

## WORKSHOP PRACTICES

<b>I B. TECH- I SEMESTER</b>								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
		L	T	P	C	CIE	SEE	Total
<b>A4AE63</b>	<b>ESC</b>	-	-	4	2	30	70	100
<b>COURSE OBJECTIVES:</b>								
Student will								
<ol style="list-style-type: none"> <li>1. Get the hands-on experience on various trades.</li> <li>2. Perform various machining operations.</li> <li>3. Capable to make useful products using one or more operations</li> </ol>								
<b>COURSE OUTCOMES:</b>								
Student will be able to:								
<ol style="list-style-type: none"> <li>1. Fabricate components with their own hands</li> <li>2. Get practical knowledge of the dimensional accuracies and tolerances possible with different manufacturing processes</li> <li>3. Assemble different components</li> <li>4. Produce small devices of their interest</li> </ol>								
<b>LIST OF EXPERIMENTS</b>								
<b>WEEKS</b>	<b>BASIC TRADES</b>				<b>BASIC MANUFACTURING</b>			
	<b>Fitting</b>				<b>Machine Shop</b>			
<b>WEEK 1</b>	Filing Four Sides of Work piece				Facing & Step Turning on Lathe			
<b>WEEK 2</b>	L- Fit				Milling and Drilling			
	<b>Carpentry</b>				<b>Black Smithy</b>			
<b>WEEK 3</b>	Half Lap Joint				Convert round rod to S-hook			
<b>WEEK 4</b>	Dove Tail Joint				Convert round rod to Chisel			
	<b>Tin Smithy</b>				<b>Casting</b>			
<b>WEEK 5</b>	Tin Smithy- Prepare a Rectangular Tray				Preparation of Mould Cavity for Multi Piece Pattern			
<b>WEEK 6</b>	Prepare A Square Tin				Casting of Simple pattern			
	<b>Electrical</b>				<b>Welding Shop</b>			
<b>WEEK 7</b>	House Wiring Parallel and Series Connection				Lap/Butt joint Using Arc Welding			
<b>WEEK 8</b>	House Wiring Two Way Switch				Lap/Butt joint Using Gas Welding			
	<b>Electronics</b>				<b>Plastic Moulding &amp; Glass Cutting</b>			
<b>WEEK 9</b>	Soldering Parallel Connection				Injection moulding of Simple Components			
<b>WEEK 10</b>	Soldering Series Connection				Glass Cutting			
<b>WEEK 11</b>	Revision/Practice				Revision/Practice			

<b>TEXT BOOKS:</b>
<ol style="list-style-type: none"><li>1. <b>Workshop Manual by P. Kannaiah and K. L. Narayana.</b></li><li>2. Rao P.N., "Manufacturing Technology", Tata McGraw Hill House, Vol. I and Vol. II.</li></ol>
<b>REFERENCE BOOKS:</b>
<ol style="list-style-type: none"><li>1. Hajra Choudhury S.K., Hajra Choudhury A.K. and Nirjhar Roy S.K., "Elements of Workshop Technology", Media promoters and publishers private limited, Mumbai, Vol. I 2008 and Vol. II 2010.</li><li>2. H. S. Bawa, "Workshop Practice", Tata McGraw-Hill Publishing Company Limited, New Delhi, (2007).</li><li>3. Kalpakjian S. and Steven S. Schmid, "Manufacturing Engineering and Technology", Pearson Education India Edition, 4<sup>th</sup> edition, 2002.</li></ol>
<b>E-TEXT BOOKS:</b>
<ol style="list-style-type: none"><li>1. <a href="https://blogpuneet.files.wordpress.com/2013/07/introduction-to-basic-manufacturing-processes-and-workshop-technology.pdf">https://blogpuneet.files.wordpress.com/2013/07/introduction-to-basic-manufacturing-processes-and-workshop-technology.pdf</a></li><li>2. <a href="https://soaneemrana.org/onewebmedia/Manufacturing%20Processes%20By%20H.N.%20Gupta.pdf">https://soaneemrana.org/onewebmedia/Manufacturing%20Processes%20By%20H.N.%20Gupta.pdf</a></li></ol>
<b>MOOC COURSE:</b>
<ol style="list-style-type: none"><li>1. <a href="https://www.class-central.com/course/edx-fundamentals-of-manufacturing-processes-7224">https://www.class-central.com/course/edx-fundamentals-of-manufacturing-processes-7224</a></li></ol>