



SWARNANDHRA COLLEGE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

Accredited by National Board of Accreditation, AICTE, New Delhi, Accredited by
NAAC with 'A' Grade – 3.32 CGPA, Recognized under 2(f) & 12(B) of UGC Act 1956
Approved by AICTE, New Delhi, Permanent Affiliation to JNTUK, Kakinada,
Seetharampuram, W.G.DT., Narsapur-534280, (Andhra Pradesh)

DEPARTMENT OF MECHANICAL ENGINEERING

TEACHING PLAN

Course Code	Course Title	Semester	Branches	Contact Periods /Week	Academic Year	Date of commencement of Semester
20MEIT01	ENGINEERING GRAPHICS	I	ME	6	2021-22	29-11-2021

COURSE OUTCOMES

1	Construct polygons, conics, cycloids, involutes. (K3)
2	Draw the orthographic projections of points, lines and planes in different positions. (K3)
3	Draw the orthographic projections of solids in different views. (K3)
4	Draw the orthographic projections of sectioned solids and development of surface of solids. (K3)
5	Prepare Isometric views of simple solids and conversion of Isometric to Orthographic views and vice-versa. (K3)

UNIT	Out Comes /Bloom's Level	Topics No.	Topics/Activity	Text Book / Reference	Contact Hour	Delivery Method
UNIT-I POLYGONS AND PLANE CURVES	Construct polygons, conics, cycloids, involutes. (K3)	1.1	INTRODUCTION: Engineering Graphics, drawing instruments and their uses, Sheet layout, sizes, border lines, title block, types of lines, and dimensioning	T1, T2 & R1	1	Chalk & Talk, PPT
		1.2	GEOMETRICAL CONSTRUCTIONS: Bisecting a line, To divide a line, To bisect an angle constructions of Polygons using general Method	T1, T2 R1	1	Chalk & Talk, PPT Video presentation
			Practice		3	
		1.3	CONICS: Constructions of ellipse, Parabola and hyperbola by Eccentricity Method.	T1, T2 & R1	2	Chalk & Talk, PPT Video presentation
		1.4	CYCLIODAL CURVES: Constructions of cycloid, Constructions of involutes.	T1, T2 & R1	2	Chalk & Talk, PPT Video presentation
			Practice		3	

UNIT-II. PROJECTION OF POINTS, LINES AND PLANES	Draw the orthographic projections of points, lines and planes in different positions. (K3)	2.1	Introduction to Orthographic projections-Projections of Points.	T1, T2 R1, R2	2	Chalk & Talk, PPT Video presentation
		2.2	Projections of straight lines parallel to both the planes, Perpendicular to one of the planes, Inclined to one plane and parallel to the other.	T1, T2 R1, R2	2	Chalk & Talk, PPT Video presentation
			Practice		3	
		2.3	Line inclined to both the planes. (First angle projections only)	T1, T2 R1, R2	2	Chalk & Talk, PPT Video presentation
			Practice		3	
		2.4	Introduction to planes, planes perpendicular to both the reference Plane, Perpendicular to one Plane, Perpendicular to parallel to other plane.	T1, T2 R1, R2	2	Chalk & Talk, PPT Video presentation
			Practice		3	
		2.5	Planes inclined to both the planes. (First angle projections only)	T1, T2 R1,R2	2	Chalk & Talk, PPT Video presentation
			Practice		3	
		UNIT-III. PROJECTIONS OF SOLIDS	Draw the orthographic projections of solids in different views. (K3)	3.1	Projection of simple solids like - Triangular, square, pantagonal & haxagonal Prisms, cylinder, Triangular, square, pantagonal & haxagonal pyramids and Cone. Projections of solids in simple positions like Axis perpendicular to the H.P., Axis perpendicular to the V.P. and Axis parallel to both the H.P. and the V.P.	T1, T2 R1,R3
Practice					3	
3.2	Projections of solids with axes inclined to one of the reference planes and parallel to the other, axes inclined to both the H.P. and the V.P.			T1, T2 R1, R3	2	Chalk & Talk, PPT Video presentation
	Practice				3	

UNIT-IV. PROJECTION OF SECTIONED SOLIDS AND DEVELOPMENT OF SURFACES	Draw the orthographic projections of sectioned solids and development of surface of solids. (K3)	4.1	Sectioning of solids in simple vertical position when the cutting plane is inclined to the one of the principle planes and perpendicular to the other – obtaining true shape of section.	T1, T2 R1, R3	2	Chalk & Talk, PPT Video presentation	
			Practice		3		
		4.2	Development of lateral surfaces of simple and sectioned solids – Prisms, pyramids, cylinders and cones.	T1, T2 R1, R3	2	Chalk & Talk, PPT Video presentation	
			Practice		3		
		5.1	Isometric scale – Isometric projections of simple solids - Prisms, pyramids, cylinders, cones - combination of two solid objects in simple vertical positions	T1, T2 R1, R3	2	Chalk & Talk, PPT Video presentation	
			Practice		3		
UNIT-V. ISOMETRIC PROJECTIONS	Prepare Isometric views of simple solids and conversion of Isometric to Orthographic views and vice-versa. (K3)	5.2	Conversion of Isometric views to Orthographic views and Conversion of Orthographic views to Isometric views.	T1, T2 R1, R3	2	Chalk & Talk, PPT Video presentation	
			Practice		3		
		CUMULATIVE PROPOSED PERIODS					
		64					
TEXT BOOKS:							
S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION						
1.	N.D. Butt, Engineering Drawing ,53 rd Edition, Chariot Publications 2016						
2.	K Venugopal, V. Prabhu Raja, Engineering Drawing + AutoCAD , 5 th Edition , New Age 2011.						
Reference Books:							
S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION						
1.	K.L.Narayana, Engineering Drawing by Autocad 2016 , 1 st edition, New Age International Publishers, 2018.						
2.	K.C. John, Engineering Graphics for Degree, 1 st edition, PHI Publishers 2009.						
3.	PI Varghese, Engineering Graphics, 1 st edition, McGrawHill Publishers, 2013						
Web Details							
1.	https://nptel.ac.in/courses/112/103/112103019/						
2.	https://www.slideshare.net/VivekSricharan/ist-year-engineeringgraphicsedforbeststudents-1-1						

3.	https://ocw.mit.edu/courses/mechanical-engineering/2-007-design-and-manufacturing-i-spring-2009/related-resources/drawing_and_sketching/
4.	https://sites.google.com/a/cmrit.ac.in/dinesh_caed

Name		Signature with Date
i. Faculty	Mr. V. Manikyalarao	V Manikyalarao
ii. Faculty II (for common Course)	Mr. L. Ravi Kishore	L. Ravi Kishore
iii. Course Coordinator	Mr. P. S. N. Raju	P. S. N. Raju
iv. Module Coordinator	Dr. M. Francis Luther King	M. Francis Luther King
v. Programme Coordinator	Dr. A. Gopi Chand	A. Gopi Chand

Principal 