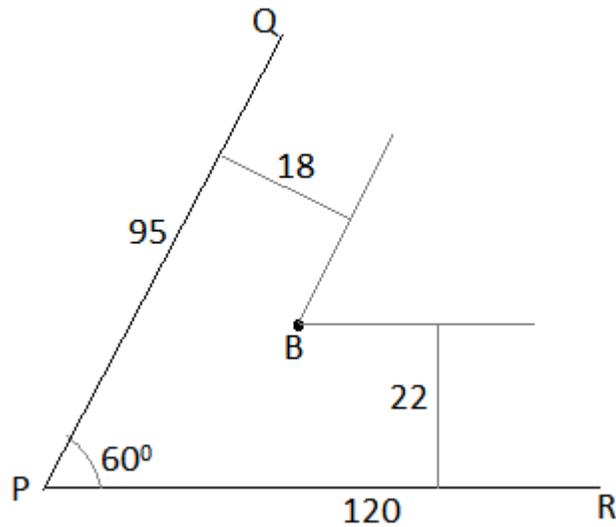
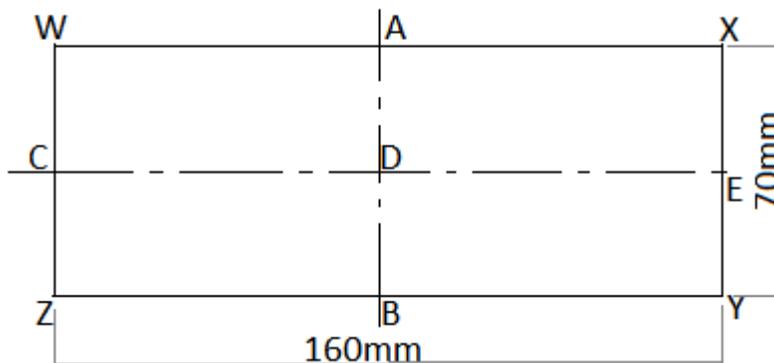


TECHNICAL DRAWING DEPARTMENT
S4 PAPER 1 (735/1)

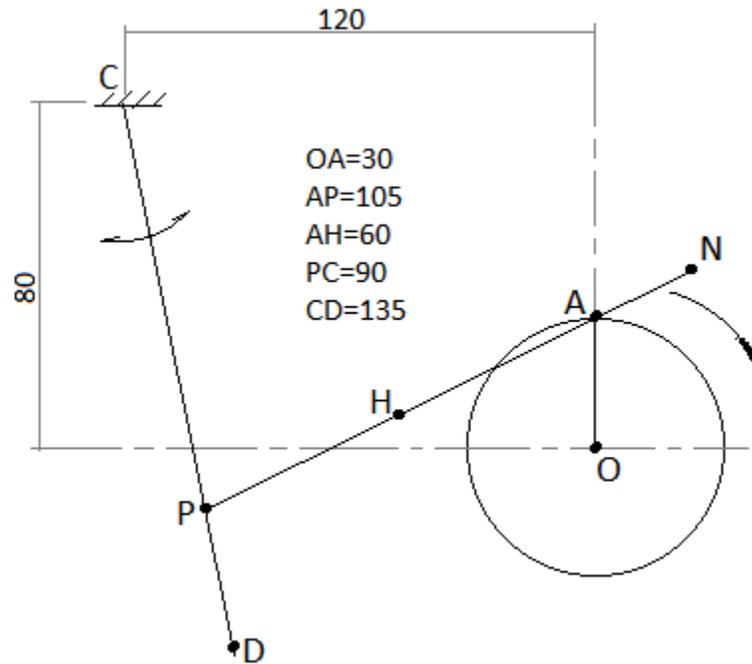
- 1 (a) Use geometrical methods only to construct an irregular pentagon ABCDE, given that AB=80mm, BC=70mm, CD=95mm, DE=55mm, EA=45mm, $\angle EAB=112.5^\circ$ and $\angle ABC=120^\circ$. Reduce the area of the figure in the ratio 4:7.
 - (b) Redraw the pentagon in (a) above and transform it into a square of equal area.
 - (c) Draw a square which is half the area of the one above.
-
- 2 PQ and PR shown in the figure below are asymptotes of a hyperbola. Point B is on the hyperbola. Construct the hyperbola passing through point B.



- (b) The figure below shows a rectangle WXYZ. Construct in the;
 - (i) left hand side half semi ellipse with minor axis AB and semi-major axis CD
 - (ii) right hand side a parabola with vertex at E and the base as AB.
- (c) Construct a tangent and normal on the ellipse at a point 40mm away from line AB.

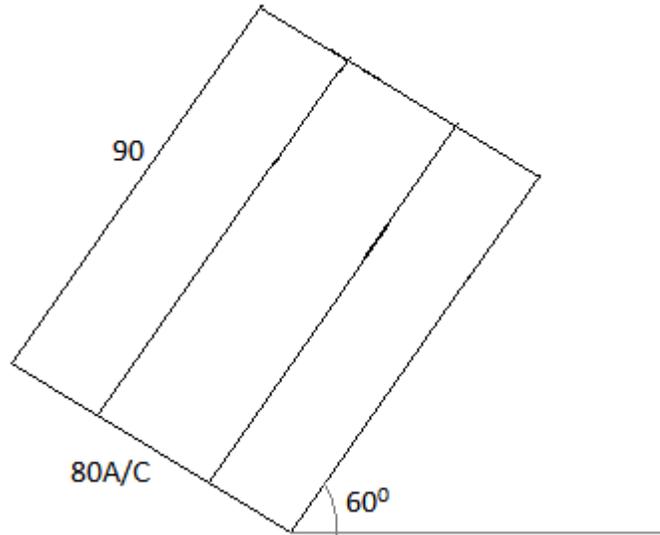


- 3 The figure below shows a link mechanism in which crank OA rotates about O while CD oscillates about C. A, D and P are pin joints. Trace the locus of H and N for one revolution of OA. Measure the angle of oscillation of link CD.

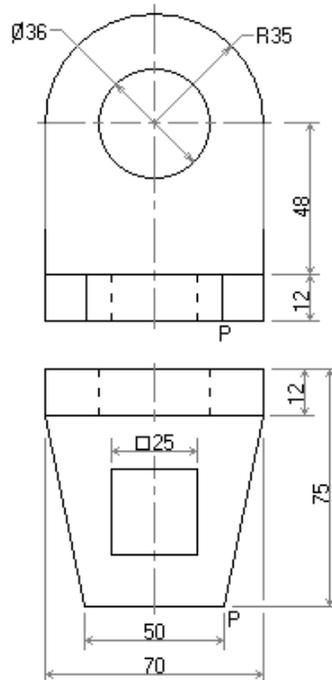


SECTION B

- 5 The figure below shows an inclined hexagonal prism. Draw;
- the given view
 - the plan
 - the end view when the top part is visible.



6. The figure below shows two views of a machine block in first angle projection. Draw an isometric view of the block with point P in the foreground. Hidden details are not required.



- 6 The figure below shows an elevation and incomplete plan of a truncated rectangular pyramid. Draw the:
- given figure
 - complete plan

- (c) end view seen from direction of arrow P
- (d) development using seam K-K.

