BHUBANANANDA ORISSA SCHOOL OF ENGINEERING, CUTTACK

ELECTRICAL ENGG.DEPARTMENT

LESSON PLAN

SEMESTER : 4^{th} (C)

SESSION– SUMMER (2022-23)

SUBJECT: EMMI

NAME OF FACULTY: PRATIK MOHANTY

Discipline: **Electrical Engg.**	Semester: **4th (C)**	Name of the teaching faculty: **Pratik Mohanty**
Subject-**EMMI**	No. of Days/per week class allotted: **05PERIODS /WEEK (MON-1 periods, TUE-2periods, THU-1 period,SAT-1 period)**	Semester: From Date: **14/02/2023** To Date:**23/05/2023** No. of weeks: **15 WEEKS**
Week	**Class Day**	**Theory/PracticalTopics**
1st(14/02/2023-18/02/2023)	14/02/2023	**1.MEASURING INSTRUMENTS** 1.1Define Accuracy, precision, Errors, Resolutions Sensitivity and tolerance.
	14/02/2023	1.2Classification of measuring instruments
	16/02/2023	1.3. ~~Sustainable Design and development~~ ~~Sustainable~~ Classification of measuring in
	18/02/2023	.MAHA SHIVARATRI
2nd(20/02/2023-25/02/2023)	20/02/2023	.1.3Explain Deflecting, controlling and damping arrangements in indicating type of instruments
	21/02/2023	1.3Explain Deflecting, controlling and damping arrangements in indicating type of instruments
	21/02/2023	1.3Explain Deflecting, controlling and damping arrangements in indicating type of instruments
	23/02/2023	1.4Calibration of instruments.
	25/02/2023	**2.ANALOG AMMETERS AND *VOLTMETERS*** *Describe* Construction, principle of operation, errors, ranges merits and demerits of 2.1Moving iron type instruments.

3rd(27/02/2023-04/03/2023)	27/02/2023	Describe Construction, principle of operation, errors, ranges merits and demerits of 2.2Permanent Magnet Moving coil type instruments
	28/02/2023	Describe Construction, principle of operation, errors, ranges merits and demerits of 2.3Dynamometer type instruments
	28/02/2023	Describe Construction, principle of operation, errors, ranges merits and demerits of 2.3Dynamometer type instruments
	02/03/2023	2.4 rectifier type
	04/03/2023	2.5 Induction type instrument
4th(06/03/2023-11/03/2023)	06/03/2023	2.5 Induction type instrument
	07/03/2023	**DOLA PURNIMA....**
	10/03/2023	2.6 Extend the range of instruments by use of shunts and Multipliers2.7 Solve Numericaltype)
	11/03/2023	**3.WATTMETERS AND MEASUREMENT OF POWER** 3.1DescribeConstruction, principle of working of Dynamometer type wattmeter(LPF &UPF type)
5TH(13/03/2023-18/03/2023)	13/03/2023	**3.WATTMETERS AND MEASUREMENT OF POWER** 3.1DescribeConstruction, principle of working of Dynamometer type wattmeter(LPF &UPF type)
	14/03/2023	**CLASS TEST 1**
	14/03/2023	3.1DescribeConstruction, principle of working of Dynamometer type wattmeter(LPF &UPF type)3.2What are the Errors in Dynamometer type wattmeter and methods of their correction
	16/03/2023	3.1DescribeConstruction, principle of working of Dynamometer type wattmeter(LPF &UPF type)
	18/03/2023	3.2What are the Errors inDynamometertype wattmeter and methods of their correction
6TH(20/03/2023-25/03/2023)	20/03/2023	3.3 Discuss Induction type wattmeter
	21/03/2023	**4.ENERGYMETERS AND MEASUREMENT OF ENERGY** 4.1 Introduction

