

## Sensors and Transducers Lab

Paper Code: MAC 355

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<b>Course Outcomes:</b>	
At the end of the course the student will have	
<b>CO.MAC355.1</b>	<b>Ability to define, understand various Sensors, their need and properties of sensors.</b>
<b>CO.MAC355.2</b>	<b>Ability to apply knowledge of various types of transducers in domestic and industrial applications.</b>
<b>CO.MAC355.3</b>	<b>Ability to analyse various types of sensors for particular application.</b>
<b>CO.MAC355.4</b>	<b>Ability to design signal conditioning circuit for various sensors and transducers.</b>

### List of Experiments:

1. Study of static and dynamic characteristics of sensors.
2. Measurement of Displacement using LVDT.
3. Measurement of Strain using Strain Gauge transducer.
4. Measurement of Displacement using potentiometer.
5. Measurement of temperature using RTD and plot the characteristics of RTD.
6. Measurement of Temperature using thermistor.
7. Measurement of pressure using load cell.
8. Measurement of speed using magnetic sensor.
9. Measurement of speed using photoelectric sensors.
10. Measurement of pressure using pressure transducer.
11. Measurement of liquid level using capacitive sensor.

### List of Experiments:

Expt. No.	CO	Aim of the Experiment.
Expt. 1	CO 1	Study of static and dynamic characteristics of sensors.
Expt. 2	CO 4	Measurement of Displacement using LVDT.
Expt. 3	CO 4	Measurement of Strain using Strain Gauge transducer.
Expt. 4	CO 3	Measurement of temperature using RTD and plot the characteristics of RTD.
Expt. 5	CO 3	Measurement of Temperature using thermistor.
Expt. 6	CO 2	Measurement of speed using magnetic sensor.
Expt. 7	CO 2	Measurement of speed using photoelectric sensors.
Expt. 8	CO 3	Measurement of pressure using pressure transducer.
Expt. 9	CO 2	Measurement of liquid level using capacitive sensor.
Expt. 10	CO 2	Measurement of Speed using Stroboscope.
Extra. 1	CO 3	Characteristics of Optical Transducers (Photovoltaic, Photoconductive, Photodiode and Photo transistor)
Extra. 2	CO 3	Measurement of Displacement using Ultrasonic Transducer.