

2. Syllabus copy

UNIT I

.Indicating, Recording and Integrating instruments, Ammeter, Voltmeter, Expression for torque of moving coil, moving iron, Dynamometer, induction and electrostatic instruments. Extension of range of instruments, Wattmeter Torque expression for dynamometer instruments, Reactive power measurement.

UNIT II

Energy meters, single phase and 3-phase, Driving torque and braking torque equations, Errors and testing compensation, Maximum demand indicator, Power factor meters, Frequency meters, Electrical resonance and Weston type of synchro scope

UNIT III

Measurement of inductance, capacitance and resistance using Bridges, Maxwell's, Hay's. bridge, Anderson, Wein, Desauty's, Schering's bridges, Kelvin's double bridge, Megger, Loss of charge method, Wagners earthing device, Transducers - Analog and digital transducers, Strain gauges and Hall effect transducers.

UNIT IV

Ballistic galvanometer, Calibration by Hibbert's magnetic standard flux meter, Lloyd-Fischer square for measuring iron loss, Determination of B-H curve and Hysteresis loop using CRO, Instrument transformers – Current and potential transformers, ratio and phase angle errors of CT's and PT's.

UNIT V

Crompton's DC and AC polar and coordinate types, Applications, Measurements of impedance, Calibration and ammeter voltmeter and watt meters. Use of oscilloscope in frequency, phase and amplitude measurements

TEXT BOOKS:

1. K. Sawhney", "Electrical & Electronic Measurements", Dhanpat Rai & Co. Publications, 2005.
2. "E.W.Golding and F.C.Widdis", "Electrical Measurements and measuring Instruments", fifth Edition, Wheeler Publishing, 2015.
3. "R. K. Rajput", "Electrical & Electronic Measurements & Instrumentation", S. Chand and Company Ltd., 2007.
4. "G. K. Banerjee", "Electrical & Electronic Measurements", PHI Learning Pvt. Ltd., 2nd Edition, 2016

