

Engineering Graphics (For EEE, ECE and CSE branches)														
CourseCode	23ES1203				Year	I				Semester	II			
Course Category	Engineering Science				Branch	ECE				Course Type	Theory			
Credits	3				L-T-P	1-0-4				Prerequisites	Nil			
Continuous Internal Evaluation	30				Semester End Evaluation	70				Total Marks	100			
Course Outcomes														
Upon successful completion of the course, the student will be able to														
CO1	Construct regular polygons, conic sections, curves and scales used in Engineering practice.													
CO2	Construct orthographic projections of an object when its position is defined with respect to the reference planes.													
CO3	Develop the orthographic projections for the given isometric view.													
CO4	Develop the lateral surfaces of solids.													
CO5	Identify the appropriate commands that are used to prepare the given drawing in CAD environment													
Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3: High, 2: Medium, 1: Low)														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2							2	2	2		1	2
CO2	3	3							3	3	3		1	2
CO3	2	2							2	2	2		1	2
CO4	2	2							2	2	2		1	2
CO5	2				2				2	2	2		1	2
Syllabus														
Unit No.	Syllabus												Mapped CO's	
I	Introduction: Lines, Lettering and Dimensioning, Geometrical Constructions and Constructing regular polygons by general method. Curves: construction of ellipse, parabola and hyperbola by general method Cycloids, Involutives, Normal and tangent to the Curves. Scales: Plain scales and diagonal scales.												CO1	
II	Orthographic Projections: Reference plane, importance of reference lines orPlane, Projections of a point situated in any one of the four quadrants. Projections of Straight Lines: Projections of straight lines parallel to both reference planes, perpendicular to one reference plane and parallel to other reference plane, inclined to one reference plane and												CO2	

	parallel to the other reference plane. Projections of Straight Line Inclined to both the reference planes.	
III	<p>Projections of Planes: Regular planes only, Plane perpendicular to both reference planes, Plane parallel to one reference plane and perpendicular to the other reference plane, Plane inclined to one reference plane and perpendicular to the other reference plane, plane inclined to both the reference planes.</p> <p>Projections of Solids: Types of solids: Polyhedra and Solids of revolution. Projections of solids in simple positions: Axis perpendicular to horizontal plane, Axis perpendicular to vertical plane and Axis parallel to both the reference planes, Projection of Solids with axis inclined to one reference plane and parallel to other plane</p>	CO2
IV	<p>Sections of Solids: Perpendicular and inclined section planes, Sectional views and True shape of section, Sections of solids in simple position only.</p> <p>Development of Surfaces: Methods of Development: Parallel line development and radial line development. Development of a cube, prism, cylinder, pyramid and cone.</p>	CO3
V	Conversion of Views: Conversion of isometric views to orthographic views.	CO4
	Computer graphics: Creating 2D&3D drawings of objects including PCB and Transformations using Auto CAD (Not for end examination).	CO5
Learning Resources		
Text Books		
1. N.D. Bhatt, Engineering Drawing, 53 rd , Charotar Publishers, 2016.		
Reference Books		
1. K.L.Narayana and, P.Kannaiah, Engineering Drawing, Tata McGraw Hill, 2013.		
2. M.B.Shah and, B.C.Rana Engineering Drawing, Pearson Education Inc, 2009.		
3. M.B.Shah and, B.C.Rana Engineering Drawing with an Introduction to Auto CAD, Tata McGraw Hill, 2017.		
4. K. Venugopal, Engineering Drawing and Graphics, 6 th , New Age Publishers, 2011.		
e- Resources & other Digital material		
1. http://www.youtube.com/watch?v=XCWJ XrkWco , Accessed on 01-06-2017.		
2. http://www.me.umn.edu/courses/me2011/handouts/drawing/blanco-tutorial.html# isodrawing , Accessed on 01-06-2017.		
3. http://www.slideshare.net , Accessed on 01-06-2017.		
4. http://edpstuff.blogspot.in , Accessed on 01-06-2017.		