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ESTD: 2015 Siromonipur, Bishnupur, Bankura, 722122 (W.B.)



Prepared By: Mr. Rahul Chandra.

INTRODUCTION

In study of engineering drawing, it is usual to come across problems dealing with construction of plane curves because the profile of a number of objects consists of various types of curves. The curves commonly used in engineering practice are conic sections, cycloidal curves, involute, evolute, spirals and helix.

1 CONIC SECTION

The section obtained by the intersection of right circular cone by a plane in different positions relative to the axis of the cone is called conic section.

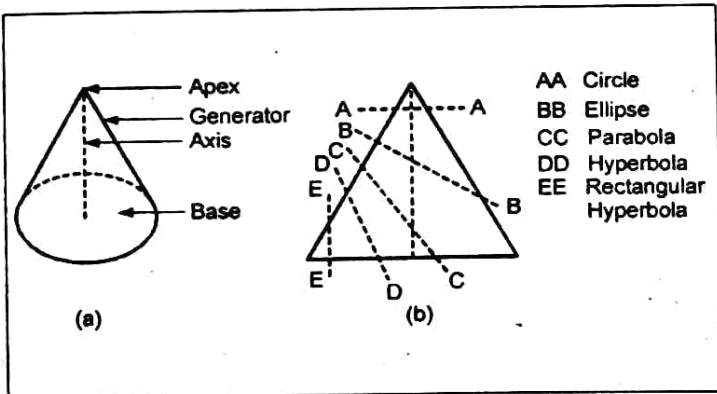


Fig.1

The cutting plane in different positions is shown in figure 1(b), which are given as follows :

1. **Circle** : When the section plane is parallel to base i.e. perpendicular to axis then the section is a circle [figure 2(a)].
2. **Ellipse** : When the section plane is inclined to axis and cuts all generators on one side of the apex, the section is an ellipse [figure 2 (b)].

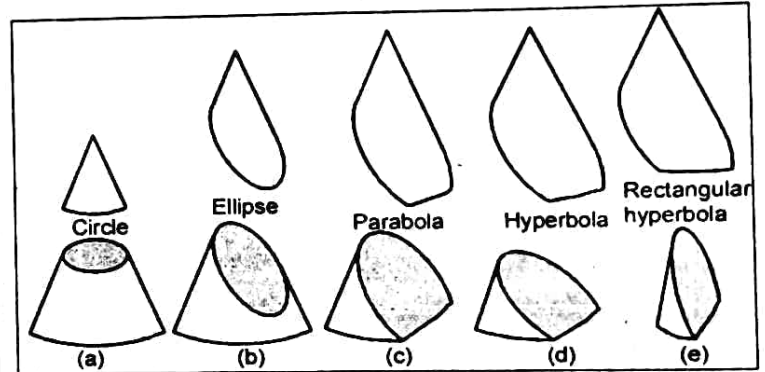


Fig.2

3. **Parabola**: When the section plane is inclined to the axis and is parallel to one of the generators, the section is a parabola [figure 2 (c)].
4. **Hyperbola** : When the section plane is inclined in such a way that the angle made with the axis is smaller than that of the angles made by the generators, i.e. it is not parallel to one of its generators, the section is a hyperbola [figure 2(d)].
5. **Rectangular Hyperbola** : When the cutting plane is parallel to the axis, the true shape of the section is rectangular hyperbola, shown in figure 2 (e).