

**Electrical Engineering Department**  
**Lesson plan**

<b>Name of Faculty</b>	<b>Parveen Dahiya</b>
<b>Discipline</b>	<b>Electrical Engineering</b>
<b>Semester</b>	<b>Third Sem (3<sup>rd</sup> sem)</b>
<b>Subject</b>	<b>ELECTRICAL ENGINEERING MATERIALS</b>
<b>Lesson Plan Duration</b>	<b>04.08.2025 to 17.11.2025 (17 Weeks)</b>
<b>Work load [Theory + Practical] Per Week</b>	<b>[03+00]</b>

<b>Week</b>	<b>Day</b>	<b>Theory Topic/ Assignment/ Test</b>	<b>No.</b>	<b>Practical</b>
<b>1<sup>st</sup></b>	<b>1</b>	<b>Unit1: Introduction to Materials</b>	<b>1</b>	
	<b>2</b>	<b>Classification of materials</b>		
	<b>3</b>	<b>Atomic theory, Energy band theory</b>		
<b>2<sup>nd</sup></b>	<b>1</b>	<b>Classifications of materials on the basis of atomic structure and energy bands. Characteristics of materials</b>	<b>2</b>	
	<b>2</b>	<b>Unit2: Conducting and Semi-Conducting Materials</b>		
	<b>3</b>	<b>Types of conducting material such as low resistivity and high resistivity materials</b>		
<b>3<sup>rd</sup></b>	<b>1</b>	<b>Properties and applications of different low resistivity materials</b>	<b>3</b>	
	<b>2</b>	<b>Semi-conductors Materials and their Applications</b>		
	<b>3</b>	<b>Commonly used semiconducting material Germanium and silicon and their properties</b>		
<b>4<sup>th</sup></b>	<b>1</b>	<b>Types of Semiconductor</b>	<b>4</b>	
	<b>2</b>	<b>Revision/Problem solution</b>		
	<b>3</b>	<b>Unit3 : Insulating Materials</b>		
<b>5<sup>th</sup></b>	<b>1</b>	<b>Characteristics of good Insulating material</b>	<b>5</b>	
	<b>2</b>	<b>Types of Insulating materials</b>		
	<b>3</b>	<b>Classification of insulating material</b>		
<b>6<sup>th</sup></b>	<b>1</b>	<b>Gaseous Insulating Materials</b>	<b>6</b>	
	<b>2</b>	<b>Properties and applications of air, nitrogen and sulphur hexafluoride (SF-6) gases</b>		
	<b>3</b>	<b>Liquid Insulating Materials</b>		
<b>7<sup>th</sup></b>	<b>1</b>	<b>Properties and applications of Mineral and Insulating oil for transformers</b>	<b>7</b>	
	<b>2</b>	<b>Solid Insulating Materials</b>		
	<b>3</b>	<b>Properties, types and applications of Plastics</b>		
<b>8<sup>th</sup></b>	<b>1</b>	<b>Polyethylene, epoxy resin,</b>	<b>8</b>	
	<b>2</b>	<b>polyvinyl chloride (PVC),</b>		

	<b>3</b>	<b>polystyrene</b>		
<b>9<sup>th</sup></b>	<b>1</b>	<b>Bakelite, Melamin</b>	<b>9</b>	
	<b>2</b>	<b>Revision/Problem solution</b>		
	<b>3</b>	<b>Revision/Problem solution</b>		
<b>10<sup>th</sup></b>	<b>1</b>	<b>Assignment Checking</b>	<b>10</b>	
	<b>2</b>	<b>Assignment Checking</b>		
	<b>3</b>	<b>Unit4 :Magnetic Materials</b>		
<b>11<sup>th</sup></b>	<b>1</b>	<b>Characteristics and types of magnetic material</b>	<b>11</b>	
	<b>2</b>	<b>Properties of soft magnet material</b>		
	<b>3</b>	<b>Properties of hard magnet material</b>		
<b>12<sup>th</sup></b>	<b>1</b>	<b>Unit5: Special Purpose Materials</b>	<b>12</b>	
	<b>2</b>	<b>Thermocouples</b>		
	<b>3</b>	<b>Bimetals</b>		
<b>13<sup>th</sup></b>	<b>1</b>	<b>Material used in fabrications of electrical machines such as motors, generators, transformers</b>	<b>13</b>	
	<b>2</b>	<b>Revision/Problem solution</b>		
	<b>3</b>	<b>Revision/Problem solution</b>		
<b>14<sup>th</sup></b>	<b>1</b>	<b>Revision of Old Question Papers</b>	<b>14</b>	
	<b>2</b>	<b>Revision of Old Question Papers</b>		
	<b>3</b>	<b>Revision of Old Question Papers</b>		
<b>15<sup>th</sup></b>	<b>1</b>	<b>Revision of Old Question Papers</b>	<b>15</b>	
	<b>2</b>	<b>Revision of Old Question Papers</b>		
	<b>3</b>	<b>Revision of Old Question Papers</b>		