

<b>SEMESTER</b> <i>Fifth</i>	<b>DEPARTMENT</b> <i>Power Engineering</i>	<b>COURSE TITLE</b> <i>Protection Devices Lab</i>
<b>COURSE CODE</b> <i>EP506</i>	<b>HOURS: 3</b> <b>UNITS: 1</b>	<b>COURSE SPECIFICATIONS</b> <i>Practical Content</i>
<p><b>1. To Get Familiar with the Different Types of Protective Devices in Low Voltage Networks and Their Functions.</b></p> <ul style="list-style-type: none"> <li>➤ Be familiar with safety measures in lab.</li> <li>➤ Compare Time-Current characteristics standards of different types of protective devices.</li> <li>➤ Describe different types of protection devices by their catalogues and printed data.</li> </ul>		
<p><b>2. To Know How to Read and Use the Characteristics of Different Protective Devices in Low- Voltage Networks and Their Constructions. Be Familiar with Testing Parameters of Protecting Devices.</b></p> <ul style="list-style-type: none"> <li>➤ Test the discriminating function for disconnection of two or more protective devices connected in series for protecting a load.</li> <li>➤ Test the disconnection of circuit breaker using an earth leakage relays with different settings.</li> </ul>		
<p><b>3. Execute Discrimination between Protective Devices.</b></p> <ul style="list-style-type: none"> <li>➤ Test the over current relay with different settings</li> <li>➤ Test the I-T relation of the over-current relay.</li> <li>➤ Test the magnetic and thermal protecting function of the miniature circuit breaker.</li> <li>➤ Test the protecting function of the residual current breakers.</li> </ul>		
<p><b>4. To Get Familiar with the Different Types of Protective Devices in Medium and High Voltage Networks and Their Functions, Collect Their Characteristics and Construction.</b></p> <ul style="list-style-type: none"> <li>➤ Be familiar with the parts and construction of the oil circuit breakers</li> <li>➤ Be familiar with the parts and construction of air-blast breakers.</li> <li>➤ Be familiar with the parts and construction of SF6 breakers.</li> </ul>		

**5. *Studying the Different Types of Relays, Their Function and Construction of Each.***

- Test the function of differential relay for protecting transformer.
- Test the function of moving coil relay for protecting lines.
- Test the functioning of relays using relay testing- device.

**6. *Use the Digital Computer as a Protection System.***

- Specify the main items of the computerized control system and the technique used in it.
- Do a site visit and explore the use of computers in protection systems.