LESSON PLAN

Name of Faculty: Amit Kumar

Discipline: Electrical Engineering

Semester: 1ST

Subject: Engineering Graphics

Duration: 15 Weeks

Teaching Load: 6 Hours practical/week

Week	Day Lecture	Topic
1		**UNIT-I** **Introduction to Engineering Drawing and Graphics:** Introduction to Engineering Drawing and Graphics, Symbols and conventions-Conventions of Engineering Materials
		Sectional Breaks and Conventional lines, Civil Engineering Sanitary fitting symbols, Electrical fitting symbols for domestic interior installations.
2		**Geometrical construction**-geometrical figures such as triangles, rectangles, circles, ellipses and curves, hexagons, pentagons bisecting a line and arc , division of line and circle with the help of drawing instruments.
		Technical Lettering of Alphabet and Numerals: Definition and classification of lettering, Free hand (of height of 5,8,12 mm) and instrumental lettering (of height 20 to 35 mm) : upper case and lower case, single and double stroke
3		Vertical and inclined (Gothic lettering) at 75 degree to horizontal and with suitable height to width ratio 7:4.
		Dimensioning: Necessity of dimensioning, method and principles of dimensioning (mainly theoretical instructions).
4		Dimensioning of overall sizes, circles, threaded holes, chamfered surfaces, angles, tapered surfaces,
		Holes, equally spaced on P.C.D., countersunk holes, counter bored holes, cylindrical parts, narrow spaces and gaps, radii, curves and arches.
5		**Scales: Scales –**Needs and importance (theoretical instructions), Type of scales, Definition of Representative Fraction (R.F.) and Length of Scale.
		To draw/construct plain and diagonal scales.
6		Doubt Session
		1st sessional
7		**UNIT II** **Orthographic Projections:** Theory of orthographic projections (Elaborate theoretical instructions). Three views of orthographic projections of different objects of given pictorial view of a block in 1st and 3rd angle.
		Projection of Points in different quadrant, Projection of Straight Line (1st angle), Line parallel to both the planes
8		Line perpendicular to any one of the reference plane and parallel to others, Line inclined to any one of the references and parallel to another plane.

		Projection of Plane – Different lamina like square rectangular, triangular, circle and Hexagonal pentagon. Trace of planes (HT and VT). Identification of surfaces.
9		**Sectioning:** Importance and salient features, Drawing of full section, half section, partial or broken out sections, Offset sections, revolved sections and removed sections (theoretical only).
		Orthographic sectional views of different objects.
10		Doubt session
		2nd sessional
11		**UNIT III** Introduction of projection of right solids such as prism & pyramid (square, Pentagon, Hexagonal) cube, cone & cylinder (Axes perpendicular to H.P and parallel to V.P.) Introduction of sections of right solids - Section planes, Sections of Hexagonal prism, pentagon pyramid, cylinder and cone (Section plane parallel to anyone reference planes and perpendicular to V.P. and inclined to H.P.)
		Development of Surfaces – Development of lateral surfaces of right solids like cone, cylinder, pentagonal prism, pyramid and hexagonal pyramid (Simple problems)
12		**UNIT IV: Isometric Views** Fundamentals of isometric projections and isometric scale. Isometric views of different laminas like circle, pentagon and hexagon.
		Isometric views of different regular solids like cylinder, cone, cube, cuboid, pyramid and prism. Isometric views from given different orthographic projections(front, side and top view)
13		**UNIT-V: Introduction to AutoCAD** Basic introduction and operational instructions of various commands in AutoCAD. At least two sheets of different objects on AutoCAD (given pictorial/isometric view of a block).
		AutoCAD skill of student is evaluated in internal assessment only not in external exam.
14		Doubt session
		3rd sessional
15		Revision
		Revision