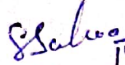


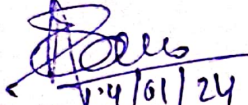
# SYNERGY SCHOOL OF ENGINEERING, DHENKANAL LESSON PLAN - 2024


Discipline: ELECTRICAL ENGG.		Semester: 4th Sem	Name of the Teaching Faculty: SUNANDITA SAHOO		
Subject: EM&I		No. of Days / per week class allotted: 05		Semester From date: 16.01.2024	To Date: 26.04.2024
MONT H	Week	Day	Unit	Topics	
JANUARY	3rd	1ST	UNIT-1	1. MEASURING INSTRUMENTS	
		2ND		Define Accuracy, precision, Errors, Resolutions Sensitivity and tolerance.	
		4TH		Classification of measuring instruments	
		5TH		Explain Deflecting, controlling and damping arrangements in indicating type of instruments.	
		6TH		Calibration of instruments.	
	4TH	1ST	UNIT-2	2. ANALOG AMMETERS AND VOLTMETERS	
		4TH		Describe Construction, principle of operation, errors, ranges merits and demerits of: Moving iron type instruments.	
		1ST		Permanent Magnet Moving coil type instruments.	
		2ND		Dynamometer type instruments	
		4TH		Rectifier type instruments	
FEBRUARY	1ST	1ST	UNIT-2	Induction type instruments	
		2ND		Extend the range of instruments by use of shunts and Multipliers.	
		4TH		Solve Numerical	
		5TH		3. WATTMETERS AND MEASUREMENT OF POWER	
		6TH		Describe Construction, principle of working of Dynamometer type wattmeter. (LPF and UPF type)	
	2ND	1ST	UNIT-3	The Errors in Dynamometer type wattmeter and methods of their correction.	
		2ND		Discuss Induction type watt meters.	
		4TH		Introduction 4. ENERGYMETERS AND MEASUREMENT OF ENERGY	
		5TH		Single Phase Induction Type Energy meters – construction	
		6TH		working principle and their compensation & adjustments.	
	3rd	1ST	UNIT-4	Testing of Energy Meters	
		2ND		5. MEASUREMENT OF SPEED, FREQUENCY AND POWER FACTOR	
		4TH		Tachometers, types and working principles	
		5TH		Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters.	
		6TH		Principle of operation and working of Dynamometer type single phase and three phase power factor meters.	
	4TH	1ST	UNIT-5	CLASS TEST-1	
		2ND		6. MEASUREMENT OF RESISTANCE, INDUCTANCE& CAPACITANCE	
		4TH		Classification of resistance	
		5TH		Measurement of low resistance by potentiometer method.	
		6TH			



MARCH	5TH	1ST	UNIT-6	Measurement of medium resistance by wheat Stone bridge method	
		2ND		Measurement of high resistance by loss of charge method.	
		4TH		Construction, principle of operations of Megger.	
	1ST	5TH		Question Discussion	
		6TH		Construction, principle of operations of Earth tester for insulation resistance.	
		1ST		Construction, principle of operations of earth resistance measurement.	
	2ND	4TH		Construction and principles of Multimeter Analog	
		1ST		Construction and principles of Multimeter Digital	
		2ND		Measurement of inductance by Maxwell's Bridge method.	
	3rd	4TH		Measurement of capacitance by Schering Bridge method	
		5TH		<b>7. SENSORS AND TRANSDUCER</b>	
		6TH		Define Transducer, sensing element or detector element and transduction elements.	
	4TH	1ST		Classify transducer. Give examples of various class of transducer.	
		2ND		Linear and angular motion potentiometer.	
		4TH		Thermistor and Resistance thermometers.	
APRIL	5TH	6TH	UNIT-7	Wire Resistance Strain Gauges	
		4TH		Inductive Transducer- Principle of linear variable differential Transformer (LVDT)	
		6TH		Uses of LVDT.	
	1ST	2ND		Capacitive Transducer. General principle of capacitive transducer. Variable area capacitive transducer.	
		4TH		Change in distance between plate capacitive transducer.	
		5TH		Piezo electric Transducer with their applications.	
	2ND	6TH		Hall Effect Transducer with their applications.	
		1ST		Question Discussion	
		2ND		<b>8. OSCILLOSCOPE</b>	
	3rd	5TH		Principle of operation of Cathode Ray Tube.	
		1ST		Principle of operation of Oscilloscope (with help of block diagram).	
		2ND		Measurement of DC Voltage	
	3rd	4TH		Measurement of DC Current.	
		5TH		Measurement of AC Voltage.	
		6TH		Measurement of AC Current.	
	3rd	6TH		Measurement of AC Phase.	
				Measurement of AC frequency.	

  
 14.01.2024  
 Subject Expert  
 Synergy School of Engineering  
 Dhenkanal

  
 14/01/24  
 HOD, Electrical  
 Synergy School of Engineering  
 Dhenkanal

  
 14/1/24  
 Academic CO-Ordinator  
 Synergy School of Engineering  
 Dhenkanal