RA2011031010006

SRM INSTITUTE OF SCIENCE & TECHNOLOGY

1. Exercise : 3

2. Date: 22/10/2020

3. Title : Fundamentals of projections - Orthographic projection of points and lines.

4. Aim : To draw the orthographic projection of points in various quadrants; straight lines in first quadrant inclined to only one plane, and practice free-hand sketching.

5. Software used: AutoCAD

6. Introduction:

i. About Orthographic projection :

→ Orthographic projection is a means of representing three dimensional objects in two dimension. It is a form of parallel projection, in which all the projection lines are orthogonal to the projection plane, resulting in every plane of the scene appearing in affine transformation on the viewing surface.

ii. Projection of points and lines:

→ There are basically nine type of projection of point:. In 1st Quadrant (Above H.P, In front of V.P), In 2nd Quad (Above H.P, Behind V.P), In 3rd Quad (Below H.P, In Infront of V.P), In Plane (On V.P, Above H.P; On H.P, Behind V.P; On V.P, Below H.P, On H.P, In front of V.P; On V.P Below; both H.P & V.P.

→ Projection of lines is a straight lines is the shortest distance between two points. Top views of the two end points of a straight line, when joined, give the top view of the straight line.

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7. **Procedure** (for solving question #)

7.1 Question outline : To project lines of given dimension.

7.2 Object : all lines must be 10 mm.

7.3 Conditions (if any) : Draw the line with 25mm apart from each other.

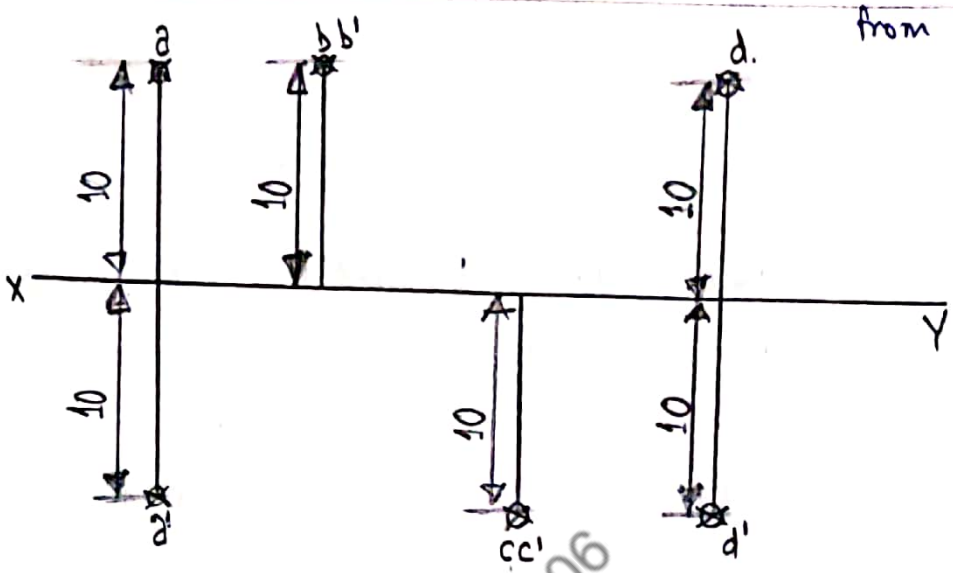


Fig. Free hand sketch of the solution to question #

7.4 **Drawing Procedure:**

→ **Step 1.**

Click command & type UNITS then set precision 0mm.

→ **Step 2:-** Type limits then specify lower left corner point (0,0) and upper right corner (297, 210).

→ **Step 3:-** Type ZOOM then type / click All.

→ **Step 4:-** Click on line then draw a line of any dimension. as a XY plane.

→ **Step 5:-** Then draw the projection of point according to the ~~given~~ given question. on the same reference line.

→ **Step 6:-** Type point and mark the end point of the line and table the top marking a and bottom marking a' according to the question condition. ~~to~~ and by using DDPTYPE select the ~~desire~~ design of point.

Step 7:- Then click on DIMLINEAR for showing the dimension of the projection.

Step 8:- Type PEDIT to set the thickness of the projection line and by using byLayer change the colour of line.

Step 9:- Type TRIM and cut/trim the unwanted lines.

8. Commands used:

S.N.	Command	Use
1.	UNITS	To set precision & unit scale.
2.	LIMITS	To set limit of grid.
3.	ZOOM	To increase & decrease the size.
4.	LINE	To create straight line.
5	POINT	To create a specific point.
6.	DDPTYPE	To set style and size of point.
7.	DIMSTYLE	To modify dimension style.
8.	TEXT	To write text.
9.	PEDIT	To Edit polyline.
10.	TRIM.	To delet unwanted lines.
-	-	-
-	-	-
-	-	-

9. Result:

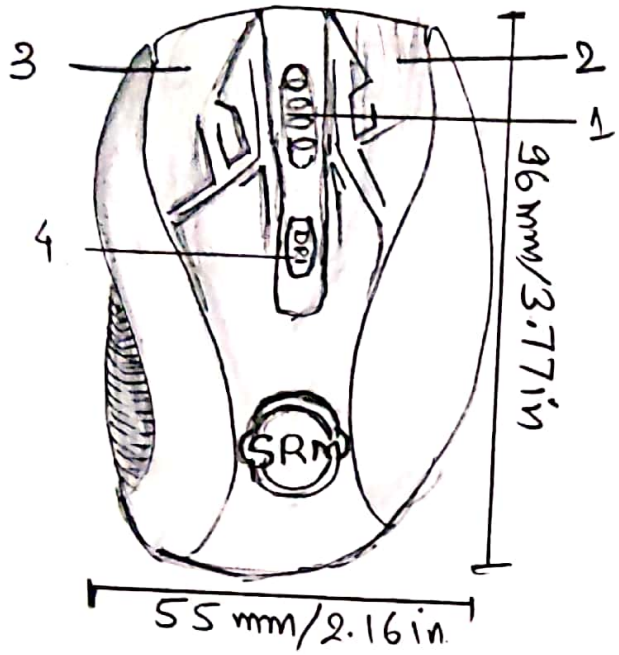
We can easily draw the orthographic projection of points in various quadrants by using the AutoCAD software.

