Lesson Plan

Name of the Faculty   :   Sh. Deepak Malhotra

Discipline   :   Civil Engg.

Semester   :   1st

Subject   **:**   **ENGINEERING GRAPHICS**

Lesson Plan duration :   16 weeks (from 11.10.2022 to 27.01.2023)

Work load per week   :   Lecture – 00, Practical – 02

| Week | Theory | | Execution | |
	Lecture	Topic (Including assessment/test)	Date	Sign.
1st	1st	**UNIT I** **1. Introduction to Engineering Drawing and Graphics** 1.1 Introduction to use and care of drawing instruments, drawing materials, layout and sizes of drawing sheets and drawing boards. 1.2 Symbols and conventions- a) Conventions of Engineering Materials, Sectional Breaks and Conventional lines. b) Civil Engineering Sanitary fitting symbols c) Electrical fitting symbols for domestic interior installations.		
	2nd	1.3 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.		
2nd	3rd	**2. Technical Lettering of Alphabet and Numerals** Definition and classification of lettering, Free hand (of height of 5,8,12 mm) lettering and instrumental lettering (of height 20 to 35 mm) : upper case and lower case, with suitable height to width ratio 7:4.		
	4th	instrumental lettering (of height 20 to 35 mm) : single and double stroke, with suitable height to width ratio 7:4.		
3rd	5th	instrumental lettering (of height 20 to 35 mm) : vertical and inclined (Gothic lettering) at 75 degree to horizontal and with suitable height to width ratio 7:4.		
	6th	**3. Dimensioning** 3.1 Necessity of dimensioning, method and principles of dimensioning (mainly theoretical instructions). 3.2 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.		

4th	7th	**4. Scales** 4.1 Scales –Needs and importance (theoretical instructions), Type of scales, Definition of Representative Fraction (R.F.) and Length of Scale. 4.2 To draw/construct plain and diagonal scales.		
	8th	4.2 To draw/construct plain and diagonal scales.		
5th	9th	**1st Sessional Test**		
	10th	**UNIT II** **1. Orthographic Projections** 1.1 Theory of orthographic projections (Elaborate theoretical instructions). 1.2 Three views of orthographic projections of different objects of given pictorial view of a block in 1st and 3rd angle.		
6th	11th	1.3 Projection of Points in different quadrant		
	12th	1.4 Projection of Straight Line (1_{st} angle) i. Line parallel to both the planes. ii. Line perpendicular to any one of the reference plane and parallel to others iii. Line inclined to any one of the references and parallel to another plane.		
7th	13th	1.5 Projection of Plane – Different lamina like square rectangular, triangular, circle and Hexagonal pentagon. Trace of planes (HT and VT).		
	14th	1.6 Identification of surfaces.		
8th	15th	**2. Sectioning** 2.1 Importance and salient features 2.2 Drawing of full section, half section, partial or broken out sections, Offset sections, revolved sections and removed sections (theoretical only).		
	16th	2.3 Orthographic sectional views of different objects		
9th	17th	**2nd Sessional Test**		
	18th	**UNIT III** 1. 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.)		

10th	19th	1. 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.)		
	20th	2. 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.)		
11th	21st	2. 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.)		
	22nd	3. Development of Surfaces – Development of lateral surfaces of right solids like cone, cylinder, pentagonal prism, pyramid and hexagonal pyramid (Simple problems)		
12th	23rd	3. Development of Surfaces – Development of lateral surfaces of right solids like cone, cylinder, pentagonal prism, pyramid and hexagonal pyramid (Simple problems)		
	24th	**UNIT IV** **Isometric Views** 1. Fundamentals of isometric projections and isometric scale. 2. Isometric views of different laminas like circle, pentagon and hexagon.		
13th	25th	3. Isometric views of different regular solids like cylinder, cone, cube, cuboid, pyramid and prism.		
	26th	4. Isometric views from given different orthographic projections(front, side and top view)		
14th	27th	**UNIT V** **Introduction to AutoCAD** Basic introduction and operational instructions of various commands in AutoCAD.		
	28th	**3rd Sessional Test**		
15th	29th	Basic introduction and operational instructions of various commands in AutoCAD.		
	30th	Basic introduction and operational instructions of various commands in AutoCAD.		
16th	31st	Revision		
	32nd	Evaluation		