

**General Instructions:**

1. Attempt all questions.
2. Follow SP-46-1988 Codes. Use first angle method of projection.
3. Missing and mismatching dimensions should be assumed suitably.
4. All dimensions are in millimeters.
5. Use both sides of the drawing sheet.

  

1. Draw the projections of a rhombus having diagonals 96 mm and 48 mm long, the smaller diagonal of which is parallel to both the principal planes, while the other is inclined at  $30^\circ$  to the HP. One corner of the rhombus is in the HP and the centre is 45 mm in front of the VP. (07)
2. Draw the projections of a Hexagonal prism, base 30mm sides and axis 60mm long, resting on one of its rectangular faces on the ground, with the axis inclined at  $45^\circ$  to the VP. (08)
3. A cone of diameter of base 60 mm and the axis 50 mm long is lying on the HP on one of its generators. The axis of the top view is inclined at  $45^\circ$  to the XV line. Draw the projections of the cone (10)

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1. A thin rectangular plate of side 60 mm x 30 mm has its shorter side in the VP and inclined at  $30^\circ$  to the HP. Project its top view if its front view is a square of 30 mm long sides. (07)
2. A pentagonal prism 25 mm base side and axis length 70 mm rest on HP on one of its base corners such that the axis of the prism is inclined  $40^\circ$  to HP. Draw its projections. (08)
3. A hexagonal pyramid, base 35mm side and height 60mm is resting on HP one of its base edges. The axis of the pyramid is inclined at  $45^\circ$  to the HP and the base edge on which it is resting is inclined at  $60^\circ$  to the VP. Draw the projections of the hexagonal pyramid. (10)

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1. A plate having shape of an isosceles triangle has base 50 mm long and altitude 70 mm. It is so placed that in the front view it is seen as an equilateral triangle of 50 mm sides and one side is inclined at  $45^\circ$  to XV. Draw its orthographic projections. (07)
2. A pentagonal prism 25 mm base side and axis length 70 mm rest on HP on one of its base corners such that the axis of the prism is inclined  $40^\circ$  to HP. Draw its projections. (08)
3. A hexagonal pyramid, base 35mm side and height 60mm is resting on HP one of its base edges. The axis of the pyramid is inclined at  $45^\circ$  to the HP and the base edge on which it is resting is inclined at  $60^\circ$  to the VP. Draw the projections of the hexagonal pyramid. (10)

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1. A regular hexagonal lamina of side 32mm has a side in both HP and VP while the lamina takes an angle  $40^\circ$  with VP. Draw the projections of the lamina. {07}
2. A cone of diameter of base 60 mm and the axis 50 mm long is lying on the HP on one of its generators. Draw the projections of the cone. (08)
3. A Pentagonal prism, base 40 mm side and height 65 mm is resting on HP on one of its base edges. The rectangular face containing the base edge on which the prism resting is inclined at  $45^\circ$  to HP. The same base edge is inclined at  $30^\circ$  to VP. Draw the projections of the prism. (10)