GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2022/23 (SUMMER)

Discipline : ELECTRICAL ENGG.	Semester: 4th Sem		Name of the Teaching Faculty :Debasis Patra
Subject : EM&I TH3	No. of Days / per week class allotted : 05		Semester From date : 14.02.2023 To Date : 23.05.2023

MONTH	Week	Day	Unit	Topics
FEBRUARY	3rd		UNIT-1	**1. MEASURING INSTRUMENTS**
		2nd		Define Accuracy, precision, Errors, Resolutions Sensitivity and tolerance.
		3rd		Classification of measuring instruments
		4th		Explain Deflecting, controlling and damping arrangements in indicating type of instruments.
		5th		Calibration of instruments.
	4th		UNIT-2	**2. ANALOG AMMETERS AND VOLTMETERS**
		1st		Describe Construction, principle of operation, errors, ranges merits and demerits of: Moving iron type instruments.
		2nd		Permanent Magnet Moving coil type instruments.
		3rd		Dynamometer type instruments
		4th		Rectifier type instruments
		5th		Induction type instruments
	5th	1st		Extend the range of instruments by use of shunts and Multipliers.
		2nd		Solve Numerical
MARCH	1ST	3rd		Question Discussion
		4th		**CLASS TEST-1**
			UNIT-3	**3. WATTMETERS AND MEASUREMENT OF POWER**
		5th		Describe Construction, principle of working of Dynamometer type wattmeter. (LPF and UPF type)
	2nd	1st		The Errors in Dynamometer type wattmeter and methods of their correction.
		2nd		**DOLO PURNIMA**
		3rd		**HOLI**
		4th		Discuss Induction type watt meters.
				4. ENERGYMETERS AND MEASUREMENT OF ENERGY
		5th	UNIT-4	Introduction
	3rd	1st		Single Phase Induction type Energy meters – construction, working principle and their compensation & adjustments.
		2nd		Testing of Energy Meters
				5. MEASUREMENT OF SPEED, FREQUENCY AND POWER FACTOR
		3rd		Tachometers, types and working principles
		4th		

		5th	UNIT-5	Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters.
	4th	1st		
		2nd		Principle of operation and working of Dynamometer type single phase and three phase power factor meters.
		3rd		
		4th		**6. MEASUREMENT OF RESISTANCE, INDUCTANCE& CAPACITANCE**
		5th		Classification of resistance
	5th	1st		Measurement of low resistance by potentiometer method.
		2nd		Measurement of medium resistance by wheat Stone bridge method
		3rd		Measurement of high resistance by loss of charge method.
		4th		**RAMA NAVAMI**
		5th		Construction, principle of operations of Megger.
APRIL	2nd	1st	UNIT-6	Question Discussion
		2nd		**CLASS TEST-2**
				Construction, principle of operations of Earth tester for insulation resistance.
		3rd		Construction, principle of operations of earth resistance measurement.
		4th		Construction and principles of Multimeter:- Analog
		5th		**GOOD FRIDAY**
	3rd	1st		Construction and principles of Multimeter:- Digital
		2nd		Measurement of inductance by Maxewell's Bridge method.
		3rd		Measurement of capacitance by Schering Bridge method
			UNIT-7	**7. SENSORS AND TRANSDUCER**
		4th		Define Transducer, sensing element or detector element and transduction elements.
		5th		**MOHABISUBA SANKRANTI**
	4th	1st		Classify transducer. Give examples of various class of transducer.
				Linear and angular motion potentiometer.
		2nd		Thermistor and Resistance thermometers.
		3rd		Wire Resistance Strain Gauges
		4th		Inductive Transducer- Principle of linear variable differential Transformer (LVDT)
		5th		Uses of LVDT.
	5th	1st		Capacitive Transducer.General principle of capacitive transducer. Variable area capacitive transducer.
		2nd		Change in distance between plate capacitive transducer.
		3rd		Piezo electric Transducer with their applications.
		4th		Hall Effect Transducer with their applications.
		5th		Question Discussion
				8. OSCILLOSCOPE
	1st	1st		Principle of operation of Cathode Ray Tube.
		2nd		
		3rd		Principle of operation of Oscilloscope (with help of block diagram).
		4th		

MAY		5th	UNIT-8	**PRM JAYANTI**
	2nd	1st		Measurement of DC Voltage
		2nd		Measurement of DC Current.
		3rd		Measurement of AC Voltage.
		4th		Measurement of AC Current.
		5th		Measurement of AC Phase.
	3rd	1st		Measurement of AC frequency.
		2nd		**CLASS TEST-3**
		3rd		Question Discussion
		4th		
		5th		**SABITRI AMABASYA**
				REVISION
		2nd		