

KSU CET UNIT

FIRST YEAR NOTES



Freehand sketching

9.1. Introduction

A drawing drawn with a pencil and paper, without the use of drawing instruments, is called freehand sketching. However an eraser can be used. Eventhough accurate measurement is not required the sketch should be in good proportion as accurately as possible. In a free hand sketch, all the rules of projection, such as showing the invisible edges by dotted lines, should be followed. A good knowledge of orthographic projection, oblique projection, isometric projection, sectional views, etc is required to get a good freehand sketch.

9.2. Sketching lines.

To sketch a line, mark its starting and end points. If the length of the line is short then it should be completed in one stroke itself. If the length of line to be sketched is long then the line should be completed in more then one stroke.

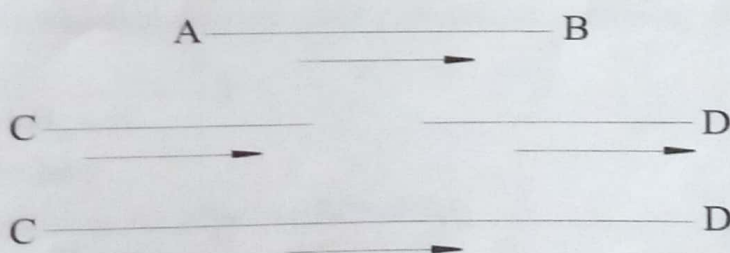


Fig. 9.1 Sketching short and long lines

In Fig. 9.1, AB is a short line and hence it is completed in one stroke. Line CD is a long line and hence it is completed in three strokes.

As a general rule, horizontal lines should be drawn from left end to right end of the line, vertical lines from top to bottom and inclined lines from left end point to right end point of the line, as shown in Fig 9.2.

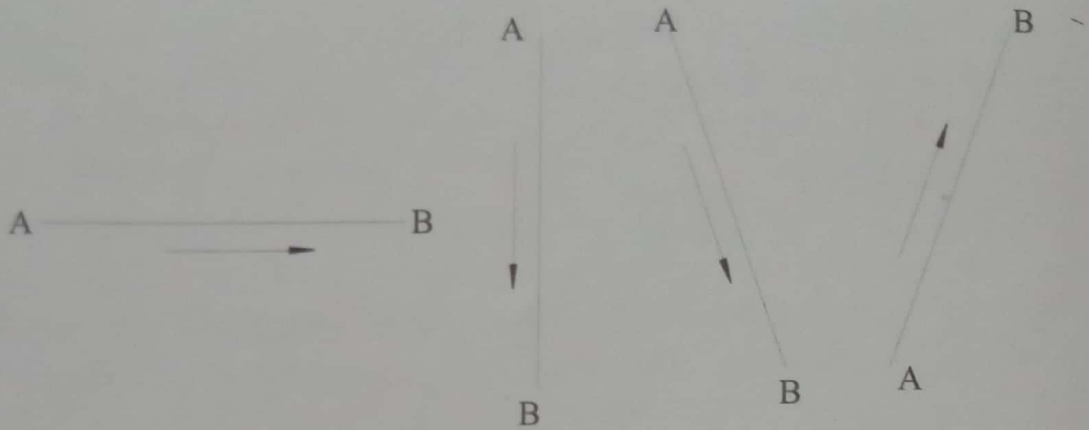


Fig. 9.2

9.3 Sketching a circle.

A sketch of a circle should be completed in stages. As a first step, sketch a square ABCD with length of sides equal to the diameter of the circle to be sketched. Join the mid points of opposite sides to get the center of the circle, O. EF and GH are the lines joining the mid points. Draw the diagonals of the square passing through the center of the circle. Mark points I, J, K and L on the lines OA, OB, OC and OD, such that $OI = OJ = OK = OL$, equal to the radius of the circle. Using a pencil, sketch circular arc at points E, I, G, J, F, K, H and L. Join all these arcs to get the final sketch of the circle.

