SUBJECT NO-EE41001, SUBJECT NAME- INDUSTRIAL INSTRUMENTATION

LTP- 3-1-0,CRD- 4

SYLLABUS :-

Introduction to Instrumentation system, Static and Dynamic characteristics of Instrument. Displacement and proximity gauges. Linear Variable Differential Transformer (LVDT). Measurement Temperature, Flow and Pressure. Temperature: Thermocouple, Resistance Temperature Detector (RTD), Thermistor, Radiation Pyrometer. Flow: Differential Pressure flowmeter, Variable area flowmeter, Variable reluctance transducer, Turbine flowmeter, Ultrasonic flowmeter (Both transit time and Doppler Shift), electromagnetic flowmeter and Mass flow meter. Pressure: Elastic transducers(Bourdon Gauge, Bellow and Diaphragm Gauge). Low pressure measurement: McLeod and ionization gauge. Measurement of level: Capacitance based and Float based method. Measurement of strain: Strain Gauge, unbalanced Wheatstone bridge, Load cell, Torque Cell. pH probe and viscosity measurement. Basics of Data transmission: Synchro and Servo motor. IEEE-488 bus, RS 232 and RS 485 interface. Pneumatic and Hydraulic Instrumentation system.