

WEDNESDAY, 22 JUNE - AFTERNOON 2.00 - 5.00

INSTRUCTIONS

- (a) Answer four questions.
- (b) All questions carry equal marks.
- (c) Construction lines must be shown on all solutions.
- (d) Write the number of the question distinctly on the answer paper.
- (e) All dimensions on the question paper are given in millimetres.
- (f) First or third angle projection may be used.

1. The elevation A and end view B of a shaped solid are shown in Fig. 1.
- (a) Draw the given views.
 - (b) Project a plan from the elevation.
 - (c) Project a new plan of the solid which will show the true shape of surface M.

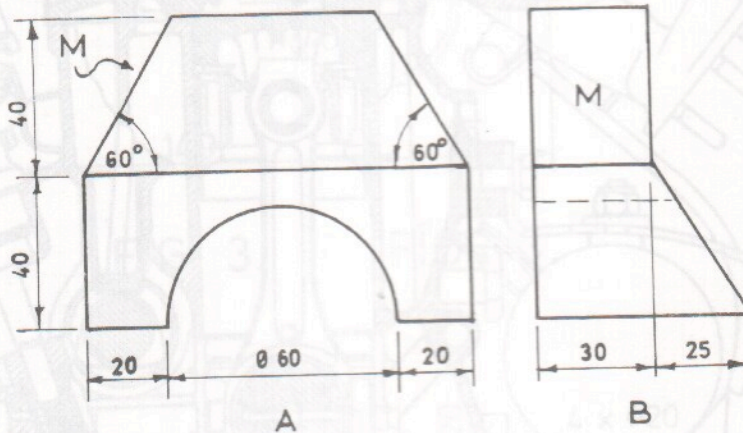


Fig. 1

2. Fig. 2 shows a regular pentagon with an inscribed square.

- (a) Draw the given figure.
- (b) Draw a square equal in area to the shaded portion of the figure.

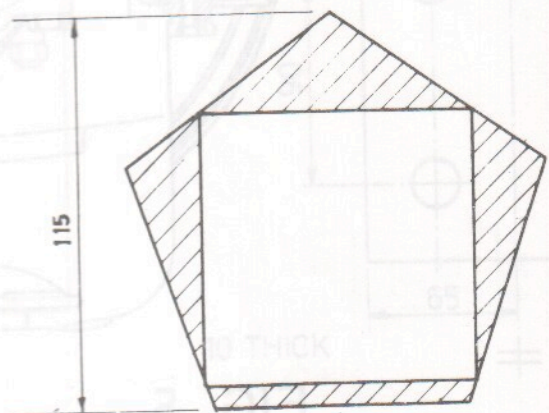


Fig. 2.

3. (a) Draw one convolution of an Archimedean spiral where the shortest radius is 30 mm and the longest radius is 80 mm.
- (b) Fig. 3 shows the elevation of a cone and two spheres in contact with one another. Draw the elevation and plan of the solids in contact.

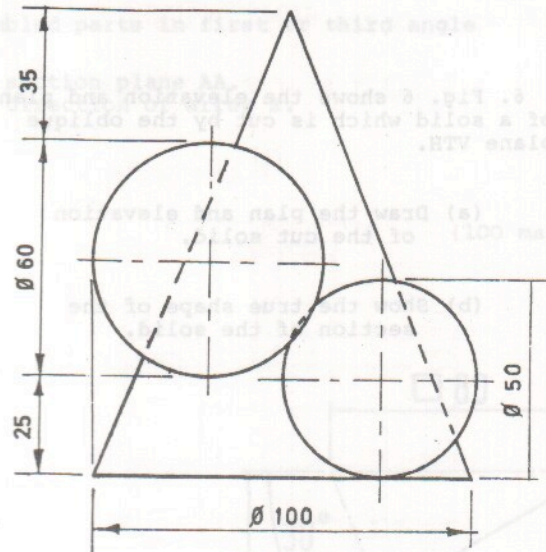


Fig. 3.

4. Fig. 4 shows the elevation and end view of a solid with a square hole through it. Draw the given views and project a plan of the solid.

