



- (b) Figure 2 shows the front view and top of object. Draw (i) sectional front view at sect, A-A (ii) top view (iii) side view from right.

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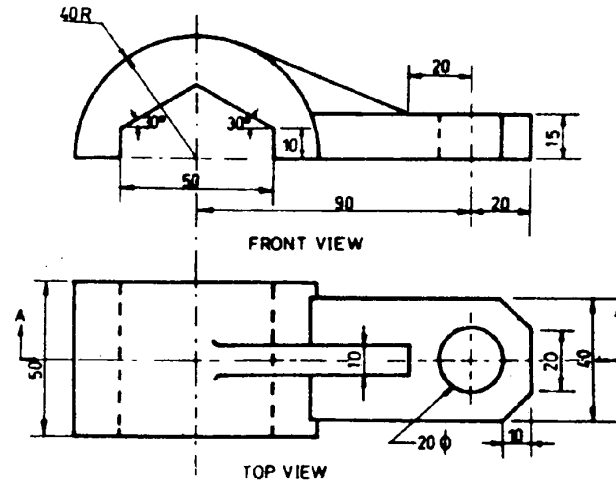


Fig. 2

2. Attempt any TWO of the following :

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- Line AB, 80 mm long is inclined at  $30^\circ$  to the H.P. and  $45^\circ$  to the V.P. Its end A is 15 mm above the H.P. and 25 mm in front of the V.P. Draw its projections. Assume the line is to be in first quadrant.
- A square pyramid side of base 50 mm and axis 70 mm long has a triangular face parallel to H.P. Draw its projections, when its axis is parallel to V.P.
- A hexagonal prism, base 30 mm side and axis 85 mm long has a central hole of 40 mm diameter drilled along its axis. It rest on H.P. with a side of base inclined at  $45^\circ$  with V.P. A sectional plane, perpendicular to V.P. and inclined at  $60^\circ$  to H.P. cuts the axis of the prism 25 mm from the top end. Draw front view, sectional top view and true shape of the section.

3. Attempt any TWO of the following :

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- A regular hexagonal thin plate of 40 mm side has a circular hole of 45 mm diameter in its centre. It is resting on one of its corner in H.P. Draw its projections when the plate surface is vertical and  $30^\circ$  to V.P.
- A tetrahedran of 60 mm edge is resting on one of its edges on the H.P. with that edge perpendicular to V.P. Draw the projections when one of its faces containing that edge is vertical.

- (c) Draw the development of lateral surface of part P of a pentagonal prism shown in figure 3.

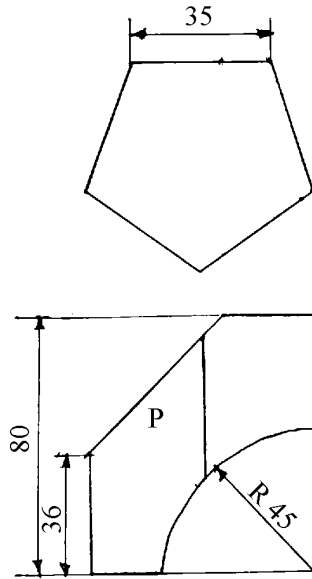
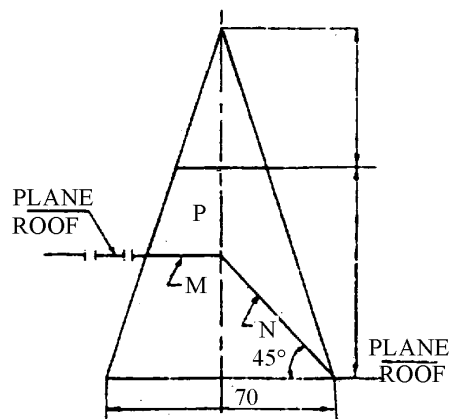


Fig. 3

4. Attempt any TWO of the following :

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- (a) A  $30^\circ - 60^\circ$  set-square has its shortest edge 50 mm long in V.P. Its surface is perpendicular to H.P. and inclined to V.P. such that its front view appears as an isosceles triangle. Draw its three views and determine its inclination with V.P.
- (b) A bucket in the shape of a cone, the diameter at the bottom and the top are 30 mm and 50 mm respectively and 50 mm height is standing on a point on its circumference of the bottom on the H.P. Draw the projections of the bucket, when its axis is inclined at  $45^\circ$  to the H.P. and parallel to V.P.
- (c) A chimney in the form of a frustum of a square pyramid. It is attached over a plane roof as indicated by the front view shown in figure 4. Draw the given front view, top view, and the lateral surface development of the portion P.



F.V.  
Fig. 4

P.T.O.

## 5. Attempt any TWO of the following :

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- (a) A cone, base 40 mm diameter and axis 50 mm long, is resting on its base on the H.P. A section plane, perpendicular to V.P. and inclined at  $45^\circ$  to H.P., cuts the cone, bisecting its axis. Draw sectional top view, front view, sectional side view and true shape of the section.
- (b) A square pyramid, base 30 mm side and axis 50 mm long stands vertically on the H.P. with the edges of base equally inclined to V.P. It is cut by a section plane perpendicular to V.P. inclined at  $45^\circ$  to H.P. and passing through a point on the axis 20 mm from the apex. Draw front view, sectional top view, sectional side view and there shape of the section.
- (c) Draw the development of lateral surface of part P of the cone shown in figure 5.

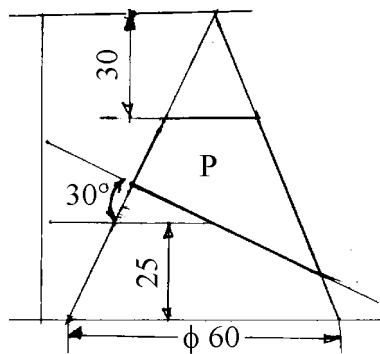


Fig. 5

## 6. Draw neat and proportionate figures of any FOUR of the following :

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- (a) Acme thread
- (b) Wing nut
- (c) Flanged nut
- (d) Rag foundation bolt
- (e) Single rivetted double strap butt joint
- (f) Flat head set screw.