	21/03/2023	4.2.SinglePhase Induction type Energy meters construction, working principle and their compensation and adjustments.
	23/03/2023	4.2.SinglePhase Induction type Energy meters construction, working principle and their compensation and adjustments
	25/03/2023	4.2.SinglePhase Induction type Energy meters construction, working principle and their compensation and adjustments.
7th(27/03/2023-01/04/2023)	27/03/2023	4.2.SinglePhase Induction type Energy meters construction, working principle and their compensation and adjustments
	28/03/2023	4.3TestingofEnergyMeter
	28/03/2023	4.3TestingofEnergyMeter
	30/03/2023	**Ram Navami....**
	01/04/2023	**UTKAL DIWAS**
8th(03/04/2023-08/04/2023)	03/04/2023	**5.MEASUREMENT OF SPEED, FREQUENCYANDPOWERFACTOR** 5.1 Tachometers, types and working principles
	04/04/2023	5.2Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters
	04/04/2023	5.2Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters
	06/04/2023	5.3Principle of operation and working of Dynamometer type single phase and three phase power factor meters
	08/04/2023	5.3Principle of operation and working of Dynamometer type single phase and three phase power factor meters
9th (10/04/2023-15/04/2023)	10/04/2023	5.3Principle of operation and working of Dynamometer type *single phase* and three phase power factor meters
	11/04/2023	**6.MEASUREMENT OF *RESISTANCE*** 6.1Classification of resistance
	11/04/2023	**CLASSTEST 2**
	13/04/2023	6.1.1Measurement of low resistance by potentiometer method

	15/04/2023	6.1.2Measurement of medium resistance by Wheatstone bridge method
10th (17/04/2023-22/04/2023)	17/04/2023	6.1.3 Measurement of high resistance by loss of charge method.
	18/04/2023	6.2construction&principle of operations (meggers) &Earth Tester For Insulation Resistance And earth resistance measurement respectively.
	18/04/2023	6.2construction&principle of operations (meggers) &Earth Tester For Insulation Resistance And earth resistance measurement respectively.
	20/04/2023	6.2construction&principle of operations (meggers) &Earth Tester For Insulation Resistance And earth resistance measurement respectively.
	22/04/2023	6.3construction and principles of Multimeter (analog&digital).
11th (24/04/2023-29/04/2023)	24/04/2023	6.3construction and principles of Multimeter (analog&digital).
	25/04/2023	6.4Measurement of inductance by Maxewell'sBridge method. 6.5 measurement of capacitance by Schering Bridge method.
	25/04/2023	6.4Measurement of inductance by Maxewell'sBridge method. 6.5 measurement of capacitance by Schering Bridge method
	27/04/2023	**INTERNAL ASSESSMENT**
	29/04/2023	**INTERNAL ASSESSMENT**
12th (01/05/2023-06/05/2023)	01/05/2023	**7.SENSORS AND TRANSDUCER** 7.1Define transducer, sensing elements detector element and transduction elements7.2Classify transducer, give examples of various class of transducer.
	02/05/2023	7.2Classify transducer, give examples of various class of transducer.
	02/05/2023	7.3Resistive transducer 7.3.1Linear and angular motion potentiometer
	04/05/2023	7.3.2Thermistorandresistance thermometers7.3.3WireResistanceStrainGauge
	06/05/2023	7.4Inductive transducer 7.4.1principleof LVDT

		7.4.2Use of LVDT
13th (08/05/2023-13/05/2023)	08/05/2023	7.5Capacitive transducer
	09/05/2023	7.5.1general principle of Capacitive transducer 7.5.2VariableareaCapacitivetransducer 7.5.3Change in distance between plate Capacitive transducer7.1Piezo electric transducer and their application
	09/05/2023	**QUIZ TEST**
	11/05/2023	**8.OSCILLOSCOPE** 8.1cathode ray tube. 8.2Principle of operation of oscilloscope(with help of block diagram.)
	13/05/2023	**CLASS TEST 3**
14th (15/05/2023-20/05/2023)	15/05/2023	8.2Principle of operation of oscilloscope(with help of block diagram.)
	16/05/2023	8..3Measurement of DC voltage and current8.4Measurement of voltage and current, phase and frequency
	16/05/2023	8..3Measurement of DC voltage and current8.4Measurement of voltage and current, phase and frequency
	18/05/2023	8.4Measurement of AC vvoltageand current, phase and frequenc
	20/05/2023	PREVIOUS YEAR QUESTION DISCUSSION
15th (15/05/2023-20/05/2023)	22/05/2023	**Revision and Discussions**
	23/05/2023	**Revision and Discussions**
	23/05/2023	**Revision and Discussions**