

**B**

**JUNIOR CERTIFICATE EXAMINATION, 1998**

**TECHNICAL GRAPHICS — HIGHER LEVEL**

**THURSDAY, 18 JUNE — AFTERNOON, 2.00 - 5.00**

13073

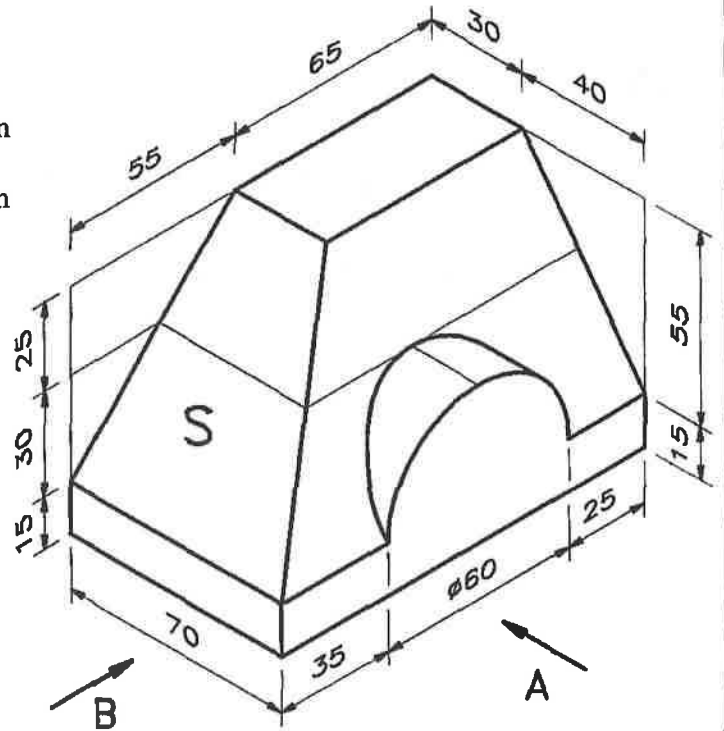
**SECTION B — 280 MARKS**

**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.

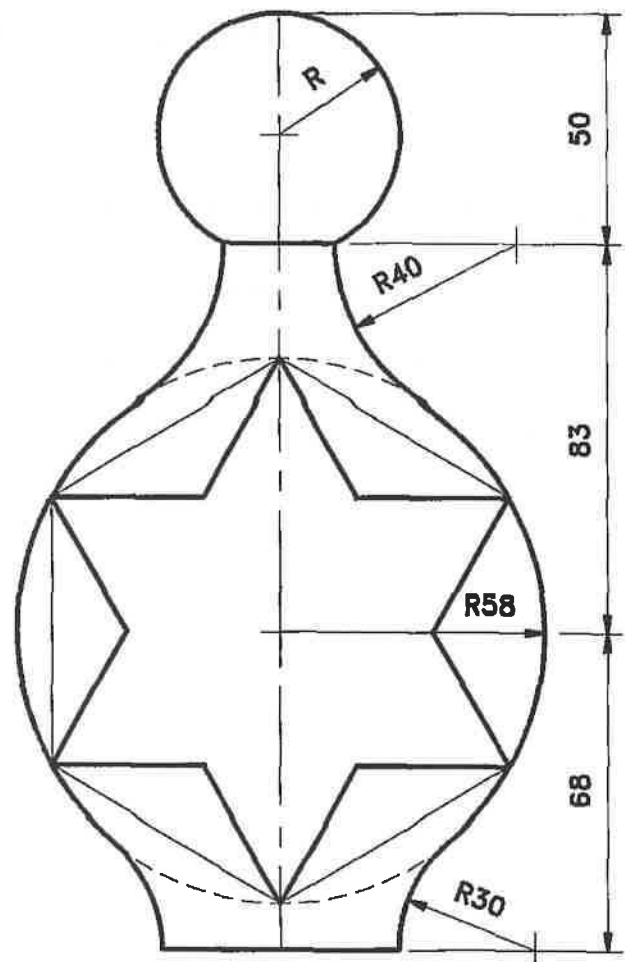
1. A pictorial view of a structure with a semi-circular entrance is shown.

- 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 plan of the structure to include the true shape of the surface S.



2. The figure shows the outline of a bottle including a label based on a six pointed star.

- Draw the figure to the given dimensions showing all constructions clearly.
- On a separate diagram draw a similar figure having an overall height of 140.

