

## Department of Mechanical Engineering

**Subject Code:** TR 101

**Subject Name:** Institutional Training

<b>Programme:</b> B.Tech.	<b>20 hours per week</b>
<b>Semester:</b> End of 2 <sup>nd</sup> sem.	<b>Teaching Hours:</b> 80
<b>Theory/Practical:</b> Practical	<b>Credits:</b> 1
<b>Internal Marks:</b> 60	
<b>External Marks:</b> 40	
<b>Total Marks:</b> 100	

At the end of the training student will be able to ;

CO#	Course Outcomes(CO)
1	Make various carpentry utility items with use of various joints.
2	Practicise various forging, welding, electric, sheet metal tools and equipment.
3	Make mould and cast product of different shapes.
4	Finish various jobs by using finishing tools.
5	Operate different metal cutting machines and perform different operations.
6	Draw various mechanical parts with the help of drafting software.

**Note:**

Students will have to undergo Industrial Training in the College Workshop at the end of 2<sup>nd</sup> Semester for Four (04) weeks.

Sr.No.	Detailed Contents
1.	<b>Carpentry Shop:</b> Practice of haunched mortise and tenon Joint, common multiple joint, Dove Tail Joint etc. for various carpentry utility items.
2.	<b>Blacksmithy Shop:</b> Practice of hand forging to make hexagonal chisel, octagonal punch etc. from mild steel rod.
3.	<b>Foundry Shop:</b> Molding practice to make self core pattern, blower stand pattern, washing Machine impeller pattern etc.
4.	<b>Fitting Shop:</b> Filing and fitting practice with the use of various tools.
5.	<b>Machine Shop:</b> Practice on lathe Machine and milling machine to produce a BSW thread cutting and gear cutting etc.
6.	<b>Welding Shop and Sheet Metal:</b> Practice on various machine like AC/DC arc welding, MIG/TIG, cutting, bending and shearing etc. to make various joints for welding and sheet metal utility items.
7.	<b>Electrical Shop:</b> Practice and fault finding of house wiring and domestic appliances.
8.	<b>CAD Laboratory:</b> Instructions related to Drawing Commands, Dimensioning Commands, and Modify Commands. Study and draw 2-D sketching entities like lines, rectangle, parallelogram polygon, circle, arc etc. Exercises: Rectangular array, Circular array etc.

**Reference Material**

Manuals available in the Labs.

*P. S. Bilge*  
05/07/2019