



Department: CSE

Semester: 3rd**Session:**

Section:

Total Marks: 50Obtain Marks:

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4.	<p>Draw a ball bearing using modify tool bar</p>	<p>To construct a geometry using basic modify Tools like Erase, Copy, Move, Rotate, Offset, Mirror</p> <p>Description: The Modify toolbar (or panel) contains commands that allow you to move, copy, resize, and delete objects. In a professional workflow, you spend about 20% of your time drawing new lines and 80% of your time using modify tools to adjust them. These tools are the key to the speed and efficiency that CAD offers over manual drafting.</p> <p>1. Erase (E)</p> <p>Description: This tool removes objects from your drawing. It is the digital equivalent of an eraser but leaves no marks or smudges</p> <p>2. Copy (CO / CP)</p> <p>Description: Creates one or more duplicates of selected objects at a specified distance and direction.</p> <p>3. Move (M)</p> <p>Description: Repositions objects without changing their size or orientation.</p> <p>4. Rotate (RO)</p> <p>Description: Turns objects around a fixed point (the base point).</p> <p>5. Offset (O)</p> <p>Description: Creates a parallel copy of a line, polyline, or circle at a specified distance. This is the most important tool for creating wall thicknesses or concentric pipes.</p> <p>6. Mirror (MI)</p>															
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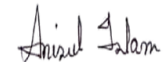
		"Copy" command for repetitive layouts.									
5.	Isometric Drawing of Z-Bracket or an Offset Pivot Bracket	<p>Draw the orthographic views of 3D machine parts and organizing your work by dimensioning, managing with layers</p> <p>Description: Creating an accurate 2D representation of a 3D machine part requires a systematic approach. You must first project the views correctly, then add quantitative data through dimensioning, and finally manage the complexity of the file using layers.</p> <p>Organizing Work with Layers (LA)</p> <p>Layers are the most effective way to manage professional drawing. They allow you to control the color, line type, and visibility of different elements.</p> <p>Dimensioning Machine Parts (DIM)</p> <p>Dimensioning tells the manufacturer exactly how large to make the part. For machine parts, precision is vital.</p>									
6.	3d Drawing of a cam shaft	<p>Use CYLINDER for the main shaft, EXTRUDE to turn 2D cam shapes into 3D, and UNION to fuse all the parts into one solid piece.</p> <p>Description: This is a 3D modeling task where you create a solid shaft with eccentric "cams"</p>									

		(lobes) that rotate to move other parts. What to do: Model the main shaft as a long cylinder. Create the cam profiles as 2D shapes on the end of the shaft and "Extrude" them into 3D blocks. You then rotate these cams to different angles (like 90° or 180°) along the shaft so they trigger at different times.									
7.	3d drawing of a worm gear	<p>Use the HELIX command and the SWEEP command</p> <p>Description: A worm gear looks like a screw with a specialized thread. It is used to transmit motion between non-intersecting shafts.</p> <p>What to do: Start by creating a 3D spiral (a Helix). Then, draw the 2D shape of a single gear tooth. You use a command to "slide" that tooth shape along the spiral path to create the threads. This is one of the more advanced 3D techniques in AutoCAD.</p>									



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