CH/CE/EC/ EE/ME164	ENGINEERING WORKSHOP	L	T	P	C	Int	Ext
		-	-	3	1.5	30	70

Semester II [First Year]

COURSE OBJECTIVES:

Engineers, whatever is their line of activity, must be proficient with all aspects of manufacturing, however it should not be forgotten that practice without theory is blind and the theory without practice is lame.

1. Students involved in acquiring manufacturing skills must have balanced knowledge of theory as well as practice.
2. Imparts basic knowledge of various tools and their use in different sections of manufacture such as fitting, carpentry, tin smithy, moulding, casting, welding, electrical wiring, PCB work on electronic circuits and practice with machine shop tools &equipmentÃ¢â‚¬â„¢s.

COURSE OUTCOMES:

After the successful completion of the course,students are able to

1. Identify workshop tools and their operational capabilities
2. Practice on manufacturing of components using workshop trades including fitting, carpentry, foundry and welding
3. Apply fitting operations in various applications
4. Apply basic electrical engineering knowledge for House Wiring Practice

EXPERIMENTS:

1. Welding shop (both arc & gas welding)
   1.Square butt joint
   2.Lap joint
   3.Single v butt joint
   4.Gas welding & Cutting
2. Fitting Shop & Casting
   1.Inclined fit
   2.Half round fit
   3.V fit
   4.Moulding and casting of Hand wheel
3. Practice on electrical wiring and Electronic circuit boards
   1.One bulb controlled by one switch & one bulb controlled by two switches
   2.Two bulbs controlled by one switch (Stair case connection)
   3.Tube light connection
   4.Measurement of resistance, voltage and current with the help of a multi-meter
   5.soldering on an electronic PCB circuit
4. Machine Shop
   Demo Practice of machining operations on Lathe, Milling, Shaping, Drilling and Slotting Machines
5. Carpentry
   1.Lap joint
   2.Cross lap joint
   3.Dovetail joint
   4.Turning on wood turning Lathe
6. Tin Smithy
   1.Rectangular tray
   2.Funnel
   3.Pipe joint
   4.Rectangular Scoop

Note:**

A minimum of 2(Two) from each trade - Total 10 (Ten) experiments-have to be Performed and recorded by the candidate to attain eligibility for Semester End Practical Examination.

LEARNING RESOURCES:

TEXT BOOK(s):

1. Kannaiah P. & Narayana K. C., "Manual on Work Shop Practice", SciTech Publications, Chennai, 1999.
2. Workshop Lab Manual, R.V.R. & J.C. College of Engineering, Guntur.

REFERENCE BOOK:

Hajra Choudhury S, K., Hajra Choudhury A.K and Nirjhar Roy S.K. - Elements of Workshop Technology, Volume I and Volume II, 2010, Media promoters and publishers private limited, Mumbai.