

**Faculty of Mechanical Engineering**  
**B.E. Materials Science and Engineering**  
**(R 2017) Semester – III**  
**CE8481 STRENGTH OF MATERIALS LABORATORY**  
**Requirements for a batch of 30 students**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	UTM of minimum 400 kN capacity	1		
2.	Torsion testing machine	1		
3.	Izod impact testing machine	1		
4.	Hardness testing machine Rockwell, Vicker's, Brinell (any 2)	1		
5.	Beam deflection test apparatus	1		
6.	Extensometer	1		
7.	Compressometer	1		
8.	Dial gauges	1		
9.	Le Chatelier's apparatus	2		
10.	Vicat's apparatus	2		
11.	Mortar cube moulds	10		

**Faculty of Mechanical Engineering**  
**B.E. Materials Science and Engineering**  
**(R 2017) Semester – III**  
**ML8311 MICROSTRUCTURE ANALYSIS LABORATORY**  
**Requirements for a batch of 30 students**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	Mounting Press	2		
2.	Belt Grinder	2		
3.	Polishing table with row of flat slant metal pieces to fix emery sheets	6		
4.	Disc polishing equipment	6		
5.	Abrasive Cutter	2		
6.	Metallographic Microscope with image analyzer	2		

**B.E. Materials Science and Engineering**  
**(R 2017) Semester – IV**  
**ME8461 MANUFACTURING TECHNOLOGY LABORATORY**  
**Requirements for a batch of 30 students**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	Lathe	15		
2.	Drilling Machine	1		
3.	Milling Machine	2		
4.	Planing Machine	1		
5.	Shaping Machine	2		

**B.E. Materials Science and Engineering**  
**(R 2017) Semester – IV**  
**ML8411 FOUNDRY AND POWDER METALLURGY LABORATORY**  
**Requirements for a batch of 30 students**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	Sieve shaker with set of sieves	1		
2.	Infrared Moisture balance	2		
3.	Permeability meter	1		
4.	AFS sand rammer, base block, base permeability tube, tube filler accessory.	1		
5.	Clay washer	1		
6.	Muffle furnace	1		
7.	Universal strength testing machine (Hydraulic)	1		
8.	Scratch hardness tester	1		
9.	Compactability specimen tube, Compactability scale, Knife	1		
10.	Moulding box with patterns	1		
11.	Sand mixer	1		
12.	Digital top balance	1		

**B.E. Materials Science and Engineering**  
**(R 2017) Semester – V**  
**ML8511 HEAT TREATMENT LABORATORY**  
**Requirements for a batch of 30 students**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	Heat treatment furnace	2		
2.	Joining end Quench test apparatus	1		
3.	Hardness testing machine	1		
4.	Optical microscope with usage analyser	1		

**B.E. Materials Science and Engineering**  
**(R 2017) Semester – V**  
**ML8512 METAL FORMING AND WELDING ANALYSIS LABORATORY**  
**Requirements for a batch of 30 students**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	Ericson Cup test machine	1		
2.	Three roll mill	1		
3.	Hydraulic press 60T.	1		
4.	Extrusion die - cold	1		
5.	Die penetration test	1		
6.	Ultrasonic flaw detector	1		
7.	UTM	1		
8.	Vicker Hardness tester	1		
9.	Image analyser	1		

**B.E. Materials Science and Engineering**  
**(R 2017) Semester – VI**  
**ML8611 COMPOSITE MATERIALS LABORATORY**  
**Requirements for a batch of 30 students**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	Tensile testing machine	1		
2.	Hardness testing machine ( Knoop,Brinell)	1		
3.	Drop weight impact tester	1		
4.	Stir casting set up	1		
5.	Optical microscope	1		
6.	Humidifier	1		
7.	Hot testile testing machine	1		
8.	Weighting balance	1		
9.	Flexural testing machine	1		

**B.E. Materials Science and Engineering**  
**(R 2017) Semester – VI**  
**ML8612 MATERIALS CHARACTERIZATION LABORATORY**  
**Requirements for a batch of 30 students**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	Metallographic Microscope with image analyzer	10		
2.	X-ray Diffractometer (XRD)	1		
3.	Scanning Electron Microscope (SEM)	1		
4.	Transmission Electron Microscope (TEM)	1		



**B.E. Materials Science and Engineering**  
**(R 2017) Semester – VII**  
**MF8761 COMPUTER AIDED SIMULATION AND ANALYSIS LABORATORY**  
**Requirements for a batch of 30 students**

<b>Sl. No.</b>	<b>Description of Equipment</b>	<b>Quantity required (R)</b>	<b>Quantity available (A)</b>	<b>Deficiency (R - A)</b>
1.	Finite Element Analysis Software, MATLAB Software, Computers with necessary	30		