

**SARDAR PATEL UNIVERSITY**  
**Programme: B.Sc**  
**Semester: I**  
**Syllabus with effect from: June-2011**

<b>Paper Code: US01CINV01</b>	<b>Total Credit: 2</b>
<b>Title of Paper: Basic Electronic Instruments</b>	

Unit	Description in Detail	Weightage (%)
I	Resistors: General Information, Symbol, Colour code, Types such as Carbon, Metal film, Thin film, Thick film, Wire wound variable potentiometer, Logarithmic, Linear. Temperature dependence (Thermister), Light Dependent (LDR), Method of Resistance Measurement (very low, very high), Voltmeter Ammeter method, Wheatstone Bridge, Resistors in Series & Parallel.	25%
II	Inductors: General Information, Symbol, Type (Air core, Iron core, Ferrite Core) , Choke, Ferrite Core, Choke, Variable inductors. Capacitors: General Information, Symbol, Colour code, Types (Air, Paper, Electrolytic, Mica, Tantalum, Polystyrene), Variable Capacitors. Series and Parallel Connection of Inductors and Capacitors.	25%
III	Direct Current indicating Instruments – Suspension Galvanometer, Torque & Deflection of Galvanometer, PMMC – Mechanism.	25%
IV	DC Ammeter, Shunt Resistor, Aytron shunt, DC Voltmeter, Voltmeter Sensitivity, Multimeter.	25%

**Basic Text & Reference Books:**

- Basic Electronics by Grob (TMH).
- Basic Electronics and Linear Circuits by Bhargava, Kulshrestha, Gupta.
- Modern Electronics Instrumentation & Measurement Techniques by A. D. Helfrick, W. D. Cooper.