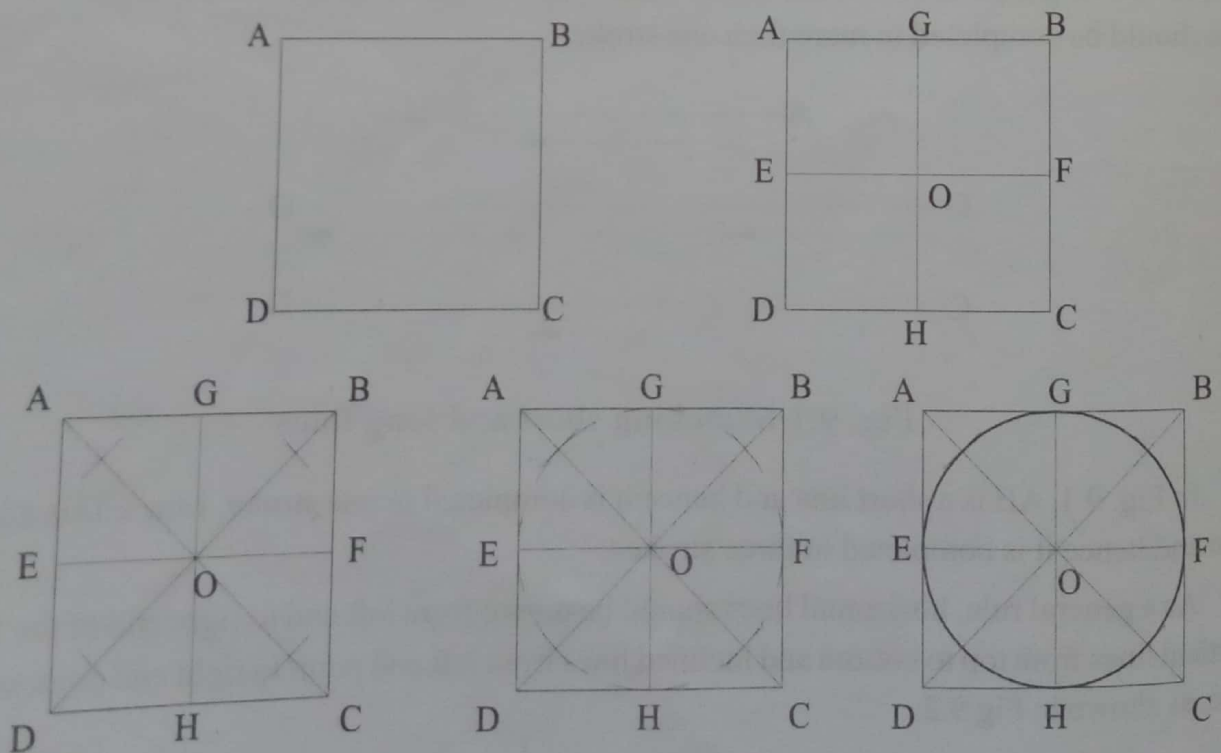


Fig. 9.3

9.4 Sketching an ellipse

Sketch a rectangle ABCD with length of sides equal to the required length of major and minor axes of the ellipse.

