COMPUTER AIDED AIRCRAFT MODELLING LAB

III Semester

Course Code	Category	Hours / Week			Credits	Maximum Marks		
		L	T	P	C	CIA	SEE	Total
A5AE09	ESC	-	-	3	1.5	30	70	100

COURSE OBJECTIVES:

Students Should able to

1. Draw various machine components in drawing lab.
2. Draw various individual components, sub-assemblies and main assemblies in drawing lab.
3. Discuss the importance of design process and studying the different phases of designing process involved in the design.
4. Understand the Integrated product development and principles of baseline design cost
5. Understand the design of aircraft concepts.
   Design various aircraft components by using CATIA software

UNIT-I

Machine Drawing conventions Need for Drawings conventions – Introduction to ISI - conventions.

1 Conventional representation of material, common machine elements and parts such as screws, nuts, bolts, keys, gears and welding.
2 Types of sections – Selection planes and drawing of section and auxiliary sectional views. Parts not usually sectioned.

UNIT-II

Drawing of Machine Elements and simple parts. Section of views, additional views for the following machine elements and parts with every drawing proportions.

1 Popular forms of screw threads, bolts, set screws and bolted joints.
2 Keys, cottered joint and knuckle joint
3 Riveted joints for plates
4 Shaft couplings - spigot and socket joint

UNIT-III

Introduction to Autocad –Advantages, Features and merits over manual drawing.

1 Object snap commands – Function keys.
2 Practice on Draw commands
3 Practice on Modify commands
4 Practice on View and other commands
5 Practice on Simple excersies

Reference Books:

1.K. L. Narayana, P. Kannaiah, Venkata Reddy,Machine Drawing, New Age publication.

Note: 40% Course Work should be done on Drawing Board & 60% Course Work should be done by computer

COURSE OUTCOMES:

1. Understand the importance of drawing and design process and phases involved in the design process.
2. Ability to draw various individual components, sub-assemblies and main assemblies in drawing lab.
3. Ability to draw various orthographic and isometric projections in drawing sheets.
4. Ability to develop and understand Basic Concepts of aircraft
5. Ability to draw various orthographic and isometric projections of an aircraft components by using auto-cad software.