

**SREE VIDYANIKETHAN ENGINEERING COLLEGE (Autonomous)**  
SREE SAINATH NAGAR, A. RANGAMPET – 517 102

**LESSON PLAN**

**Name of the Subject** : Computer Aided Engineering Drawing

**Class & Semester** : I B.Tech - I Semester

S. No.	Topic	No. of periods	Book(s) followed	Topics for self-study
<b>UNIT – I: BASICS OF ENGINEERING DRAWING PRACTICE, GEOMETRICAL CONSTRUCTIONS, CONICS AND SPECIAL CURVES</b>				
1.	Introduction: Drawing Instruments and its uses- sheet layout - BIS conventions- Lines, Lettering and Dimensioning practices.	6	T1 & T2	1.Geometrical Constructions- Line, Circle, Division of line, Circle
2.	Geometrical sections: Construction of regular polygons Pentagon, Hexagon, heptagon and octagon.	3	T2	
3.	Conic Sections: Introduction - Construction of Ellipse: Rectangular method, Eccentricity method. Construction of Parabola: Rectangular method, Eccentricity method. Construction of Hyperbola: Eccentricity method.	6	T2	
4.	Special curves: cycloid, In volute.	3	T1	
<b>Total periods required:</b>		<b>18</b>		
<b>UNIT – II: INTRODUCTION TO COMPUTER AIDED SKETCHING</b>				
5.	Computer screen- layout of the software- Creation of 2D/3D environment- Selection of drawing size and scale-Standard tool bar/menus- Coordinate system- description of most commonly used toolbars- Navigational tools	6	T1	1. Practice of simple geometrical construction problems on AutoCAD
6.	Commands and creation of Lines- Co-ordinate points- axes- poly-lines, square, rectangle, polygons, splines, circles, ellipse, text	6	T1	
7.	Move, copy, off-set, mirror, rotate, trim, extend, break, chamfer, fillet, curves, constraints viz. tangency, parallelism, inclination and perpendicularity.	6	T1	
<b>Total periods required:</b>		<b>18</b>		

<b>UNIT-III: PROJECTION OF POINTS, STRAIGHT LINES AND PLANES</b>				
8.	Introduction-method of projection - Planes of projection, reference line and notations.	3	T2	1. Geometrical construction of simple planes
9.	Projection of points in all the four quadrants.	3	T1 & T2	
10.	Projection of straight lines: Lines inclined to HP / VP plane, inclined to both HP and VP planes (straight lines are assumed to be in first quadrant only)	7	T1 & T2	
11.	Projection of Planes: projection of Triangle, Square, Rectangle, Rhombus, Pentagon, Hexagon and Circular plane for the condition inclined to HP / VP by change of position method.	8	T1 & T2	
<b>Total periods required:</b>		<b>21</b>		
<b>UNIT – IV: PROJECTION OF SOLIDS AND SECTION OF SOLIDS</b>				
12.	Projections of Solids: Introduction - Projection of solids: prisms, pyramids, (with Axis perpendicular to VP/HP and Axis inclined to VP/HP only).	6	T1 & T2	1. Geometrical construction of simple solids
13.	Projection of solids: cylinders and cones (with Axis perpendicular to VP/HP and Axis inclined to VP/HP only).	4	T1 & T2	
14.	Sections of solids: Introduction – cutting plane - sectional views of right regular solids resting with base on HP: Prisms, pyramids (True shapes of the sections).	6	T1 & T2	
15.	Sectional views of right regular solids resting with base on HP: cylinder and cone (True shapes of the sections).	5	T1 & T2	
<b>Total periods required:</b>		<b>21</b>		
<b>UNIT – V: ORTHOGRAPHIC, ISOMETRIC AND DEVELOPMENT OF SURFACES</b>				
16.	Orthographic projection: simple exercises	7	T1 & T2	Practice of simple isometric views on a isometric graph paper.
17.	Isometric projection : Simple exercises	7	T1 & T2	
18.	Development of Surfaces: prisms, pyramids, cylinders, cone and miscellaneous surfaces	8	T1 & T2	
<b>Total periods required:</b>		<b>22</b>		
<b>Grand total periods required:</b>		<b>100</b>		

**TEXT BOOKS:**

T1. D.M.Kulkarni, A.P.Rastogi, A.K.Sarkar, Engineering Graphics with AutoCAD, PHI Learning Private Limited, New Delhi, Revised Edition, 2010.

T2. N D Bhat & V M Panchal, Engineering Drawing, Charotar Publishing House, Gujarat, 51<sup>st</sup> edition, 2013.

**REFERENCE BOOKS:**

- R1. Sham Tickoo, AutoCAD 2013 for Engineers and Designers, Dreamtech Press, 2013.
- R2. M.H. Annaiah & Rajashekar Patil, Computer Aided Engineering Drawing, New Age International Publishers, 4<sup>th</sup> Edition, 2012.
- R3. T. Jeyapoovan, Engineering Drawing and Graphics Using AutoCAD, Vikas Publishing House, 3<sup>rd</sup> Edition, 2010.
- R4. Jolhe, Engineering Drawing, Tata McGraw Hill Education Private Limited, 1<sup>st</sup> Edition, 2007.
- R5. Basant Aggarwal, Engineering Drawing, Tata McGraw Hill Education Private Limited, 1<sup>st</sup> Edition, 2008.