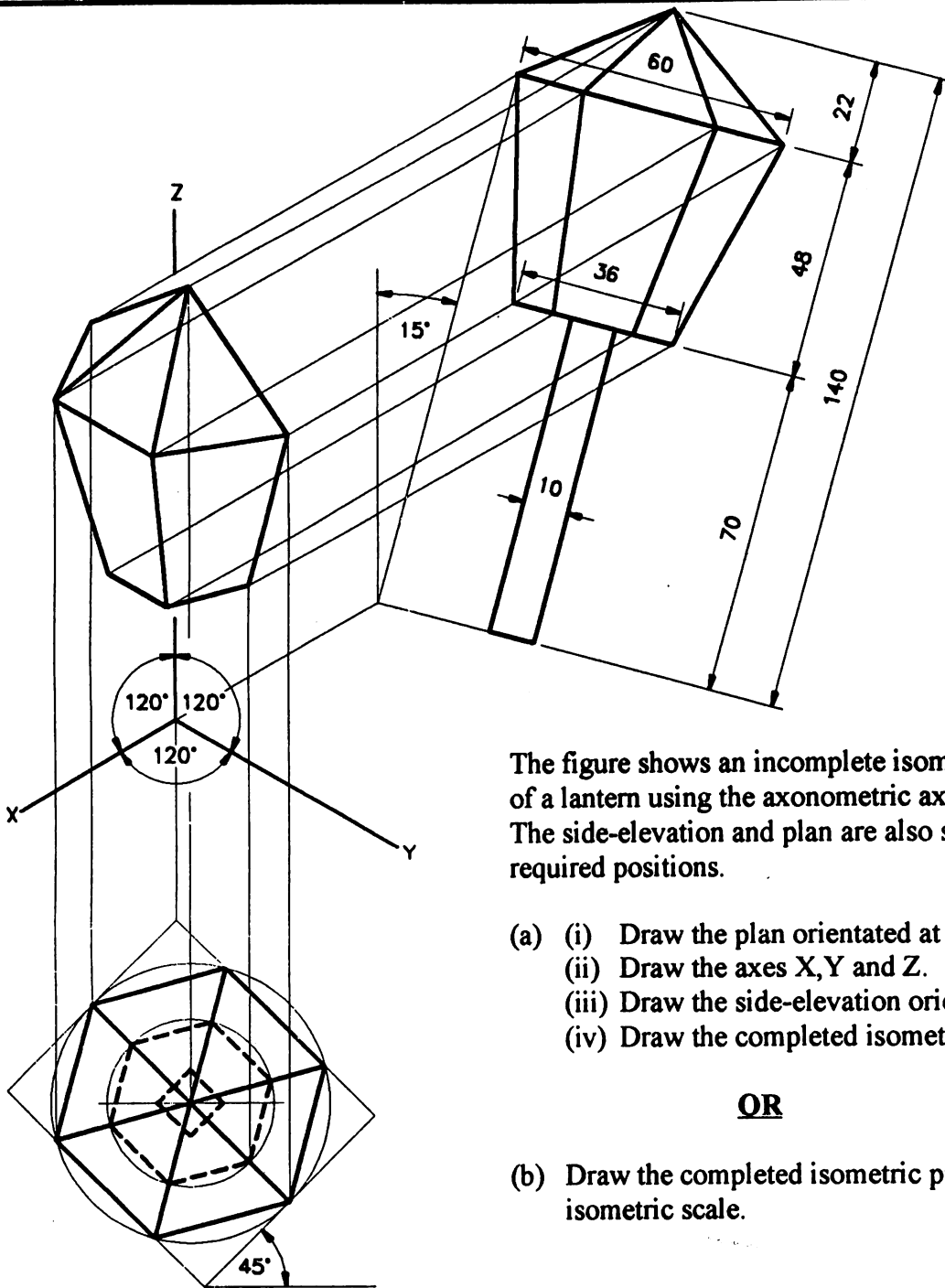
1. A pictorial view of a structure is shown.
- Draw an elevation looking in the direction of the arrow A.
  - Draw an end view looking in the direction of the arrow B.
  - Draw a plan projected from (a) above.
  - Draw an auxiliary elevation of the surface S which will show its true shape.



2. The figure shows the elevation and plan of a flag containing a logo. The flag is flying in an easterly direction as shown.
- Draw the given elevation.
  - On the same X—Y line, draw the elevation when the flag is flying in a south westerly direction as indicated by the dotted line in the plan.



3.



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

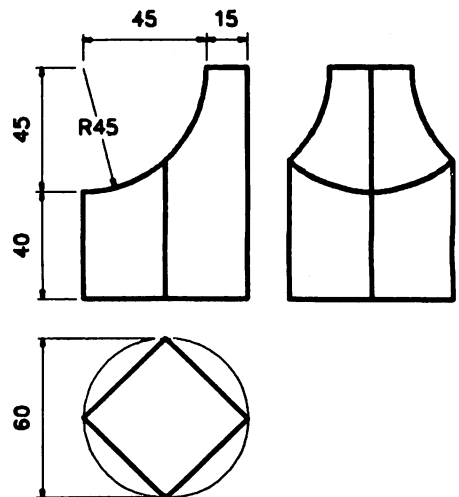
- (a) (i) Draw the plan orientated at  $45^\circ$  as shown.
- (ii) Draw the axes X, Y and Z.
- (iii) Draw the side-elevation orientated at  $15^\circ$  as shown.
- (iv) Draw the completed isometric projection.