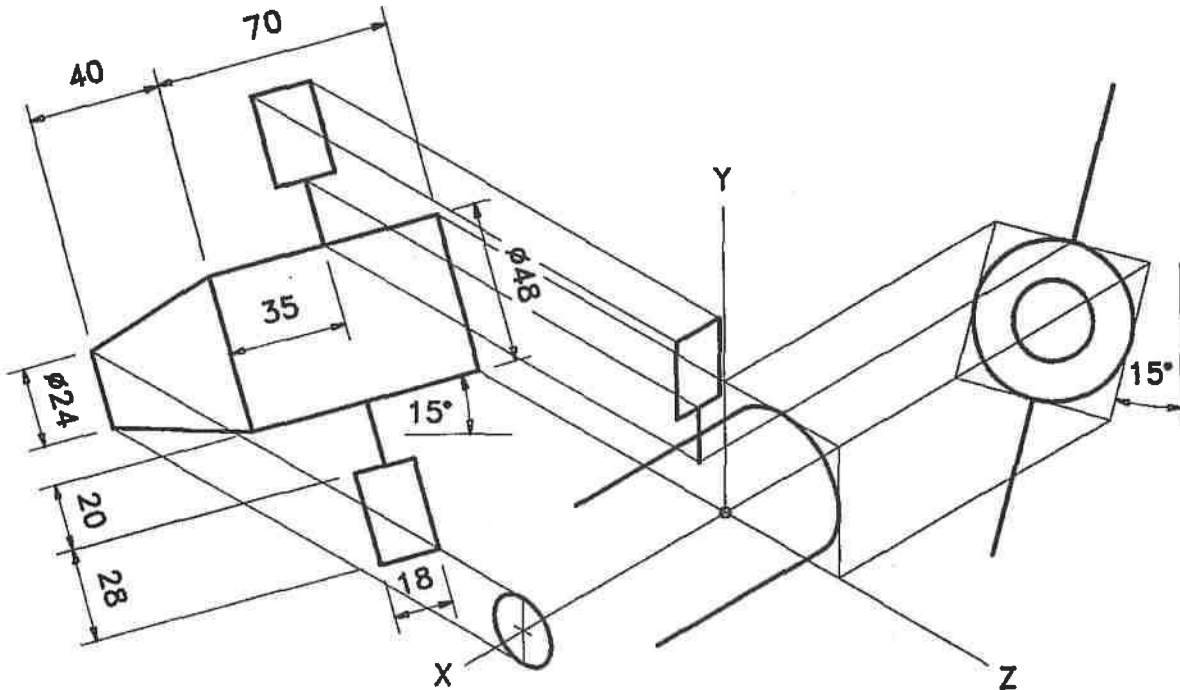


3. The figure shows an incomplete isometric projection of a satellite using the axonometric axes method. Both side elevations are also shown in their required positions.

- (a) (i) Draw the axes X, Y, and Z.
- (ii) Draw the side elevations orientated at 15° as shown.
- (iii) Draw the completed isometric projection.

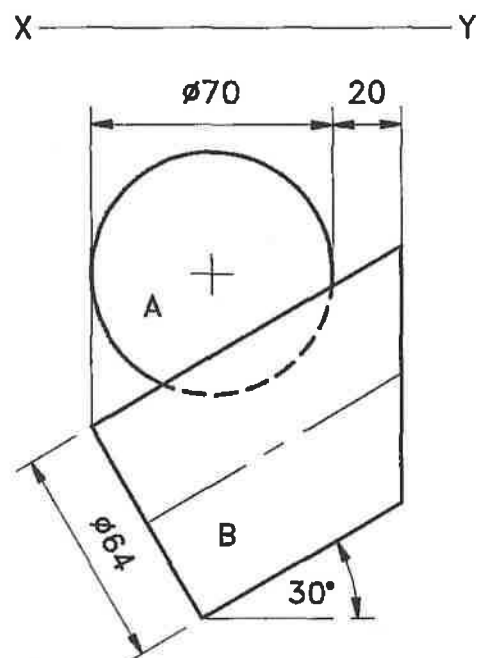
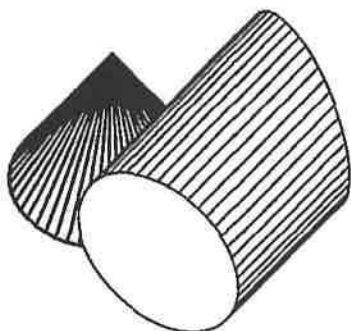
**OR**

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



4. The figure shows the plan of a sculpture based on a cone A, base diameter 70 and altitude 55, and a cylinder B, diameter 64 and truncated as shown. Both solids rest on the horizontal plane and are in contact.

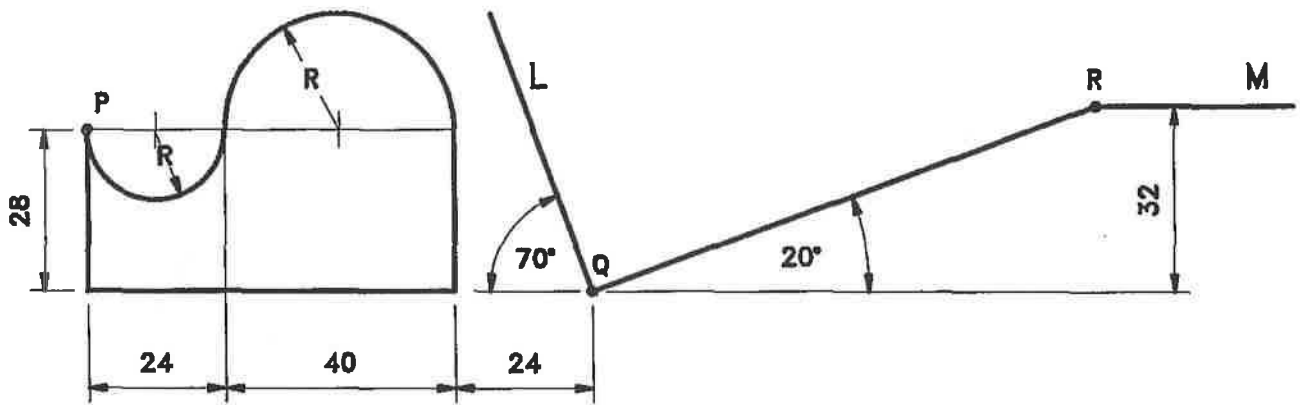
- (a) Draw the plan and elevation of the cone and cylinder in the given position.
- (b) Show the point of contact in both projections.
- (c) Develop the curved surface of the truncated cylinder.



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

- (i) Axial symmetry in the line L.
- (ii) Central symmetry in point Q.
- (iii) Translation equal to QR.
- (iv) Rotation anti-clockwise about point R until the vertex P reaches the line M.

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



6. The figure represents a design for a mask. The curve ABCDE is based on an ellipse having a minor axis of 60 and the curve JKL is based on the same ellipse. The curve AFE is parabolic.

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

