

DHABALESWAR INSTITUTE OF POLYTECHNIC

LESSON PLAN

Discipline	Semester	Name of the Teaching Faculty
Electronics, measurement & instrumentation	No. of days per Week Class Alloted	Semester from Dt. <u>4/10/2021</u> To Dt. <u>07/10/2022</u> No. of Weeks: <u>14</u> (Fourteen)
Week	Class Day	Theory / Practical Topics

Oct 1st week		discuss the static characteristics.
	1st day	Accuracy, sensitivity, reproducibility & static error of instruments
	2nd - "	Dynamic Characteristics & speed of instruments Errors of an instruments & explain various types Introduction to Indicator & Display devices & its type.
	3rd - "	Basic principle of operation of DC Ammeter and multi range Ammeter.
	4th - "	Basic principle of meter movement, permanent magnetic movement & its advantages & disadvantages.
3rd week	5th - "	Operation of moving Iron Instrument.
3rd week	1st day	Basic principle of operation of AC Ammeter and multi range Ammeter.
	2nd - day	Basic principle of operation of DC voltmeter and its applications.
	3rd - "	Basic principle of operation of AC voltmeter and its application
4th week	1st day	Basic principle of Ohm meter (series & shunt type) Basic principle of Analog Multimeter, its types & applications.
	2nd - day	operation of Q meter and its essential. Principle of operation of Ramp type Digital voltmeter & applications.
	3rd - day	operation of display of $1/2$, $4/2$ - Digital multimeter & resolution and sensitivity
	4th - day	Basic principle of operation of working of Digital Multimeter its types & applications
	5th - day	Basic principle of operation of working of digital frequency meter
5th week	1st - day	operation of working of digital measurement of Time.
November	2nd - day	Measurement of frequency.

Sig. of Faculty

H.O.D. Electronics & Telecomm. Engg.
Dip. Kishan Pillai
Sig. of H.O.D./ Academic Bursar

Sig. of Principal

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MONTH	WEEK / DAY	THEORY / PRACTICAL TOPIC	
November 5th week	3rd-day-	principle of operation & working of digital Tachometer.	
	4th-day-	Principle of operation & working of Auto-mation in digital Instruments (polarity indication, Ranging, Zeroing & Fully Automatic)	
	5th-day-	Block diagram of LCR meter & its working principle	
6th-Nov.	1st-day-	Basic principle of Oscilloscope & its Block diagram	
	2nd-day-	Basic principle & Block diagram of CRO, Dual Trace Oscilloscope & its specifications	
	3rd-day-	CRO measurements Lissajous figures	
	4th-day-	Applications of oscilloscope (voltage period & frequency measurement)	
7th Week	1st-day-	Operation of digital storage Oscilloscope & High frequency Oscilloscope.	
	2nd-day-	Types of Bridges (DC & AC Bridges)	
	3rd-	DC Bridges (measurement of Resistance by Wheat-stone Bridge)	
	4th-	AC bridges (measurement of inductance by maxwell's Bridge & by Hay's Bridge)	
8TH-	1st-day-	Measurement of capacitance by Schering's Bridge & Desauty Bridge.	
	2nd-	Working principle of A meter its circuit diagram & measurement of Low impedance	
	4th-	Measurement of frequency.	
	5th-	LCR meter & its measurements	
9TH-Week	1st-day-	Parameter method of selecting & advantage of Electrical Transducer & Resistive Transducer.	
	2nd-	Working principle of strain gauges define strain gauge (no mathematical derivation)	
	3rd-	Working principle of LVDT	
	4th-	Working principle of Capacitive transducers. (pressure)	

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MONTH	WEEK / DAY	THEORY / PRACTICAL TOPIC	
10TH WEEK	5TH DAY	Working principle of Load cell (pressure cell)	
	1ST - "	Working principle of Temperature Transducer (RTD, Optical pyrometer, Thermocouple, Thermistors)	
	2ND DAY	Working principle of current transducer and kW Transducer.	
	3RD - "	Working principle of Proximity & Light sensors.	
	4TH - "	General aspect & classification of signal generators.	
DECEMBER	5TH DAY	Working principle of AF sine & square wave generator.	
	1ST DAY	Working principle of the Function Generator.	
	2ND DAY	Function of basic wave Analyser & Spectrum Analyser	
JAN -	1st Day	Basic concept of data Acquisition system (DAS)	

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