

SARDAR PATEL UNIVERSITY
Programme: B.Sc (Instrumentation-Vocational)
Semester: VI
Syllabus with effect from: June - 2013

Paper Code: US06CINV01	Total Credit: 3
Title of Paper: Process Measurement Techniques - II	

Unit	Description in detail	Weightage (%)
I	Level Measurement:- Direct measurement of Liquid level: Float and tape type, Float and Shaft Type, Sight glass. Indirect measurement of Liquid level: Pressure measurement in open Vessels, Bubbler method, Diaphragm method, Air trap method. Electrical Methods: Resistance type, Capacitance type, Ultrasonic level gauge, Radioactive type level indicator.	25%
II	Moisture and Humidity Measurement:- Moisture content of Materials, Method of Moisture measurement: Thermal Drying method, Distillation method, Electrical Conductivity method and Capacitance method, Humidity, Instruments for Humidity measurement: Hygro-meter, Psychro-meter. Dew Point measurement, Simple Dew point apparatus, Industrial Dew point apparatus.	25%
III	Flow Measurement - I Nature of Flow: Laminar and Turbulent flow, Expression for Flow rate, Flow meters: Venturi tube, Flow nozzles, Orifices, Pitot tubes, Rota meter.	25%
IV	Flow Measurement - II Quantity Measurement: Titling trap, Nutating Disk, Rotary Vane, Lobbed Impeller. Hot wire anemometer, Electromagnetic flow meter, Ultra sonic Flow meter.	25%

Basic Text & Reference Books:

- Mechanical Measurement and Control (Metropolitan Books) by D.S.Kumar
- Industrial Instrumentation (Wiley Eastern Limited) by D.P.Eckman.
- Mechanical and Industrial Measurements (Khanna Publishers) by R.K.Jain
- Instrumentation by Krik and Rimboi.
- Process Instrumentation and Control (Nirali Publications) by Kulkarni.
- Industrial Measurements and Control by S.K. Singh.
- Instrumentation Devices and Systems by Rangan, Sharma and Mani.

