

Projection of Solids

A solid has three dimensions
ie, length, breadth and thickness

Types of Solids

Right Solid

A solid is named as right solid if its ~~axis~~ axis is perpendicular to its base or end faces.

Ex Right cone, right cylinder, right prism etc.

Oblique solid

A solid is named as oblique solid, if the axis of the solid is inclined at an angle other than 90° to its base or end faces.

Regular Solid

A solid is said to be regular if the edges of the base or the end faces having all equal sides.
ie, equal in length.

Classification of Solids

- i) Polyhedra
- ii) Solid of revolution

Polyhedra

A polyhedra is defined as a solid bounded by plane surfaces called faces.

There are two types of Polyhedra

- (i) Regular
- (ii) Irregular or oblique Polyhedra.

Regular Polyhedra

A regular Polyhedra is a solid bounded by plane surfaces which are equal and regular.

Ex

Tetrahedron :-

It has four equal faces, each an equilateral triangle.

Cube or Hexahedron :-

It has six equal square faces.

Octahedron :-

It has eight equal equilateral triangular faces.

Prism :- This is a polyhedron having two equal and similar faces called its ends or bases line joining the

centres of the bases is called the axis.

Pyramid :-

This is a polyhedron having a plane figure as a base and a number of triangular faces meeting at a point called the vertex or apex.

The imaginary line joining the apex with the centre of the base is its axis.

Solid of Revolution

Cylinder :-

It is a solid generated by the revolution of a rectangle about one of its sides which remain fixed.

The line joining the centres of the base is the axis.

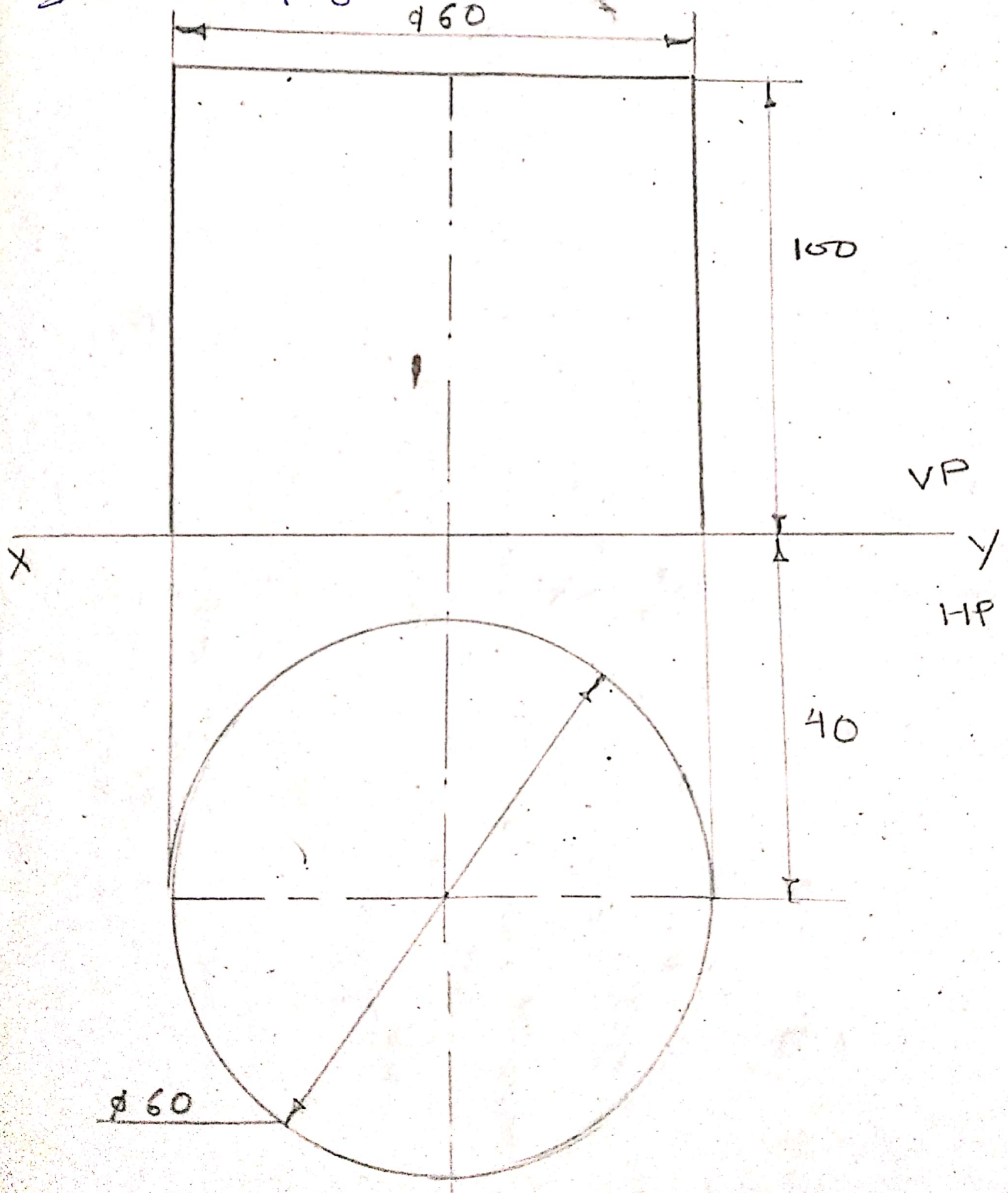
Cone :-

It is a solid generated by the revolution of a right angled triangle about one of its sides which is fixed.