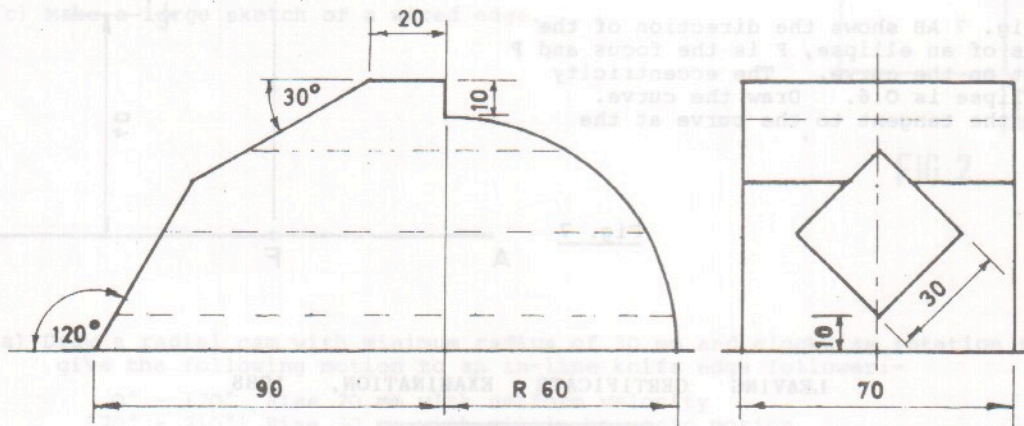


Fig. 4.

5. Fig. 5 shows the plan and elevation of a solid. Draw the given views and show a development of all surfaces of the solid.

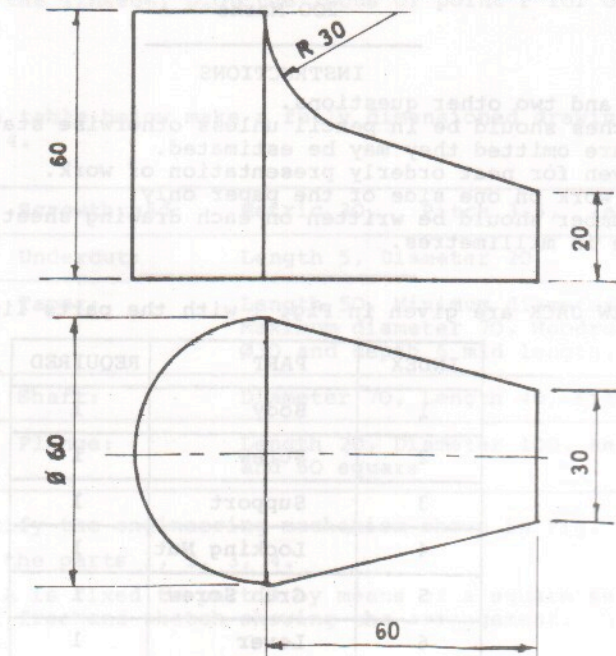


Fig. 5.

6. Fig. 6 shows the elevation and plan of a solid which is cut by the oblique plane VTH.

- (a) Draw the plan and elevation of the cut solid.
- (b) Show the true shape of the section of the solid.

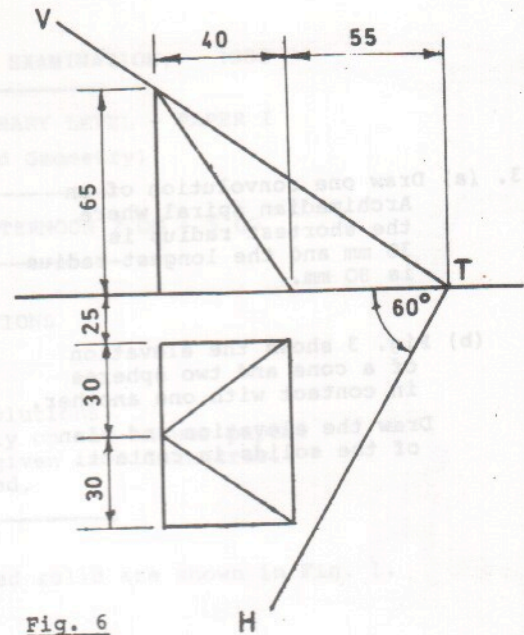


Fig. 6

7. In Fig. 7 AB shows the direction of the major axis of an ellipse, F is the focus and P is a point on the curve. The eccentricity of the ellipse is 0.6. Draw the curve. Draw the tangent to the curve at the point P.

Fig. 7

