

	PVKN Govt. College (Autonomous) Chittoor	Program II B.Sc. Electronics Minor
Course Code 24-ELE-4C3	TITLE OF THE COURSE ELECTRICAL AND ELECTRONIC INSTRUMENTATION	Semester-IV

Syllabus:

UNIT-I

DC and AC indicating Instruments: Accuracy and precision - Types of errors -PMMC galvanometer, sensitivity, Loading effect - Conversion of Galvanometer into ammeter, Voltmeter and Shunt type ohmmeter- Mustimeter. Electrodynamometer - Thermocouple instrument - Electrostatic voltmeter - Watthour meter.

UNIT-II

DC and AC bridges: Wheatstone bridge - Kelvin's bridge - Balancing condition for AC bridge - Maxwell's bridge - ~~Schering's bridge~~ - Wein's bridge -Determination of frequency.

UNIT-III

Oscilloscopes: Block diagram - Deflection Sensitivity - Electrostatic Deflection -Electrostatic Focusing - CRT Screen - Measurement of Waveform frequency, phase difference and Time intervals - Sampling Oscilloscope - Analog and Digital Storage Oscilloscopes.

UNIT-IV

Instrumentation Amplifiers and Signal Analysers: Instrumentation amplifier -Electronic Voltmeter and Multimeter - Digital Voltmeter - Function Generator -Wave Analyser Fundamentals of Spectrum Analyser.

UNIT-V

Transducer and Display Devices: Strain Gauge - Unbounded Strain Gauge - LVDT -Resistance Thermometer - Photoelectric Transducer - Pen Recorder - Audio Tape Recorder - Seven Segment Display – LCD, **Advantages of LED over LCD.**