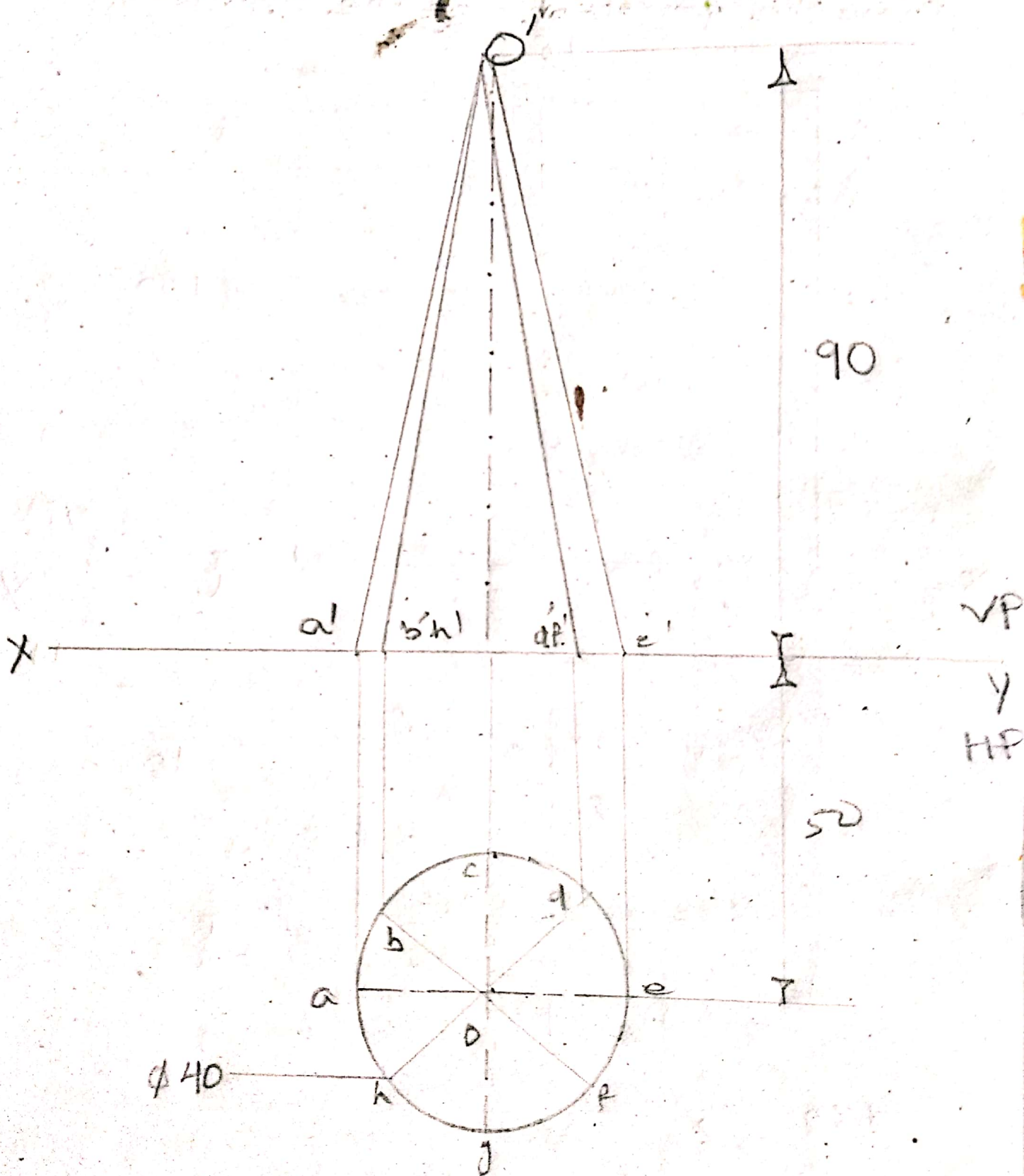
It has one circular base.

Sphere :- It is a solid generated by the revolution of a semi circle about its diameter as axis.

Q A cylinder of base 60 mm diameter and axis 100 mm long is resting on its base on the HP. The axis of the cylinder is 40 mm in front of VP. Draw the projections of the cylinder.



Q/ Draw the Projection of the right circular cone of base 40mm diameter and height 90mm resting with its base on HP and 50mm in front of VP.



Q Draw the projections of a right regular pentagonal pyramid of 30 mm base and axis 70 mm long is 50 mm in front of VP. The pyramid is resting on the HP with one edge of the base \perp to the VP.

