BHUBANANANDA ORISSA SCHOOL OF ENGINEERING, CUTTACK

ELECTRICAL ENGG.DEPARTMENT

LESSON PLAN

SEMESTER :2nd (B)(CIVIL)

SESSION – summer-(2021-22)

SUBJECT: BEE

NAME OF FACULTY: Padmini Pradhan

Discipline: **Electrical Engg.**	Semester:**2nd**	Name of the teaching faculty: Miss.Padmini Pradhan
Subject-**BEE**	No. of Days/per week class allotted:**02PERIODS /WEEK** **(MON,TUES-1 period each)**	Semester: From Date: **14/03/2022** To Date: **31/01/2022** No. of weeks: **14 WEEKS**
Week	Class Day	Theory/Practical Topics
1st (14/04/2022-19/03/2022)	14/03/2022	**1. FUNDAMENTALS** 1.1 Concept current flow 1.2 Concept of source and load
	15/03/2021	1.3 State OHM's law and concept of resistance 1.4 Relation of V,I and R in series circuit
	18/03/2022	**Dola Purnima**
	19/03/2022	**Holi**
2nd (21/03/2022-26/03/2022)	21/03/2022	1.5 Relation of V,I and R in parallel circuit
	22/03/2022	1.6Division of current in parallel circuit 1.7 Effect of power in series and parallel circuit
3rd (28/03/2022-02/04/2022)	28/03/2022	1.8 Kirchhoff's law 1.9 Simple problems on kirchhoff's law
	29/03/2022	**2. A.C. THEORY** 2.1 Generation of alternating emf. 2.2 Difference between D.C. & A.C..
	01/04/2022	**UTKAL DIWAS**
4th (04/04/2022-09/04/2022)	04/04/2022	2.3 Define Amplitude, instantaneous value, cycle, Time period, frequency, phase angle, phase difference.

	05/04/2022	2.4 State & Explain RMS value, Average value, Amplitude factor & Form factor with Simple problems.
5th (11/04/2022-16/04/2022)	11/04/2022	2.4 State & Explain RMS value, Average value, Amplitude factor & Form factor with Simple problems.
	12/04/2022	2.5 Represent AC values in phasor diagrams. 2.6 AC through pure resistance, inductance & capacitance
	14/04/2022	**AMBEDKAR JAYANTI**
	15/04/2022	**GOOD FRIDAY**
6th (18/04/2022-23/04/2022)	18/04/2022	2.7 AC though RL, RC, RLC series circuits. .
	19/04/2022	2.8 Simple problems on RL, RC & RLC series circuits
7th (25/04/2022-30/04/2022)	25/04/2022	2.9 Concept of Power and Power factor 2.10 Impedance triangle and power triangle
	26/04/2022	**CLASSTEST -1**
8th (01/05/2022-07/05/2022)	01/05/2022	3. **GENERATION OF ELECTRICAL POWER** 3.1 Give elementary idea on generation of electricity from thermal , hydro power station with block diagram
	02/05/2022	3.1.1 Electricity from Nuclear power station with block diagram
9th (09/05/2022-14/05/2022)	09/05/2022	4. **CONVERSION OF ELECTRICAL ENERGY (No operation, Derivation, numerical problems)** 4.1 Introduction of DC machines. 4.2 Main parts of DC machines
	10/05/2022	4.3 Classification of DC generator 4.4 Classification of DC motor. 4.5 Uses of different types of DC generators & motors
	12/05/2022	**INTERNAL ASSESSMENT**

10th (16/05/2022-21/05/2022)	**16/05/2022**	**BUDHA PURNIMA**
	17/05/2022	4.6 Types and uses of single phase induction motors. 4.7 Concept of Lumen
	17/05/2022	4.8 Different types of Lamps (Filament, Fluorescent, LED bulb) its Construction and Principle. 4.9 Star rating of home appliances (Terminology, Energy efficiency, Star rating Concept)
11th (23/05/2022-28/05/2022)	23/05/2022	5. WIRING AND POWER BILLING 5.1 Types of wiring for domestic installations. 5.2 Layout of household electrical wiring (single line diagram showing all the important component in the system).
	24/05/2022	5.3 List out the basic protective devices used in house hold wiring. 5.4 Calculate energy consumed in a small electrical installation
12th (30/05/2022-04/05/2022)	**30/05/2022**	**SABITRI AMABASYA**
	31/05/2022	5.3 List out the basic protective devices used in house hold wiring. 5.4 Calculate energy consumed in a small electrical installation
13th (06/06/2022-10/06/2022)	06/06/2022	**CLASSTEST -2**
	07/06/2022	6. MEASURING INSTRUMENTS 6.1 Introduction to measuring instruments. 6.2 Torques in instruments..
14th (13/06/2022-18/06/2022)	13/06/2022	6.3 Different uses of PMMC type of instruments (Ammeter & Voltmeter). 6.4 Different uses of MI type of instruments (Ammeter & Voltmeter)
	14/06/2022	6.5 Draw the connection diagram of A.C/ D.C Ammeter, voltmeter, energy meter and wattmeter. (Single phase only).

