

SARDAR PATEL UNIVERSITY
Programme & Subject: B.sc (Instrumentation)
Semester: V
Syllabus with Effect from: June - 2013

Paper Code: US05CINS02	Total Credit: 3
Title Of Paper: Process Measurement Technique - I	

Unit	Description in detail	Weighting (%)
I	Temperature Measurement: Definition & Scales, Liquid in glass thermometer, Bimetallic thermometer, Filled System thermo meter, Liquid filled, gas filled, Vapour Pressure thermometer, Thermocouple Laws and materials, types.	25%
II	Pressure Measurement:-I Terminology: Absolute pressure, Atmospheric pressure, Gauge pressure, Static pressure, Vacuum, Total pressure and their units, Manometers: U-tube, Inclined manometer, Ring balance manometer,	25%
III	Pressure Measurement:-II Mechanical Gauges: Bourdon Tube, Diaphragm, Bellows, Low pressure gauges: Mcleod guage, Pirani guage, ionization gauge, Dead weight Tester.	25%
IV	Level & Density Measurement: Direct methods: Sight glass, Float & Tape, Float & Shaft, Float & Spring: Electrical methods: Capacitance level indicator, Ultrasonic method, Radioactive method; Air and liquid purge method of level measurement.	25%

Basic Text & Reference Books:-

- Process instrumentation by D.P. Eckman
- Mechanical measurement and control by D.S. Kumar
- Principles of industrial instruments by Patranabis
- Instrumentation measurement and analysis by Nakara and Chaudhary
- Principles of measurement and instrumentation by A.S. Morris

