

LESSON PLAN SUMMER-2024

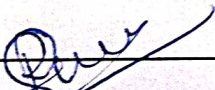
NAME- RASHMI RANJAN SAHOO SUBJECT- EMI SEM-4TH (E1)

BRANCH-ELECTRICAL ENGG

DATE- 16.01.2024 TO 24.04.2024

SL.NO	WEEK NO.	TOPICS TO BE COVERED	NO. of Periods
1	1	1.1 Define Accuracy, precision, Errors, Resolutions Sensitivity and tolerance. 1.2 Classification of measuring instruments. 1.3 Explain Deflecting, controlling and damping arrangements in indicating type of instruments. 1.4 Calibration of instruments.	4
2	2	2.1. Describe Construction, principle of operation, errors, ranges merits and demerits of: 2.1.1 Moving iron type instruments. 2.1.2 Permanent Magnet Moving coil type instruments. 2.1.3 Dynamometer type instruments	5
3	3	2.1.4 Rectifier type instruments 2.1.5 Induction type instruments. 2.2 Extend the range of instruments by use of shunts and Multipliers. 2.3 Solve Numerical	5
4	4	WATTMETERS AND MEASUREMENT OF POWER 3.1 Describe Construction, principle of working of Dynamometer type wattmeter. (LPF and UPF type) 3.2 The Errors in Dynamometer type wattmeter and methods of their correction	3
5	5	3.3 Discuss Induction type watt meters ENERGYMETERS AND MEASUREMENT OF ENERGY 4.1 Introduction 4.2 Single Phase Induction type Energy meters – construction, working principle and their compensation & adjustments	5
6	6	4.3 Testing of Energy Meters MEASUREMENT OF SPEED, FREQUENCY AND POWER FACTOR 5.1 Tachometers, types and working principles 5.2 Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters.	5
7	7	5.3 Principle of operation and working of Dynamometer type single phase and three phase power factor meters MEASUREMENT OF RESISTANCE, INDUCTANCE & CAPACITANCE 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
8	8	6.1..3. Measurement of high resistance by loss of charge method. 6.2 Construction, principle of operations of Megger & Earth tester for insulation resistance and earth resistance measurement respectively.	4

9	9	6.3 Construction and principles of Multimeter. (Analog and Digital) 6.4 Measurement of inductance by Maxwell's Bridge method. 6.5 Measurement of capacitance by Schering Bridge method	5
10	10	SENSORS AND TRANSDUCER 7.1. Define Transducer, sensing element or detector element and transduction elements. 7.2. Classify transducer. Give examples of various class of transducer.	5
11	11	7.3. Resistive transducer motion potentiometer. Resistance thermometers. Resistance Strain Gauges 7.3.1 Linear and angular 7.3.2 Thermistor and 7.3.3 Wire 7.4. Inductive Transducer	5
12	12	7.4.1 Principle of linear variable differential Transformer (LVDT) 7.4.2 Uses of LVDT.	4
13	13	7.5. Capacitive Transducer. transducer. between plate capacitive transducer. 7.5.1 General principle of capacitive 7.5.2 Variable area capacitive 7.5.3 Change in distance	5
14	14	7.6. Piezo electric Transducer and Hall Effect Transducer with their applications OSCILLOSCOPE Cathode Ray Tube. Oscilloscope (with block diagram). 8.1. Principle of operation of 8.2. Principle of operation of	4
15	15	8.3. Measurement of DC Voltage & current. 8.4. Measurement of AC Voltage, current, phase & frequency	2


Prepared by


16/01/24
SIGN

Academic Co-ordinator