ARYAN SCHOOL OF ENGINEERING & TECHNOLOGY

Dicipline: EE	Semester: 4th	Name of the Teaching Faculty: Smitalatee Jena	
Subject: Electrical Measuring Instrument	No of Days/Week Class Allotted: 04	Semester From date: 13.02.23 To date 23.05.23	No.of Weeks: 15.

WEEK	Class Day	Theory Topics
	1st	Define Basic Notation Used in Measuring Instrument like Accuracy, Precision, Errors
	2nd	Resolutions sensitivity And tolerance with Examples.
	3rd	classification of measurement instruments on the basis of operation principle, TORQUE used
	4th	Definition working and Importance of deflecting torque controlling torque and damping torque
	5th	
	1st	Different types of controlling torques and arrangement (eg current gravity control, spring control in indicating type of instrument.
	2nd	Importance of deflecting torque Measurement
	3rd	Calibration of instrument for the measurement of the quantity Accurately.
	4th	construction principle of operation of moving iron type instrument with schematic diagram.
	5th	
	1st	Errors Ranges Merits and demerits of Moving iron type instrument using deflecting
	2nd	Errors ranges Merits and demerits of moving iron type instrument using controlling equations,
	3rd	construction, principle of operation of PMMC moving coil type instrument with schematic diagram.
	4th	Errors ranges Merits and demerits of PMMC moving coil type instrument using deflecting torque and controlling equations.
	5th	

WEEK	Class Day	Theory Topics
	1st	CONSTRUCTION, PRINCIPLE OF operation of PERMANENT MAGNET moving coil TYPE DIA.
	2nd	errors, RANGES, merits and DEMERITS OF PERMANEINT MAGNET moving coil.
	3rd	errors, RANGES, MERITS AND DEMERITS of permanent magnet moving coil.
	4th	CONSTRUCTION, principle of operation of DYNAMOMETER type INSTRUMENTS Diagram.
	5th	
	1st	errors, RANGES, MERITS AND DEMERITS of DYNAMOMETER TYPE INSTRUMENTS USING EQUATIONS.
	2nd	CONSTRUCTION, PRINCIPLE OF operation, ERRORS OF RECTIFIER TYPE INSTRUMENTS.
	3rd	DESCRIBE CONSTRUCTION, PRINCIPLE OF operation, AND DEMERITS TYPE INSTRUMENTS.
	4th	EXTENSION OF RANGE of INSTRUMENTS BY USE OF SHUNTS AND MULTIPLIES.
	5th	
	1st	NUMERICAL ON EXTENSION OF INSTRUMENTS.
	2nd	CONSTRUCTION OF DYNAMOMETER TYPE with, EXPLANING OF CONNECTION OF WATER.
	3rd	principle of working of DYNAMOMETER. TYPE WATTMETER UPF TYPE of with DIA.
	4th	UPF TYPE DYNAMOMETER TYPE WATTMETER working principle.
	5th	

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Dicipline:		Semester:	Name of the Teaching Faculty:	
Subject:		No of Days/Week Class Allotted:_____	Semester From date:____________ To date____________	No.of Weeks:

WEEK	Class Day	Theory Topics
	1st	Principle of working of dynamometer type wattmeter, LPF type wattmeter connection dynamo
	2nd	UPF type dynamometer type wattmeter working principle
	3rd	classification of errors of wattmeter
	4th	The errors in dynamometer type wattmeter due to different connection.
	5th	
	1st	The errors in dynamometer type wattmeter due to voltage coil inductance,
	2nd	Methods of meter connection of errors of wattmeter
	3rd	calculation of electrical energy. Introduction to electrical energy measurement
	4th	electrical energy calculation in energy meter for building
	5th	
	1st	working principle of single phase induction type energy.
	2nd	Adjustments & compensation of single phase energy meters.
	3rd	testing of energy meters. class test.
	4th	Measurement of speed, frequency and power factor.
	5th	

WEEK	Class Day	Theory Topics
	1st	Principle of operation of mechanical electrical resonance type frequency meters.
	2nd	electrical resonance type frequency meters.
	3rd	principle of operation and working of dynamometer type single phase
	4th	Principle of operation and working of dynamometer type single phase
	5th	
	1st	class test question discussion & Distribution of evaluated Answer sheet
	2nd	Measurement of resistance, inductance and capacitance.
	3rd	measurement of low resistance by potentiometer method,
	4th	measurement of medium resistance by wheatstone bridge method,
	5th	
	1st	Measurement of capacitance by schering bridge method.
	2nd	Measurement of classification of resistance
	3rd	Measurement of medium resistance by wheat stone bridge,
	4th	measurement of high resistance by loss of charge method,
	5th	

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Dicipline:		Semester:	Name of the Teaching Faculty:	
Subject:		No of Days/Week Class Allotted:_____	Semester From date:_____ To date_____	No.of Weeks:

WEEK	Class Day	Theory Topics
	1st	Construction & Principle of Megger & Earth Resistance Insulation Resistance
	2nd	Construction and Principle of Multimeter etc.
	3rd	Measurement of Inductance by Maxwell Bridge & Method.
	4th	Measurement of Capacitance By Owen's Bridge Method
	5th	
	1st	Inductive Transducer : Principle of Linear Variable Differential Transformer, Uses
	2nd	Capacitive Transducer : General Principle of Capacitive Transducer
	3rd	Variable area capacitive Transducer, Change in Distance Between Plate capacitive
	4th	Piezoelectric transducer,
	5th	
	1st	Hall effect Transducer with their Applications &
	2nd	CRO & CRT
	3rd	Principle of Operation of CRO CRT Using Block Diagram.
	4th	Measurement of DC Voltage & Current using CRO.
	5th	