

Govt. Polytechnic Hamirpur (H.P.)

Lecture Planning

Branch : Mechanical Engineering (E D)



Session : Aug. - Dec.2024

Teacher: Er. Mithun Thakur, Er. Amit Sharma

Sr. No.	No. of Lectures	Chapter/ Unit Description	Detail of Contents	Reference Resources	Remarks
1.	10	Basic elements of Drawing	Drawing Instruments and supporting materials: method to use them with applications. Convention of lines and their applications. Representative Fractions – reduced, enlarged and full size scales; Engineering Scales such as plain and diagonal scale. Dimensioning techniques. Types & applications of chain, parallel and coordinate dimensioning	R1,R2,	
2.	12	Orthographic projections	Introduction of projections-orthographic, perspective, isometric and oblique: concept and applications. Introduction to orthographic projection, 1st angle and 3rd angle method. Conversion of pictorial view into Orthographic Views – object containing plain surfaces, slanting surfaces, slots, ribs, cylindrical surfaces by 1st Angle Projection method.	R1,R2	
3.	10	Isometric Projections	Introduction to isometric projections. Isometric scale and Natural scale. Isometric view and isometric projection. Illustrative problems related to objects containing lines, circles and arcs shape only. Conversion of orthographic views into isometric view/projection.	R1,R3,	
4.	10	Free Hand Sketches of engineering elements	Free hand sketches of machine elements: Thread profiles, nuts, bolts, studs, set screws, washer, Locking arrangements. Free hand sketches of orthographic view on squared graph paper and isometric view on isometric grid paper.	R1,R2,R3	
5.	8	Computer aided drafting interface	Computer Aided Drafting: concept. Hardware and various CAD software available. System requirements and Understanding the interface. Components of AutoCAD software window: Title bar, standard tool bar, menu bar, object properties tool bar, draw tool bar, modify tool bar, cursor cross hair. Command window, status bar, drawing area, UCS icon. File features: New file, Saving the file, opening an existing drawing file, Creating templates, Quit. Setting up new drawing: Units, Limits, Grid, Snap. Undoing and redoing action.	R1,R2,	
6.	6	Computer aided drafting	Draw basic entities - Line, Circle, Arc, Polygon, Ellipse, Rectangle, Multiline, Polyline. Method of Specifying points: Absolute coordinates, Relative Cartesian and Polar coordinates. Modify& edit commands like trim, extend, delete, copy, offset, array, block, layers. Dimensioning: Linear, Horizontal Vertical, Aligned, Rotated, Baseline, Continuous, Diameter, Radius, Angular Dimensions. Dim scale variable. Editing dimensions. Text: Single line Text, Multiline text.	R1,R3	

- R1. A Text Book of Engineering Drawing by Surjit Singh;
R2. Engineering Drawing by PS Gill; SK Kataria & Sons
R3. Engineering Graphics by JS Layall; Eagle Parkashan

Signature of Teacher

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Signature of H.O.D.