

**GOVERNMENT GIRLS POLYTECHNIC BILASPUR**  
**DEPARTMENT OF ELECTRONICS**  
**LESSON PLAN**

Session : July-Dec 2025

Course Name : Instrumentation and Measurement system

Subject Code : 2028372(028)

Name of Subject teacher : PRAKASH SWARNAKAR

Lecture plus Tutorial/Week : 3

Total Period Planned : 39

Course outcomes	Topics Covered	No. of Periods
CO-1 Analyze functions of basic elements of Instrumentation and Measurement system.	Basic building blocks, functions of measurement system	2
	Static characteristics: Accuracy, Precision, Sensitivity, Linearity	2
	Static characteristics: Hysteresis, Resolution, Repeatability	1
	Static characteristics: Reliability, Maintainability, Span, Calibration	1
	Dynamic characteristics: speed of response, fidelity, lag	1
	Dynamic error, types of errors, standards	1
CO-2 Measure unknown value of different circuit elements like R, L and C using bridges.	Bridge concept, AC & DC bridges, balance condition	1
	Wheatstone bridge	1
	Kelvin's bridge	1
	Maxwell bridge	1
	Hay's bridge	1
	Schering bridge	1
CO-3 Use test and measuring instruments to measure parameters.	Wien bridge & Wagner earth connection	1
	CRO: block diagram, CRT, working	2
	Vertical amplifier, time base generator, triggering	2
	CRO controls, probes, dual trace/beam	1
	DSO: block diagram & functions	1
	Measurement using DSO	1
	Signal generator basics & block diagram	1
Spectrum analyzer basics & applications	1	

P.S.  
(P. SWARNAKAR)