VAISH TECHNICAL INSTITUTE ROHTAK

LESSON PLAN

Faculty Name: Anil Kumar Goel

Discipline: Civil Engg.

Subject: Engineering Graphics

Lesson Plan Duration:35 week		
Week	Practical	
Week 1	Day 1	Unit 1 Introduction to Engineering drawing
		1.1 Definition of engineering drawing, introduction to drawing instruments, materials, layout and sizes of drawing sheets and boards, Engineering graph book, different grades of pencils to be used
		1.2Different types of lines in engineering drawing as per bis specifications.
		1.3 Practices of vertical, horizontal ,inclined lines
Week 2	Day 1	1.4 Principles of dimensioning: Types, elements, placing different method of dimensioning
		1.5 Practice of geometrical figures such as triangles, rectangles circles, ellipse &parabola, Hexagonal, pentagon with the help of drawing instruments.
Week 3	Day 1	1.6 Defination and classification of lettering, single stroke vertical and inclined lettering at an angle of 75.
Week 4	Day 1	1.7 Free hand letter writing and sketches of various kinds of objects in graph paper
Week 5	Day 1	
		Unit 2 Graphics using CAD
		2.1Meaning,requirements of computer graphics ,CAD, Screen structures and toolbar in auto CAD, coordinate system, Drawing limits ,units
		2.2 practice of line.command, coordinates-absolute, incremental ,polar. Polyline, circle, arc
Week 6	Day 1	2.3using geometrical commands for making figures like triangle ,rectangle, hexagon, pentagon, parabola
		2.4Editing commands: scale, erase ,copy, stretch, lengthen and explode
Week 7	Day 1	2.5Use of snap, grid, Ortho mode for selection of points quickly. Use of these modes while picking points in line, circle plane, arc, ellipse etc commands.
Week 8	Day 1	
		Unit 3 scales
		3.1 Scales-their needs and importance, types of scale R.F, length of scale
Week 9	Day 1	3.2 Construction of plane and diagonal scale

		Unit 4 orthographic Projection
Week 10	Day 1	4.1 Theory of orthographic projection
		4.2 Projection of points in different quadrants
Week 11	Day 1	4.3 Projection of line(1st and 3rd angle0 4.3.1 Line parallel to both planes 4.3.2Line perpendicular to one of the principal plane 4.3.2 Line inclined to one of the principal plane and parallel to other
Week 12	Day 1	4.4Projection of solid-cube, cubiod, cone, prism, pyramid
Week 13	Day 1	4.5 three views of orthographic projections of different objects
Week 14	Day 1	4.6 Making above sheets in auto CAD
Week 15	Day 1	Unit 5 Sectioning and identification of surfaces
		5.1 Identification of surfaces, Importance and silent features of sectioning of objects.
Week 16	Day 1	5.2 Description of full section, Half section partial or broken out sections,Offset sections, revolved sections and removed sections
Week 17	Day 1	Unit 6 Isometric view
		6.1 Fundamentals of isometric projections and isometric scale
Week 18	Day 1	6.2 Isometric views of different objects
Week 19	Day 1	6.3 Auto CAD for the isometric views sheets. Making single computer sheets showing all the three views and isometric views of objects
Week 20	Day 1	Unit 7 Common symbols and conventions used in engineering
		7.1 Civil engineering sanitary fitting symbols
		7.2 Electrical fitting symbols for domestic interior installations
		7.3 Safety symbols used in engineering works
Week 21	Day 1	Unit 8 Development of surfaces (cylinder cubiod and cone)
		8.1 Parallel line Method
Week 22	Day 1	radial line method

Week 22	Day 1	Unit 9 Detail and assembly drawing
		9.1 Principal and utility of detailed and assembly drawings
		9.2 Wooden joints corner mortise and tenon joints, Tee halving joint mitre faced corner joint
Week 23	Day 1	Crossed wooden joint ,bridle joint ,Cogged joint, Dovetail joint, Through mortise& Tenon joint
Week 24	Day 1	Furniture joint drawing freehand and with the help of drawing instruments
		9.3 Making wooden joint sheets in auto CAD, rendering and showing assembly animation
Week 25	Day 1	Unit 10 Screw thread and threaded fasteners
		10.1 Thread terms and nomenclature
		10.1.1 Types of thread -external and internal thread ,right and left thread ,single and multiple thread
Week 26	Day1	10.1.2 Different forms of screw thread -v thread, Square thread ,acme thread, Buttress thread, knuckle thread
Week 27	Day1	10.2 Nuts and bolts
		10.2.1 Different views of hexagonal and square nuts, square and hexagonal headed bolt
Week 28	Day 1	10.2.2 Assembly of hexagonal headed bolt and hexagonal nut with washer
		10.2.3 Assembly of square headed bolt and hexagonal nut with washer
Week 29	Day 1	10.3 Locking devices
		10.3.1 Different types of locking devices -lock nut, castle nut ,split pin nut ,locking plate, slotted nut and spring washer
Week 30	Day 1	10.3.2 Foundation bolts -rag bolt, Lewis bolt , Curved bolts and eye bolt
Week 31	Day 1	10.3.3 Drawing of various types of studs
Week 32	Day 1	Unit 11Keys and Cotters
		11.1 Various types of keys and cotters-their practical applications, Drawing of various keys and cotter showing keys and cotter in positions
		11.2 Various types of joints : Spigot and socket joint
Week 33	Day 1	Gib and cotter joint, knuckle joint
Week 34	Day 1	Unit 12 Couplings
		12.1 Introduction to coupling, their uses and types
		12.2 Muff coupling
Week 35	Day 1	12.3 Flange coupling(protected type)
		12.4 Flexible coupling