SEMESTER	*DEPARTMENT*	*COURSE TITLE*
Sixth	*Control Engineering*	*Sensors*
COURSE CODE	*HOURS:* 3	*COURSE SPECIFICATIONS*
EC608	*UNITS:* 3	*Theoretical Content*

1. Introduction:

➢ Sensors and transducers-definition, principles, classification, characteristics.

2. Mechanical and Electromechanical Sensors (principles & Characteristics):

➢ Resistive Potentiometers.

➢ Stain Gauges.

➢ Inductive Sensors.

➢ Capacitive Sensors.

➢ Force/Stress Sensors.

➢ Ultrasonic Sensors.

➢ Proximity Sensors.

3. Thermal Sensors (Principles, and Characteristics):

➢ Thermal Expansion Type Thermometric Sensors.

➢ Dielectric Constant and Refractive index Thermo-Sensors.

➢ Resistance Change Type Thermo-Sensors.

➢ Thermo emf Sensors.

4. Radiation Sensors (Principles, and Characteristics):

➢ Types of photosensators/ photodetectors.

➢ Photoemissive cell, photo multiplier, photo voltaic, and photojunction cells.

5. Sensor Applications :

➢ Flow rate Sensors.

➢ Pressure Sensors.

➢ Torque and Position Sensors.

➢ Acceleration Sensors.

6. Digital Transducers:

➢ Advantages of Digital Transducers.

➢ *Encoders:*

- o Shaft Encoders.
- o Incremental Optical Encoders.
- o Absolute Optical Encoders.

References:

1.