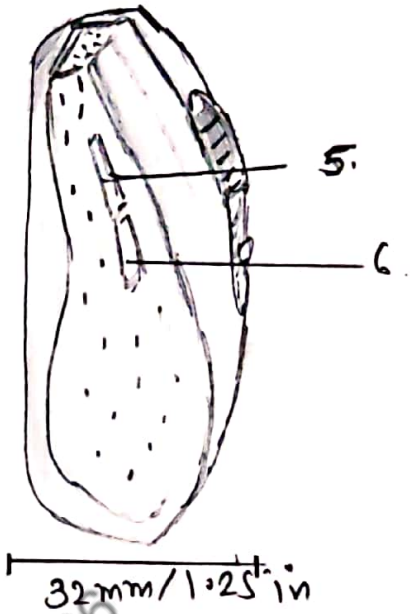
Faculty Name		Date of Submission	
Signature		Marks	

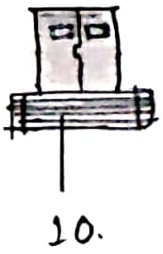
Q.4)

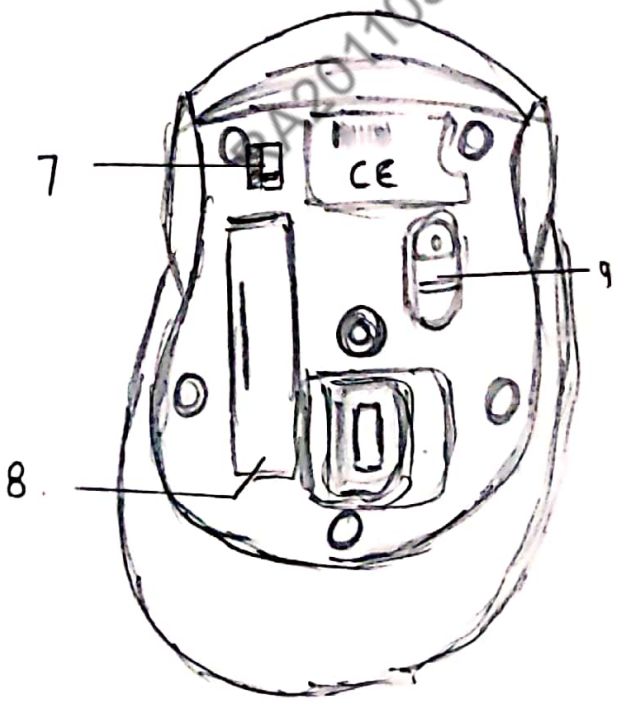
WIRELESS OPTICAL ERGONOMICALLY DESIGN MOUSE 2.4GHz.

Overview









Specifications.

1. Scroll Wheel. (Middle Button)
2. Right Button.
3. Left Button.
4. DPI Button.
5. Forward Button.
6. Backward Button.
7. On/Off Button/Switch
8. Battery Compartment.
9. Optical LED
10. USB Receiver (stored inside Battery Compartment).
11. special feature. Ergonomically designed.

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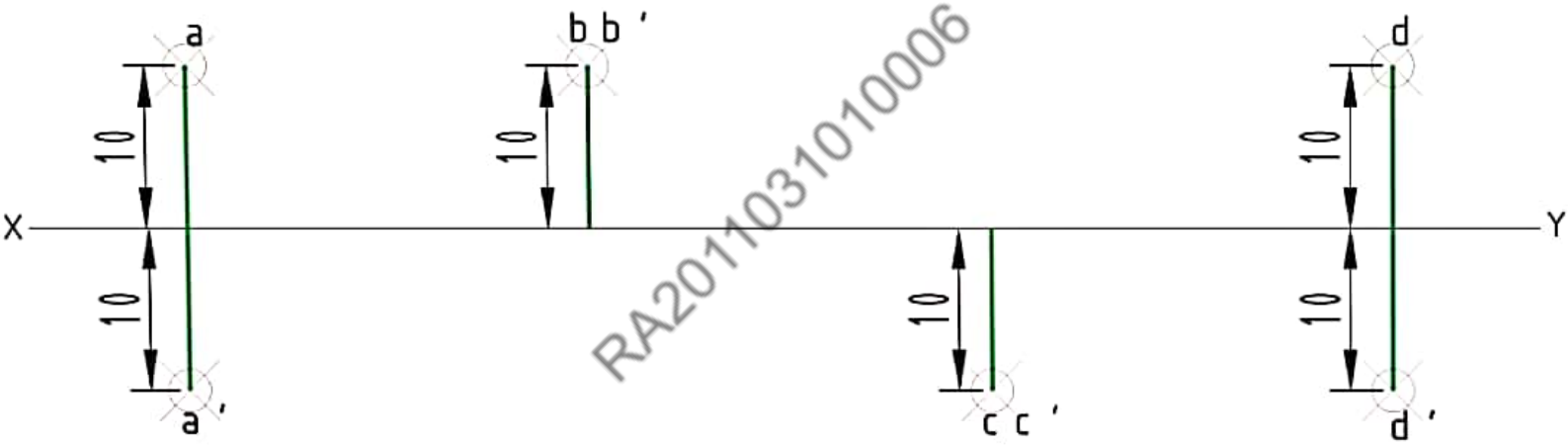

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