

Lesson Plan			
	Discipline:Electrical Engineering	Semester-4th Summer 2023 . SEC-B	Name of the Teachng Faculty: Sri SIBANI SANKAR SWAIN
Sl. No.	Subject-ELECTRICAL MEASUREMENT & INSTRUMENTATION SEC-A	No. Of Days/Week class allotted:05	Semester From date: 14/02/2023 To date: 23/05/2023. No of weeks: 15
	Weeks/Months	Class Day	Topic
1	1st Week	1st(14.02.2023)	1.1 Define Accuracy, precision, Errors, Resolutions Sensitivity and tolerance.
		2nd(15.02.2023)	1.2 Classification of measuring instruments.
		3rd(16.02.2023)	1.3 Explain Deflecting, controlling and damping arrangements in indicating type of instruments
		4th(17.02.2023)	1.4 Calibration of instruments.
2	2nd Week	1st(20.02.2023)	2.1 Describe Construction, principle of operation, errors, ranges merits and demerits of moving iron type instrument
		2nd(21.02.2023)	2.1 Describe Construction, principle of operation, errors, ranges merits and demerits of moving
		3rd(22.02.2023)	2.1.2 Permanent Magnet Moving coil type instruments.
		4th(23.02.2023)	2.1.3 Dynamometer type instruments
		5th(24.02.2023)	2.1.4 Rectifier type instruments
3	3rd Week	1st(27.02.2023)	2.1.5 Induction type instruments
		2nd(28.02.2023)	2.2 Extend the range of instruments by use of shunts and Multipliers.
		3rd(01.03.2023)	2.2 Extend the range of instruments by use of shunts and Multipliers.
		4th(02.03.2023)	2.3 Solve Numerical
		5th(03.03.2023)	2.3 Solve Numerical
4	4th Week	1st(06.03.2023)	3.1 Describe Construction, principle of working of Dynamometer type wattmeter. (LPF and UPF type)
		2nd(09.03.2023)	3.1 Describe Construction, principle of working of Dynamometer type wattmeter. (LPF and UPF type)
		3rd(10.03.2023)	3.2 The Errors in Dynamometer type wattmeter and methods of their correction.
5	5th Week	1st(13.03.2023)	3.2 The Errors in Dynamometer type wattmeter and methods of their correction.
		2nd(14.03.2023)	4.1 Introduction
		3rd(15.03.2023)	4.2 Single Phase Induction type Energy meters – construction, working principle and their compensation & adjustments.
		4th(16.03.2023)	4.2 Single Phase Induction type Energy meters – construction, working principle and their compensation & adjustments.
		5th(17.03.2023)	4.3 Testing of Energy Meters.
6	6th Week	1st(20.03.2023)	4.3 Testing of Energy Meters.
		2nd(21.03.2023)	5.1 Tachometers, types and working principles.
		3rd(22.03.2023)	5.1 Tachometers, types and working principles.
		4th(23.03.2023)	5.2 Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters.
		5th(24.03.2023)	5.2 Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters.
7	7th Week	1st(27.03.2023)	5.3 Principle of operation and working of Dynamometer type single phase and three phase power factor meters.
		2nd(28.03.2023)	5.3 Principle of operation and working of Dynamometer type single phase and three phase power factor meters.
		3rd(29.03.2023)	6.1 Classification of resistance
		4th(31.03.2023)	6.1 Classification of resistance

8	8th Week	1st(03.04.2023)	6.1..1. Measurement of low resistance by potentiometer method.
		2nd(04.04.2023)	6.1..2. Measurement of medium resistance by wheat Stone bridge method.
		3rd(05.04.2023)	6.1..2. Measurement of medium resistance by wheat Stone bridge method.
		4th(06.04.2023)	6.1..3. Measurement of high resistance by loss of charge method.
9	9th Week	1st(10.04.2023)	6.2 Construction, principle of operations of Megger & Earth tester for insulation resistance and earth resistance measurement respectively.
		2nd(11.04.2023)	6.2 Construction, principle of operations of Megger & Earth tester for insulation resistance and earth resistance measurement respectively.
		3rd(12.04.2023)	6.3 Construction and principles of Multimeter. (Analog and Digital)
		4th(13.04.2023)	6.3 Construction and principles of Multimeter. (Analog and Digital)
10	10th Week	1st(17.04.2023)	6.4 Measurement of inductance by Maxewell's Bridge method.
		2nd(18.04.2023)	6.5 Measurement of capacitance by Schering Bridge method.
		3rd(19.04.2023)	7.1 Define Transducer, sensing element or detector element and transduction elements.
		4th(20.04.2023)	7.2 Classify transducer. Give examples of various class of transducer.
		5th(21.04.2023)	7.2 Classify transducer. Give examples of various class of transducer.
11	11th Week	1st(24.04.2023)	7.3 Resistive transducer
		2nd(25.04.2023)	7.3.1 Linear and angular motion potentiometer.
		3rd(26.04.2023)	7.3.2 Thermistor and Resistance thermometers.
		4th(27.04.2023)	7.3.2 Thermistor and Resistance thermometers.
		5th(28.04.2023)	7.3.3 Wire Resistance Strain Gauges
12	12th Week	1st(01.05.2023)	7.4 Inductive Transducer
		2nd(02.05.2023)	7.4.1 Principle of linear variable differential Transformer (LVDT)
		3rd(03.05.2023)	7.4.2 Uses of LVDT.
		4th(04.05.2023)	7.5 Capacitive Transducer.
13	13th Week	1st(08.05.2023)	7.5.1 General principle of capacitive transducer.
		2nd(09.05.2023)	7.5.2 Variable area capacitive transducer.
		3rd(10.05.2023)	7.5.2 Variable area capacitive transducer.
		4th(11.05.2023)	7.5.3 Change in distance between plate capacitive transducer.
		5th(12.05.2023)	7.6 Piezo electric Transducer and Hall Effect Transducer with their applications.
14	14th week	1st(15.05.2023)	7.6 Piezo electric Transducer and Hall Effect Transducer with their applications.
		2nd(16.05.2023)	8.1. Principle of operation of Cathode Ray Tube.
		3rd(17.05.2023)	8.2. Principle of operation of Oscilloscope (with help of block diagram).
		4th(18.05.2023)	8.3. Measurement of DC Voltage & current.
15	15 th week	1st(22.05.2023)	8.4. Measurement of AC Voltage, current, phase & frequency.
		2nd(23.05.2023)	8.4. Measurement of AC Voltage, current, phase & frequency.