## Sheet No. 8 - Projections of Planes

1. A square ABCD of 50 mm side has its corner A in the HP , its diagonal AC inclined at $30^{\circ}$ to the H.P. and the diagonal BD inclined at $45^{\circ}$ to the V.P. and parallel to the H.P. Draw its projections.
2. A rectangular plane surface of size $\mathrm{L} \times \mathrm{W}$ is in the first quadrant and is inclined at an angle of $60^{\circ}$ with the H.P. and $30^{\circ}$ with the V.P. Draw its projections.
3. A regular hexagon of 25 mm side, having one of its sides in the H.P. and inclined at $60^{\circ}$ to the V.P., and its surface making an angle of $35^{\circ}$ with the .H. P. Draw the projections when the plane is in third quadrant.
4. Draw the projections of a circle of 50 mm diameter resting in the H.P. on a point A on the circumference, its plane inclined at $45^{\circ}$ to the H.P. and
(a) The top view of the diameter AB making $30^{\circ}$ angle with the VP;
(b) The diameter AB making $30^{\circ}$ angle with the V.P
5. A thin $30^{\circ}-60^{\circ}$ set-square has its longest edge in the V.P. and inclined at $30^{\circ}$ to the H.P Its surface makes an angle of $45^{\circ}$ with the V.P. Draw its projections when the plane is in third quadrant.
6. A circular plate of negligible thickness and 50 mm diameter appears as an ellipse in the front view, having its major axis 50 mm long and minor axis 30 mm long. Draw its top view when the major axis of the ellipse is horizontal.
7. A thin circular plate of 70 mm diameter is resting on its circumference such that its plane is inclined $60^{\circ}$ to the H.P. and $30^{\circ}$ to the V.P. Draw its projections of the plate.
8. PQRS is a rhombus having diagonal $\mathrm{PR}=60 \mathrm{~mm}$ and $\mathrm{QS}=40 \mathrm{~mm}$ and they are perpendicular to each other. The plane of the rhombus is inclined with H.P such that its top view appears to be square. The diaognal PR makes $30^{\circ}$ with the V.P. Draw its projections and determine inclination of the plane with the H.P.
