Lesson Plan

Name of the faculty: Sh.Vikash Dahiya & Tasvir Singh, Lecturer in Mechanical Engg.

Discipline: Mechanical Engineering.

Semester: 1st Mechanical A & B

Subject: Engineering graphics

Lesson Plan Duration: 15 weeks (From March 2023 to June 2023)

***Work Load (Lecture/ Practical) per week (in hours):** Theory-06 hr/week

Week	Theory		Practical	
	Lecture day	Topic (including assignment / test)	Practical Day	Topic
1st	1st	Introduction to use and care of drawing instruments, drawing materials, layout and sizes of drawing sheets and drawing boards.	1st	
	2nd	Symbols and conventions- a) Conventions of Engineering Materials, Sectional Breaks and Conventional lines.		
	3rd	b) Civil Engineering Sanitary fitting symbols Electrical fitting symbols for domestic interior installations..	2nd	
2nd	1st	Electrical fitting symbols for domestic interior installations.	1st	
	2nd	Geometrical construction- geometrical figures such as triangles, rectangles, circles, ellipses and curves, hexagons, pentagons bisecting a line and arc ,		
	3rd	division of line and circle with the help of drawing instruments.	2nd	
3rd	1st	Technical Lettering of Alphabet and Numerals Definition and classification of lettering, Free hand	1st	

		(of height of 5,8,12 mm) and instrumental lettering (of height 20 to 35 mm) :		
	2nd	upper case and lower case, single and double stroke, vertical and inclined (Gothic lettering) at 75 degree to horizontal and with suitable height to width ratio 7:4.		
	3rd	Revision	2nd	
4th	1st	Dimensioning 3.1 Necessity of dimensioning, method and principles of dimensioning (mainly theoretical instructions).	1st	
	2nd	Dimensioning of overall sizes, circles, threaded holes, chamfered surfaces, angles, tapered surfaces, holes, equally spaced on P.C.D.,		
	3rd	countersunk holes, counter bored holes, cylindrical parts, narrow spaces and gaps, radii, curves and arches.	2nd	
5th	1st	4. Scales 4.1 Scales –Needs and importance (theoretical instructions),	1st	
	2nd	Type of scales, Definition of Representative Fraction (R.F.) and Length of Scale.		
	3rd	To draw/construct plain and diagonal scales.	2nd	
6th	1st	Sessional	1st	
	2nd	revision		
	3rd	revision	2nd	
7th	1st	1.1 Theory of orthographic projections (Elaborate theoretical instructions).	1st	
	2nd	1.2 Three views of orthographic projections of different objects of given pictorial view of a block in 1st and 3rd angle. 1.3 Projection of Points in different quadrant		
	3rd	1.4 Projection of Straight Line (1st 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	2nd	

		parallel to another plane		
8th	1st	. 1.5 Projection of Plane – Different lamina like square rectangular, triangular, circle and Hexagonal pentagon. Trace of planes (HT and VT). 1.6 Identification of surfaces.	1st	
	2nd	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).		
	3rd	2.3 Orthographic sectional views of different objects	2nd	
9th	1st	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	1st	
	2nd	.) 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.)		
	3rd	3. Development of Surfaces – Development of lateral surfaces of right solids like cone, cylinder, pentagonal prism, pyramid and hexagonal pyramid (Simple problems)	2nd	
10th	1st	Revision	1st	
	2nd	Revision		
	3rd	Sessional	2nd	
11th	1st	Fundamentals of isometric projections and isometric scale	1st	
	2nd	. 2. Isometric views of different laminas like circle, pentagon and		

		hexagon.		
	3rd	3. Isometric views of different regular solids like cylinder, cone, cube, cuboid, pyramid and prism	2nd	
12th	1st	. 4. Isometric views from given different orthographic projections(front, side and top view)		
	2nd	Doubt classes		
	3rd	Basic introduction and operational instructions of various commands in AutoCAD		
13th	1st	. 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.		
	2nd	AutoCAD skill of student is evaluated in internal assessment only not in external exam.		
	3rd	Doubt classes		
14th	1st	Revision		
	2nd	Revision		
	3rd	Sessional		
15th	1st	Revision		
	2nd	Doubt classes		
	3rd	Doubt classes		