

Lesson Plan

Name of the Faculty: Loveleena

Discipline : Instrumentation and Control

Semester : 3rd

Subject : Testing and measuring instruments (TMI)

Lesson Plan Duration : 15 weeks(from Sept 2022 to Jan 2023)

Week	Day	Topic
1	1	Need & importance of measurement
	2	Typical application of instrumentation system
	3	Classification of instruments
2	4	Review of units, dimensions and standards
	5	Assignment of first unit
	6	Measurement of resistance: Ohmmeters
3	7	Meggers
	8	Wheatstone Bridge
	9	Potentiometer method
4	10	Measurement of inductance and capacitance by : Hay's bridge
	11	Measurement of inductance and capacitance by : Maxwell Bridge
	12	Wagner earth devices
5	13	Assignment of second unit
	14	Construction and working principle, applications of Ammeter and voltmeter
	15	Moving Iron
6	16	Permanent Magnet Moving Coil Meters
	17	Thermocouple type
	18	Electrostatic type
7	19	Rectifier type
	20	Multimeter: Principle of multimeter
	21	Measurement of d.c. voltage and a.c. voltage using multimeter
8	22	Assignment of third unit
	23	Working principle, construction and applications of dynamometer type watt meter
	24	Power measurement methods 2 watt meter or 3 watt meter
9	25	Working principle, construction and applications of energy meter
	26	Assignment of fourth unit
	27	Working principle, construction and applications of Stroboscope
10	28	Digital frequency meters
	29	Phase sequence indicators
	30	Assignment of fifth unit
11	31	Construction, working principle and application of the following instruments : Q-meter and Transistor tester
	32	LCR Bridge
	33	Function generator
12	34	Assignment of sixth unit
	35	Construction and working of Cathode Ray Tube (CRT)
	36	Block diagram, description of a basic CRO and triggered sweep oscilloscope, front panel controls.
13	37	Specifications of CRO and their explanation.
	38	Measurement of voltage, current, frequency, time period and phase using CRO.
	39	Digital storage oscilloscope (DSO): block diagram and working principle.
14	40	Assignment of seventh unit
	41	Revision of unit first and second
	42	Revision of unit third
15	43	Revision of unit fourth and fifth
	44	Revision of unit sixth
	45	Revision of unit seventh