

Kerala Technological university KTU First year B.tech Syllabus
for **ME110 Mechanical Engineering Workshop**

Course No. : ME110

Course Name: Mechanical Engineering Workshop

L-T-P-Credits: 0-0-2-1

Year of Introduction: 2015

Course Objectives, Syllabus:

Introduction to manufacturing process and their applications. Familiarization of various tools, measuring devices, practices and machines used in various workshop sections.

List Of Exercises / Experiments (Minimum Of 8 Mandatory)

General : Studies of mechanical tools, components and their applications: (a) Tools: Screw drivers, spanners, allen keys, Cutting pliers etc. And accessories (b) Components: Bearings, seals, O-rings, circlips, keys etc.

Carpentry : Any one model from the following: 1. T-Lap joint 2. Cross lap joint 3. Dovetail joint 4. Mortise joint

Smithy: (a) Demonstrating the forgability of different materials (MS, Al, Alloy steel and Cast steel) in cold and hot states. (b) Observing the qualitative differences in the hardness of these materials (c) Determining the shape and dimensional variations of Al test specimen due to forging under different states by visual inspection and measurements

Foundry : Any one exercise from the following 1. Bench moulding 2. Floor moulding 3. Core making

Sheet metal : Any one exercise from the following Making 1. Cylindrical 2. Conical 3. Prismatic shaped jobs from sheet metal

Welding : Any one exercise from the following Making joints using Electric arc welding. Bead formation in horizontal, vertical and overhead positions

Fitting and Assembly : Filing exercise and any one of the following exercises Disassembling and reassembling of 1. cylinder piston assembly 2. Tail stock assembly 3. Time piece/clock 4. Bicycle or any machine.

Machines : Demonstration and applications of Drilling machine, Grinding machine, Shaping machine, Milling machine and lathe