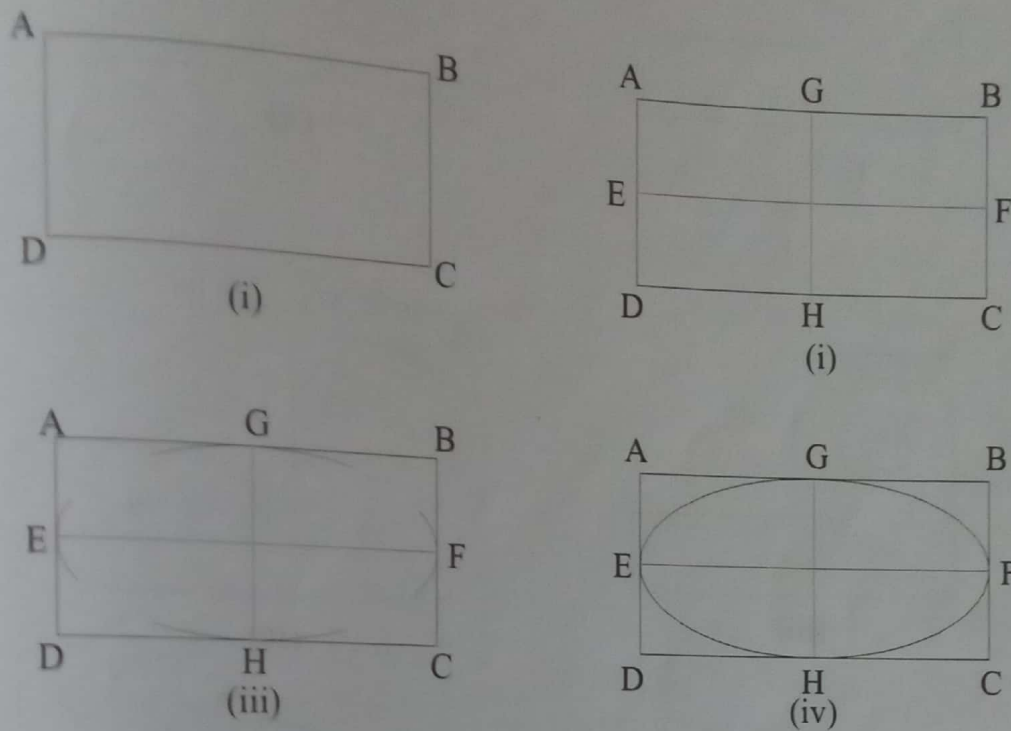


Fig. 9.4

Join the mid points of opposite sides and mark the points E, F, G and H. Draw circular arcs at points E, F, G and H. Join these arcs to get the final sketch of ellipse as shown in Fig 9.4.

9.5 Freehand sketching of real objects

Two types of pictorial sketches are used in freehand sketching of real objects. These are :

- (i) Oblique sketching and
- (ii) Isometric sketching.

In oblique sketching, the principal face of the object is kept parallel to the plane of projection. The advantages of this is that the details of the front face of the object retain their true shape in the sketch. An oblique sketching is easy compared to isometric sketching, because oblique sketching begins with a two dimensional representation of the face of the object. The various steps involved in completing the free-hand sketch of an object shown the Fig. 9.5 are given in Fig. 9.6.

