SCHEME OF COURSE WORK

Course Details:

Course Title	ENGINEERING DRAWING		
Course Code	15ME1102	L T P C	1 0 3 3
Program:	B.Tech.		
Specialization:	Information Technology		
Semester	II		
Prerequisites			
Courses to which it is a prerequisite	N/A		

Course Outcomes (COs): The student will be able to

1	Draw geometrical constructions, conics, and cycloidal curves
2	Draw projections of points and lines
3	Draw projections of planes
4	Draw projection of solids
5	Draw isometric views

Program Outcomes (POs):

A graduate of mechanical engineering will be able to

1	Apply the knowledge of mathematics, science, engineering fundamentals to solve complex mechanical engineering problems.
2	Attain the capability to identify, formulate and analyse problems related to mechanical engineering.
3	Design solutions for mechanical system components and processes that meet the specified needs with appropriate consideration for public health and safety.
4	Conduct experiments, perform analysis and interpretation of data by using research methods such as design of experiments to synthesize the information and to provide valid conclusions.
5	Select and apply appropriate techniques from the available resources and current mechanical engineering and software tools.
6	Carry out their professional practice in mechanical engineering by appropriately considering and weighing the issues related to society.
7	Understand the impact of the professional engineering solutions on environmental safety and legal issues.
8	Transform into responsible citizens by resorting to professional ethics and norms of the engineering practice.
9	Function effectively in individual capacity as well as a member in diverse teams and in multidisciplinary streams.
10	Communicate fluently with the engineering community and society, and will be able to prepare reports and make presentations effectively.
11	Apply knowledge of the engineering and management principles to managing projects and finance in multidisciplinary environments.
12	Engage themselves in independent and life-long learning to continuing professional practice in their specialized areas of mechanical engineering.

Course Outcome Versus Program Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO-1				3	3										
CO-2	2			2	3					2					
CO-3	2			2	3					2					

CO-4	2			2	2					2		3			
CO-5	3			2	2					2		3			

S - Strongly correlated, M - Moderately correlated, Blank - No correlation

Assessment Methods:	Day to day evaluation/Mid-Test I & II/ End Exam

Teaching-Learning and Evaluation

Week	Topic / Contents	Course Outcomes	Sample Questions	*Teaching-Learning Strategy	Assessment Method & Schedule
1	Introduction to engineering drawing & basics of geometrical construction	CO 1	Construct regular octagon with the length of side 30 mm.	Lecture Drawing practice	Continuous Evaluation
2	Construction of parabola, ellipse, hyperbola-general method	CO 1	Construct an ellipse, when the distance of the focus from the directrix is equal to 60 mm and eccentricity 2/3. Also draw a normal and tangent to the curve at a point 35 mm from the focus.	Lecture Drawing practice	Continuous Evaluation
3	Cycloid, epicycloids, hypocycloid, involutes of circle and square	CO 1	Draw the involute of a circle of 40 mm diameter. Also draw a tangent and normal to the curve at a point 95 from the centre of circle.	Lecture Drawing practice	Continuous Evaluation
4	Projections of points	CO 2	A point P is 15 mm above the HP and 20 mm in front of VP. Another point Q is 25 mm behind VP and 40 mm below the HP. Draw project of P and Q keeping the distance between the projectors 60 mm apart. Draw the straight line joining their top views and their front views.	Lecture Drawing practice	Continuous Evaluation

5	Projections of lines inclined to one plane	CO 2	A 100 mm long line is parallel to and 40 mm above the HP. Its two ends are 25 mm and 50 mm in front of VP respectively. Draw its projections and find its inclination with the VP	Lecture Drawing practice	Continuous Evaluation
	Lab internal exam 1				
6	Projections of lines inclined to both the planes	CO 2	The front view of a line, inclined at 30^0 to the VP is 65 mm long. Draw the projections of the line , when it is parallel to and 40 mm	Lecture Drawing practice	Continuous Evaluation
			above the HP., its one end being 30 mm in front of the VP		
7	Projections of planes inclined to one plane	CO 3	A regular pentagon of 25mm side has one side on the ground. Its plane is inclined at 45^0 to the HP and perpendicular to the VP. Draw its projections.	Lecture Drawing practice	Continuous Evaluation
8	Projections of planes inclined to both the planes	CO 3	Draw the projections of a regular hexagon of 25 mm, having one of its sides in the HP and inclined at 60^0 to the VP and its surface is making an of an angle of 45^0 with the HP.	Drawing practice	Continuous Evaluation
9	Projections of solids in simple positions	CO 4	Draw the projections of a pentagonal pyramid, base 30 mm edge and axis 50 mm long, having its base on the HP and an edge on base parallel to the VP .	Lecture Drawing practice	Continuous Evaluation
10	Projections of solids inclined to both the planes	CO 4	A hexagonal prism, edge of base 25mm and height 60mm rests on one of its base edges in HP such that its axis is parallel to the VP. Draw the projections of the solid when the rectangular face contained the base edge is inclined to HP at 45^0	Lecture Drawing practice	Continuous Evaluation

11	Isometric views	CO 5	Draw the isometric view of a cylinder, diameter 50 and axis 80 long.	Lecture Drawing practice	Continuous Evaluation
12	Lab internal exam 2				
13	End examination				
6					Individual or Team Presentation
7					Feedback & Continuous Evaluation, Individual or Team Presentation
8	LAB CYCLE TEST - I				
9					Feedback & Continuous Evaluation
10					Feedback & Continuous Evaluation
11					Feedback & Continuous Evaluation, Internal test / End Exam
12					Feedback & Continuous Evaluation, Internal test / End Exam
13					Feedback & Continuous Evaluation, Internal test / End Exam
14					Feedback & Continuous

15					
16					Evaluation
17	LAB CYCLE TEST - II				
18/19	END EXAM				