**OR**

- (b) Draw the completed isometric projection using isometric scale.

4. The elevation, plan and end view of a piece of ventilating duct, which is open at each end, is shown.

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

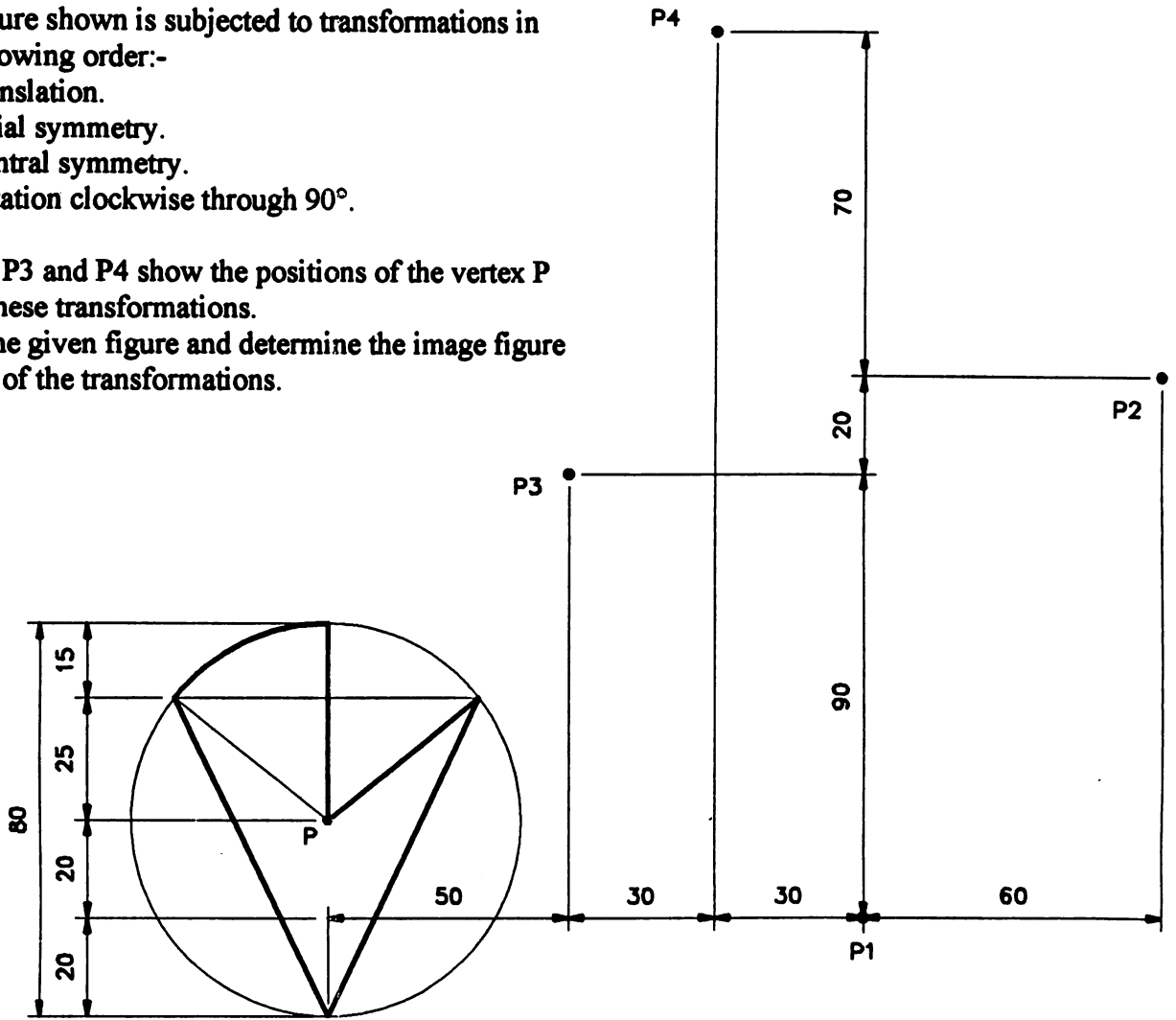


5. The figure shown is subjected to transformations in the following order:-

- (i) translation.
- (ii) axial symmetry.
- (iii) central symmetry.
- (iv) rotation clockwise through  $90^\circ$ .

P1, P2, P3 and P4 show the positions of the vertex P under these transformations.

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



6. The figure represents the outline of a radar reflector unit. The curves ABC and BDE are based on the same ellipse with major and minor axes 100 and 70 respectively. The parabolic curve PQR is tangential to the curve BDE at point Q. Draw the outline of the building showing all constructions clearly.