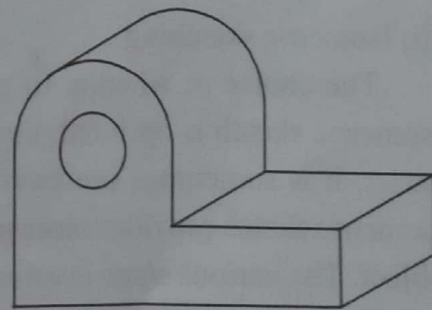


Fig. 9.5

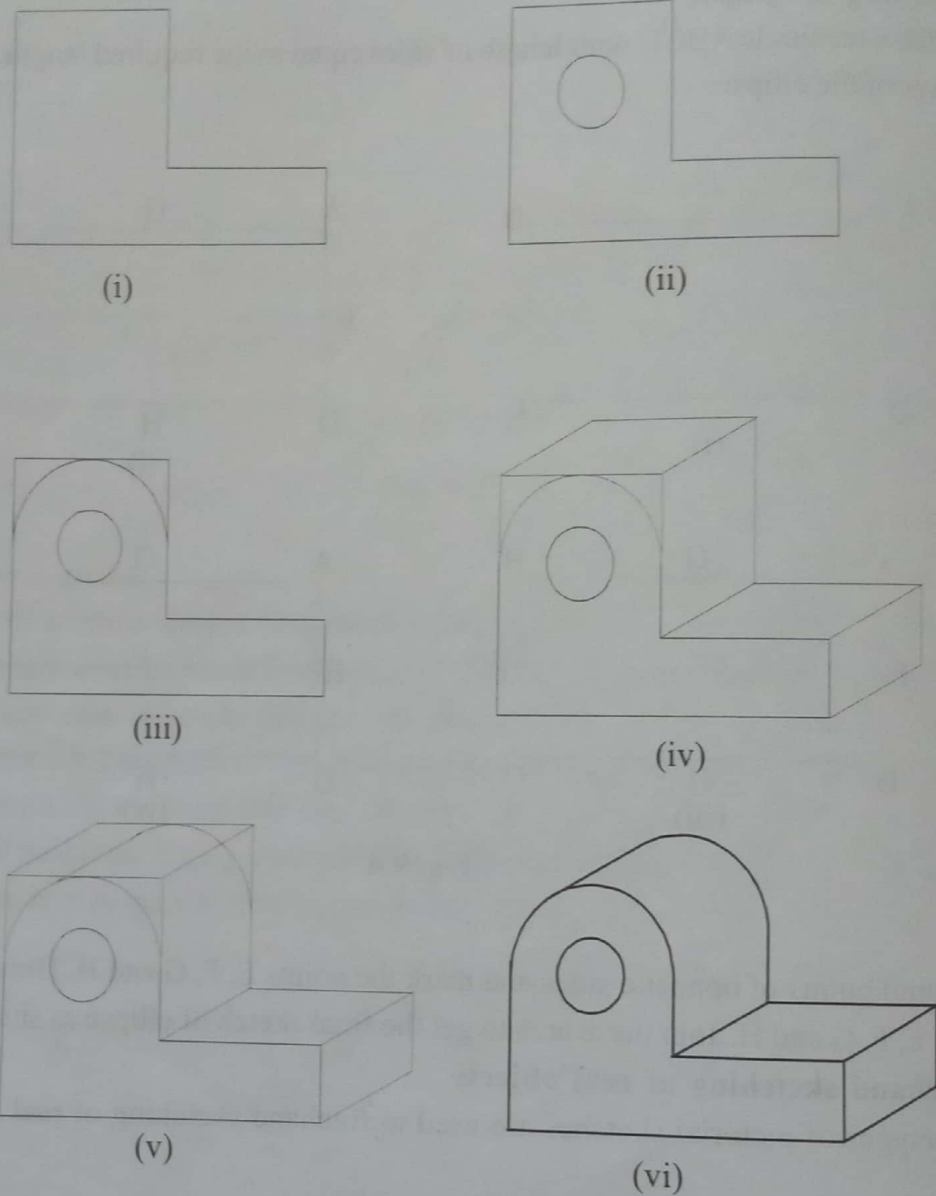


Fig. 9.6

(ii) Isometric sketching.

The choice of whether to use an oblique sketch or isometric sketch is optional. Since the oblique sketch is easier, it is sometimes preferred. On the other hand an isometric sketch provides more photorealistic view of the object. The various steps involved in isometric sketch of an object shown in Fig. 9.7 are given in Fig. 9.8.

