



**Name of the Course: Electrical Measurement**

**Code of the course: ACE 125**

**Level: 1**

Name of the research point	Description
Attenuators	- Different applications of attenuators in measuring instruments
Measurement system	- Measuring devices for measuring fluid pressure, temperature, humidity and tank levels
Types of errors	- Types of errors in reading measuring instruments, mention the different methods to overcome these errors
DC/AC Indicating Instruments	<ul style="list-style-type: none"><li>– Introduction and the basic construction of a permanent magnet moving coil (PMMC) instrument and its operation.</li><li>– Meter Movement used in a DC Ammeter, voltmeters and ohmmeter.</li><li>– To understand how a Meter Movement may be used for multi-range ammeters and voltmeters.</li></ul>
DC/AC Bridges	<ul style="list-style-type: none"><li>– The different methods for measurement of medium range resistances.</li><li>– Wheatstone bridge for Measuring Resistance. The principle of DC bridge at balance and unbalance case.</li><li>– The principle of AC bridge and their application</li></ul> AC comparison bridges are used to measure unknown inductance or capacitance by comparing it with a known inductance or capacitance.
Cathode Ray Oscilloscope	<ul style="list-style-type: none"><li>– What is a cathode ray oscilloscope?</li><li>– The block diagram of CRO?</li><li>– The basic idea of vertical and horizontal deflection control</li><li>– What is a triggering circuit of CRO?</li><li>– How can measured the frequency and phase shift of signals?</li></ul>



Sensors and Transducers	<ul style="list-style-type: none"><li>– The fundamentals of sensors and transducers</li><li>– Appreciate the significance of transducers in measurement and instrumentation systems.</li><li>– The classification and selection of transducers.</li><li>– The sensors used for displacement and position measurement.</li><li>– The sensors used for the pressure and force measurement.</li><li>– The sensors used for the electromagnetic flow meter measurement.</li><li>– The sensors used for the temperature measurement.</li></ul>
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**Instructors Names**

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