Prasad V. Potluri Siddhartha Institute of Technology, Kanuru, Vijayawada

PVP20

Department of Freshman Engineering

Engineering Graphics

Course Code	20ES1104	**Year**	I	**Semester**	I
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 conic sections and curves used in Engineering practice. (L3)
CO2	Construct orthographic projections of an object when its position is defined with respect to the reference planes. (L3)
CO3	Develop the isometric view for the given orthographic projections and vice versa. (L3)
CO4	Develop the lateral surfaces of solids. (L3)
CO5	Identify the appropriate commands that are used to prepare the given drawing in CAD environment. (L3)

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	
CO2	3	3							3	3	3		2	
CO3	2	2							2	2	2		2	
CO4	2	2							2	2	2		2	
CO5	2				2				2	2	2		3	

Syllabus

Unit No.	Syllabus	Mapped CO's
1	**Introduction to Engineering Graphics**: Principles of Engineering Graphics and their significance- Conventions in drawing, lettering, dimensioning, BIS conventions. a) **Conic sections**: Construction of ellipse, parabola and hyperbola (general method only) b) **Cycloidal curves**: Cycloid, Epicycloid and Hypocycloid c) **Involutes**: Involute of regular polygons and Circle.	CO1
2	**Projection of points, lines and planes:** Projection of points in different quadrants, lines inclined to one and both the reference planes, finding true length and inclination made by the line. Projections of regular plane surfaces.	CO2
3	**Projections of solids:** Projections of regular solids such as cube, prism, pyramid, cylinder and cone (Treatment limited to solids inclined to one of the reference planes). **Sections of solids**: Section planes and sectional view of right regular Solids- cube, prism, cylinder, pyramid and cone. True shape of the section. (Treatment limited to the solids perpendicular to one of the principal planes)	CO2
4	**Orthographic View**s: Systems of projections, conversion of	CO3

	Isometric view to orthographic view. **Isometric Projections**: Principles of Isometric projection- Isometric scale; **Isometric views**: lines, planes and solids. (Treatment is limited to simple objects only)	
5	**Development of surfaces:** Development of lateral surfaces of right regular solids-prism, cylinder, pyramid, cone and their sectional parts. (Treatment limited to solids perpendicular to one of the principal planes)	CO4
	Introduction to CAD: Basic drawing, editing and dimensioning commands: line, polyline, circle, arc, polygon, ellipse, rectangle, erase, undo, redo, snap, move, copy, rotate, scale, mirror, offset, layer, trim, extend, fillet, chamfer, array, linear and angular dimension.	CO5

Learning Resources

Text Books

1. N.D. Bhatt, Engineering Drawing, 53/e, Charotar Publishers,2016.
2. K.L. Narayana&P.Kannaiah,EngineeringDrawing,3/e,ScitechPublishers,2012

Reference Books

1. Dhanajay A Jolhe, Engineering Drawing, Tata McGraw-Hill,2009.
2. Shah and Rana, Engineering Drawing, 2/e, Pearson Education,2009.
3. K.Venugopal,EngineeringDrawingandGraphics,6/e,NewAgePublishers,2011.
4. K.C. John, Engineering Graphics, 2/e, PHI,2013.
5. Basant Agarwal and C.M. Agarwal, Engineering Drawing, TataMcGrawHill,2008.

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.