

**LESSON PLAN-2022-2023**  
**SWAMI VIVEKANANDA SCHOOL OF ENGG & TECH, BBSR**

Discipline-ELECTRICAL	Semester-4TH	Name of teaching faculty-Anil Kumar Biswal
SUBJECT-EMI	No of days/ per week class allotted-5	SEM From date-20/02/2023 No of weeks-
Week	Class day	Theory Topics
		MEASURING INSTRUMENTS .
4TH	2/20/2023	1.1 Define Accuracy, precision, Errors
	2/21/2023	Resolutions Sensitivity and tolerance.
	2/22/2023	1.2 Classification of measuring instruments.
	2/23/2023	1.3 Explain Deflecting, controlling and damping arrangements in indicating type of instruments
	2/24/2023	CONTINUE
	2/25/2023	1.4 Calibration of instruments.
	2/27/2023	<b>ANALOG AMMETERS AND VOLTMETERS :</b>
	2/28/2023	2.1. Describe Construction, principle of operation, errors, ranges merits and demerits of
1ST	3/01/2023	2.1.1 Moving iron type instruments.
	3/02/2023	CONTINUE
	3/03/2023	2.1.2 Permanent Magnet Moving coil type instruments.
	3/04/2023	CONTINUE
2ND	3/06/2023	2.1.3 Dynamometer type instruments
	3/07/2023	CONTINUE
	3/09/2023	2.1.4 Rectifier type instruments
	3/10/2023	CONTINUE
	3/11/2023	2.1.5 Induction type instruments
3RD	3/13/2023	CONTINUE
	3/14/2023	2.2 Extend the range of instruments by use of shunts and Multipliers.
	3/15/2023	2.3 Solve Numerical
	3/16/2023	2.3 Solve Numerical
	3/17/2023	<b>WATTMETERS AND MEASUREMENT OF POWER .</b>
	3/18/2023	3.1 Describe Construction, principle of working of Dynamometer type wattmeter.
4TH	3/20/2023	(LPF and UPF type)
	3/21/2023	CONTINUE
	3/22/2023	3.2 The Errors in Dynamometer type wattmeter and methods of their correction

	3/23/2023	CONTINUE
	3/24/2023	3.3 Discuss Induction type watt meters.
	3/25/2023	CONTINUE
5TH	3/27/2023	<b>ENERGYMETERS AND MEASUREMENT OF ENERGY</b>
	3/28/2023	4.1 Introduction
	3/29/2023	4.2 Single Phase Induction type Energy meters – construction, working principle
	3/31/2023	compensation& adjustments.
1ST	4/3/2023	4.3 Testing of Energy Meters.
	4/4/2023	CONTINUE
	4/5/2023	<b>MEASUREMENT OF SPEED, FREQUENCY AND POWER FACTOR</b> and
	4/6/2023	5.1 Tachometers, types and working principles
	4/8/2023	5.1 Tachometers, types and working principles
2ND	4/10/2023	5.2 Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters.
	4/11/2023	CONTINUE
	4/12/2023	5.3 Principle of operation and working of Dynamometer type single phase pf meter
	4/13/2023	Three phase power factor meters.
	4/15/2023	<b>MEASUREMENT OF RESISTANCE, INDUCTANCE&amp; CAPACITANCE</b>
3RD	4/17/2023	6.1 Classification of resistance 6.1.1. Measurement of low resistance by potentiometer method.6.1.2. Measurement of medium resistance by wheat Stone bridge method
	4/18/2023	6.1.3. Measurement of high resistance by loss of charge method.
	4/19/2023	6.2 Construction, principle of operations of Megger& Earth tester for insulation resistance and earth resistance measurement respectively. 6.3 Construction
	4/20/2023	CONTINUE
	4/21/2023	6.3. Principles of Multimeter. (Analog and Digital)
	4/22/2023	6.4 Measurement of inductance by Maxewell’s Bridge method.
4TH	4/24/2023	6.5 Measurement of capacitance by Schering Bridge method
	4/25/2023	<b>SENSORS AND TRANSDUCER</b>
	4/26/2023	7.1. Define Transducer, sensing element or detector element and transduction elements
	4/27/2023	7.2. Classify transducer. Give examples of various class of transducer.
	4/28/2023	CONTINUE
	4/29/2023	7.3. Resistive transducer

1ST	5/1/2023	7.3.1 Linear and angular motion potentiometer.
	5/2/2023	7.3.2 Thermistor and Resistance thermometers.
	5/3/2023	7.3.3 Wire Resistance Strain Gauges
	5/4/2023	7.4. Inductive Transducer
	5/5/2023	7.4.1 Principle of linear variable differential Transformer (LVDT)
	5/6/2023	7.4.2 Uses of LVDT. 7.5. Capacitive Transducer
2ND	5/8/2023	7.5.1 General principle of capacitive transducer
	5/9/2023	7.5.2 Variable area capacitive transducer. 7.5.3 Change in distance between plate capacitive transducer.
	5/10/2023	7.6. Piezo electric Transducer and Hall Effect Transducer with their applications
	5/11/2023	OSCILLOSCOPE
	5/12/2023	8.1. Principle of operation of Cathode Ray Tube. 8.2. Principle of operation of Oscilloscope (with help of block diagram)
	5/13/2023	8. 8.3. Measurement of DC Voltage & current.
3RD	5/15/2023	8.4. Measurement of AC Voltage, current, phase & frequency.
HOD		PRINCIPAL