

Discipline:	Semester:6 TH	Name of the Teaching Faculty: PALLABI MOHANTA
Subject: EM&I(Th.3)	No. of Days/per week class allotted:	Semester From Date: 14.02.2023 To Date:23.05.2023 No. of Weeks; 15
Week	Class Day	Theory/Practical Topics
1 st	01	MEASURING INSTRUMENTS 1.1 Define Accuracy, precision, Errors, Resolutions Sensitivity and tolerance..
	02	1.2 Classification of measuring instruments.
	03	1.3 Explain Deflecting, controlling and damping arrangements in indicating type of Instruments
	04	1.3 Explain Deflecting, controlling and damping arrangements in indicating type of Instruments
	05	Tutorial Class
2 nd	01	1.4 Calibration of instruments.
	02	ANALOG AMMETERS AND VOLTMETERS 2.1. Describe Construction, principle of operation, errors, ranges merits and demerits of: 2.1.1 Moving iron type instruments
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	04	ANALOG AMMETERS AND VOLTMETERS 2.1. Describe Construction, principle of operation, errors, ranges merits and demerits of: 2.1.1 Moving iron type instruments
	05	Tutorial Class
3 rd	01	2.1.2 Permanent Magnet Moving coil type instruments.
	02	2.1.2 Permanent Magnet Moving coil type instruments.
	03	2.1.3 Dynamometer type instruments
	04	2.1.4 Rectifier type instruments
	05	Tutorial Class
4 th	01	2.1.5 Induction type instruments
	02	2.2 Extend the range of instruments by use of shunts and Multipliers
	03	2.3 Solve Numerical
	04	WATTMETERS AND MEASUREMENT OF POWER 3.1 Describe Construction, principle of working of Dynamometer type wattmeter. (LPF and UPF type)
	05	Tutorial Class
5 th	01	WATTMETERS AND MEASUREMENT OF POWER 3.1 Describe Construction, principle of working of Dynamometer type wattmeter. (LPF and UPF type)
	02	WATTMETERS AND MEASUREMENT OF POWER 3.1 Describe Construction, principle of working of Dynamometer type wattmeter. (LPF and UPF type)
	03	3.2 The Errors in Dynamometer type wattmeter and methods of their correction.

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	04	3.2 The Errors in Dynamometer type wattmeter and methods of their correction.
	05	Tutorial Class
6 th	01	3.3 Discuss Induction type watt meters.
	02	3.3 Discuss Induction type watt meters.
	03	3.3 Discuss Induction type watt meters.
	04	3.3 Discuss Induction type watt meters.
	05	Tutorial Class
7 th	01	ENERGYMETERS AND MEASUREMENT OF ENERGY 4.1 Introductio
	02	ENERGYMETERS AND MEASUREMENT OF ENERGY 4.1 Introductio
	03	4.2 Single Phase Induction type Energy meters – construction, working principle and their compensation & adjustments.
	04	4.2 Single Phase Induction type Energy meters – construction, working principle and their compensation & adjustments.
	05	Tutorial Class
8 th	01	4.2 Single Phase Induction type Energy meters – construction, working principle and their compensation & adjustments.
	02	4.2 Single Phase Induction type Energy meters – construction, working principle and their compensation & adjustments.
	03	4.3 Testing of Energy Meters.
	04	4.3 Testing of Energy Meters.
	05	Tutorial Class
9 th	01	MEASUREMENT OF SPEED, FREQUENCY AND POWER FACTOR 5.1 Tachometers, types and working principles
	02	MEASUREMENT OF SPEED, FREQUENCY AND POWER FACTOR 5.1 Tachometers, types and working principles
	03	MEASUREMENT OF SPEED, FREQUENCY AND POWER FACTOR 5.1 Tachometers, types and working principles
	04	5.2 Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters
	05	Tutorial Class
10 th	01	5.2 Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters
	02	5.3 Principle of operation and working of Dynamometer type single phase and three phase power factor meters.
	03	5.3 Principle of operation and working of Dynamometer type single phase and three phase power factor meters.
	04	MEASUREMENT OF RESISTANCE, INDUCTANCE & CAPACITANCE 6.1 Classification of resistance
	05	Tutorial Class
11 th	01	6.1..1. Measurement of low resistance by potentiometer method
	02	6.1..2. Measurement of medium resistance by wheat Stone bridge method
	03	6.1..3. Measurement of high resistance by loss of charge method.

	04	6.2 Construction, principle of operations of Megger & Earth tester for insulation resistance and earth resistance measurement respectively.
	05	Tutorial Class
12 th	01	6.3 Construction and principles of Multimeter. (Analog and Digital)
	02	6.4 Measurement of inductance by Maxewell's Bridge method.
	03	6.5 Measurement of capacitance by Schering Bridge method
	04	SENSORS AND TRANSDUCER 7.1. Define Transducer, sensing element or detector element and transduction elements
	05	Tutorial Class
13 th	01	7.2. Classify transducer. Give examples of various class of transducer
	02	7.3. Resistive transducer 7.3.1 Linear and angular motion potentiometer.
	03	7.3.2 Thermistor and Resistance thermometers
	04	7.3.3 Wire Resistance Strain Gauges
	05	Tutorial Class
14 th	01	7.4. Inductive Transducer 7.4.1 Principle of linear variable differential Transformer (LVDT) 7.4.2 Uses of LVDT
	02	7.5. Capacitive Transducer. 7.5.1 General principle of capacitive transducer.
	03	7.5.2 Variable area capacitive transducer. 7.5.3 Change in distance between plate capacitive transducer.
	04	7.6. Piezo electric Transducer and Hall Effect Transducer with their applications
	05	Tutorial Class
15 th	01	OSCILLOSCOPE 8.1. Principle of operation of Cathode Ray Tube
	02	8.2. Principle of operation of Oscilloscope (with help of block diagram).
	03	8.3. Measurement of DC Voltage & current.
	04	8.4. Measurement of AC Voltage, current, phase & frequency.
	05	Tutorial Class

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