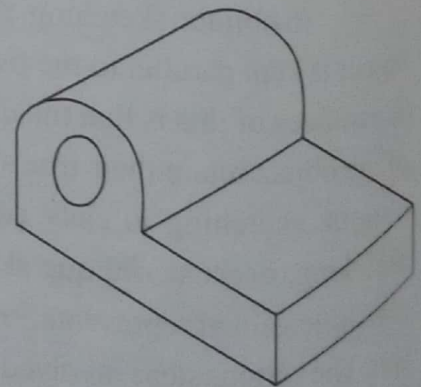


Fig. 9.7

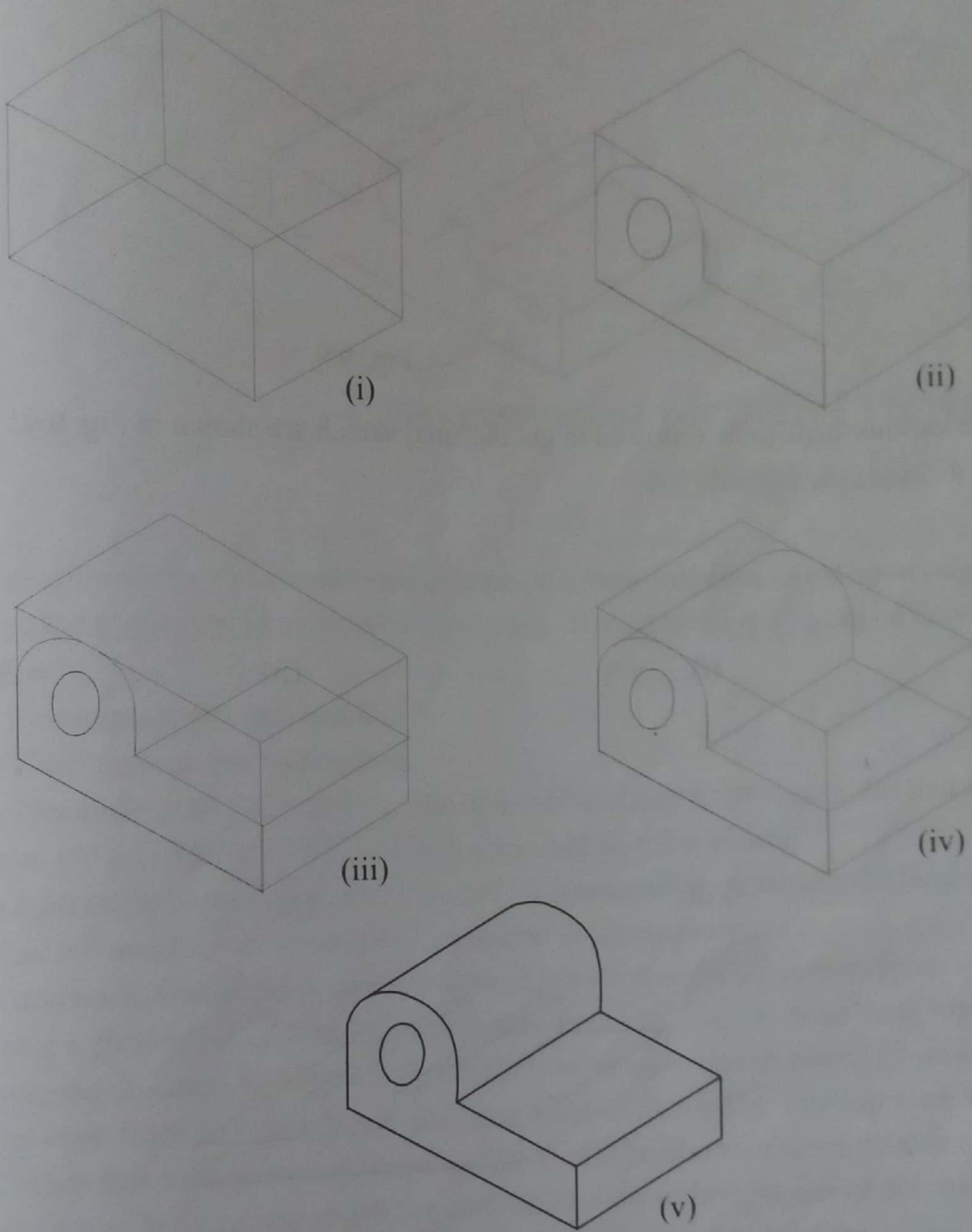


Fig. 9.8

Make a freehand oblique sketch of the object whose isometric projection is shown in Fig. 9.9.

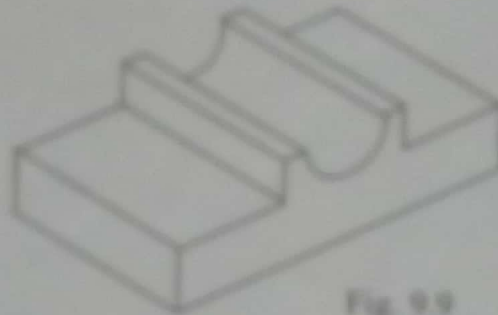


Fig. 9.9

The various steps to be followed to get the final sketch are shown in Fig. 9.9.

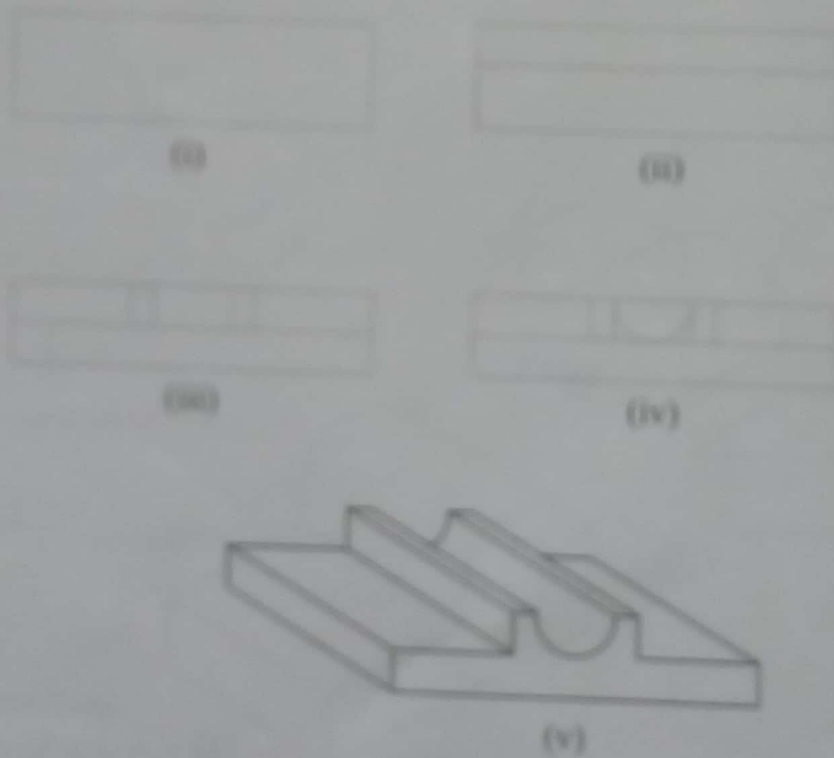


Fig. 9.10