SARDAR PATEL UNIVERSITY
Programme: B.Sc (Electronics & Communication)
Semester: V
Syllabus with effect from:

Paper Code: US05CELC03	**Total Credit: 3**
Title Of Paper: Measuring Instruments & Signal Generators	

Unit	Description in detail	Weighting (%)
I	**Bridge** DC Bridge: Wheaston Bridge, Kelvin Bridge, Un-balance condition , Ac Bridge: Maxwell Bridge, Hay Bridge,Wein Bridge,Schearing Bridge	
II	**Measuring instrument** Introduction, Classification, Analog: Voltmeter, Ohmmeter, Q-meter, Digital voltmeter (DVM), Specification and advantages of DVM, Ramp type DVM, Successive approximation.	
III	**Transducer** Introduction, Classification, Capacitive transducer, Inductive transducer, LVDT & its application, Piezoelectric transducer, Strain Gauge, Potentiometer transducer, Thermister, Thermocouple, RTD.	
IV	**Signal generators and analyzer** Generators: Sine wave, Frequency synthesis, Sweep generator, Function generators, Audio frequency function generator. Analyzers: Harmonic distortion analyzer, Spectrum analyzer, Peak detector, Voltage control oscillator, Clipper & Clamper circuit.	

Basic Text & Reference Books:-

- Modern Electronics Instrumentation and Measurement Techniques – A.D. Helfrick, W.D.Cooper
- Electronics Instrumentation and Measurement system – J.G. Joshi
- Digital Principles and its Application – Malvino and Leach
- Integrated Circuit - Taub & Schilling
- Instrumentation Devices and Systems - C.S.Rangan, R. Sharma, V.S.Mani(Tata McGraw Hill)