

SEMESTER <i>Second</i>	DEPARTMENT <i>General Engineering</i>	COURSE TITLE <i>Electrical Circuits II</i>
COURSE CODE <i>EP208</i>	HOURS: 3 UNITS: 1	COURSE SPECIFICATIONS <i>Practical Contents</i>
<p>1. The Current, Voltage, and Phase Relationship in RL, RC, and RLC Circuits:</p> <p>➤ Experimentally:</p> <ul style="list-style-type: none"> • Explain the current, voltage, and phase relationship in RL, RC, and RLC circuits connected in series. • Explain the current, voltage, and phase relationship in RL, RC, and RLC circuits connected in parallel. • Explain the method of measuring the phase angle between voltage and current using oscilloscope. • Explain relationship between the complex quantities V, Z, and I (for resistive, inductive, and capacitive loads). 		
<p>2. The Resonance Circuits:</p> <p>➤ Excrementally:</p> <ul style="list-style-type: none"> • Explain how voltmeters and ammeters can be connected in the circuit related to the loading effect of the instruments. • Determine the Q of circuit. 		
<p>3. To Show the Method Utilized in Correcting the Power factor:</p> <p>➤ Excrementally explain the operation with different power factors (using synchronous machine demonstrator and verify the operation of a capacitor bank to change power factor).</p>		
<p>4. Low Pass, High Pass, Band Pass and Band-Stop Filters -Design and Testing.</p>		

5. Three Phase Measurements (Voltage, Current and Power):

➤ Experimentally

- Explain the operation of 3- phase balanced system.
- Demonstrate the connection of 3- phase circuits in different configurations of Δ to Y forms between generator and load.
- Measure line and phase voltages in circuits.
- Learn to connect Watt-meters to measure power in three phase circuits.
- Demonstrate and measure transient voltage and currents using the oscilloscope.

Reference :

1. *Engineering Circuit Analysis*, William H. Hayt.
2. *Elements of Electrical Networks*; Dr. P. Narayana Reddy; Khanna Publishers Delhi