BHUBANANANDA ORISSA SCHOOL OF ENGINEERING, CUTTACK

AE&I ENGG.DEPARTMENT

LESSON PLAN

SEMESTER: 4TH

SESSION – SUMMER (2021-22)

SUBJECT: ELECTRICAL MACHINE

NAME OF FACULTY: Miss Padmini Pradhan

Discipline: **APPLIED ELECTRONICS AND INSTRUMENTS ENGG.**	Semester:4Th	Name of the teaching faculty: PADMINI PRADHAN
Subject:**ELECTRICAL MACHINE**	No. of Days/per week class allotted: **04 PERIODS /WEEK (MON-1,TUE-1,WED-1,FRI-1 4 PERIOD)**	Semester: From Date: **10/03/2022** To Date: **10/06/2022** No. of weeks: **14 WEEKS**
Week	**Class Day**	**Theory/Practical Topics**
1st (10/03/2022-12/03/2022)	10/03/2022	**Unit-1. ELECTRICAL MATERIAL** 1.1 Properties & uses of different conducting material. 1.2 Properties & use of various insulating materials used electrical engineering
2nd (14/03/2022-19/03/2022)	14/03/2022	1.3 Various magnetic materials & their uses
	15/03/2022	**Unit-2. DC GENERATOR** 2.1 Construction, Principle & application of DC Generator
	16/03/2022	2.1 Construction, Principle & application of DC Generator
	18/03/2022	**Dola Purnima**
	19/03/2022	**Holi**
3rd (21/03/2022-26/03/2022)	21/03/2022	2.2 Classify DC generator including voltage equation
	22/03/2022	2.3 Derive EMF equation & simple problems.
	23/03/2022	2.3 Derive EMF equation & simple problems.
	25/03/2022	2.4 Parallel operation of DC generators.
4th (28/03/2022-02/04/2022)	28/03/2022	**Unit-3. DC MOTOR** 3.1 Principle of working of a DC motor.
	29/03/2022	3.2 Concept of development of torque & back EMF in DC motor including simple problems.

	30/03/2022	3.2 Concept of development of torque & back EMF in DC motor including simple problems.
	01/04/2022	**UTKAL DIVAS**
5TH (04/04/2022-09/04/2022)	04/04/2022	3.3 Derive equation relating to back EMF, Current, Speed and Torque equation
	05/04/2022	3.3 Derive equation relating to back EMF, Current, Speed and Torque equation
	06/04/2022	3.4 Classify DC motors & explain characteristics, application
	08/04/2022	3.5 Three point & four point stator/static of DC motor by solid State converter
6TH (11/04/2022-16/04/2022)	11/04/2022	3.5 Three point & four point stator/static of DC motor by solid State converter
	12/04/2022	**CLASS TEST**
	14/04/2022	**AMBEDKAR JAYANTI**
	15/04/2022	**GOOD FRIDAY**
	16/04/2022	3.6 Speed of DC motor by field control and armature control method
7th (18/04/2022-23/04/2022)	18/04/2022	3.7 Power stages of DC motor & derive Efficiency of a DC motor.
	19/04/2022	**Unit-4. AC CIRCUITS** 4.1 Mathematical representation of phasors, significant of operator "J"
	22/04/2022	4.2 Addition, Subtraction, Multiplication and Division of phasor quantities.
	23/04/2022	4.3 AC series circuits containing resistance, capacitances, Conception of active, Reactive and apparent power and Q-factor of series circuits & solve related problems.
8th (25/04/2022-30/04/2022)	25/04/2022	4.3 AC series circuits containing resistance, capacitances, Conception of active, Reactive and apparent power and Q-factor of series circuits & solve related problems.
	26/04/2022	4.4 Find the relation of AC Parallel circuits containing Resistances, Inductance and Capacitances Q-factor of parallel

		circuits.
	29/04/2022	**Unit-5.TRANSFORMER** 5.1 Ideal transformer
	30/04/2022	5.2 Construction & working principle of transformer
9th (01/05/2022-07/05/2022)	02/05/2022	5.3 Derive of EMF equation of transformer, voltage transformation ratio.
	03/05/2022	**ID-UL-FITRE**
	06/05/2022	**CLASS TEST**
	07/05/2022	5.4 Discuss Flux, Current, EMF components of transformer and their phasor diagram under no load Condition
10th (09/05/2022-14/05/2022)	09/05/2022	5.4 Discuss Flux, Current, EMF components of transformer and their phasor diagram under no load Condition
	10/05/2022	5.5 Phasor representation of transformer flux, current EMF primary and secondary Voltages under loadedcondition
	12/05/2022	**INTERNAL ASSESSMENT**
	13/05/2022	**INTERNAL ASSESSMENT**
	14/05/2022	5.6 Types of losses in Single Phase (1-ø) Transformer 5.7 Open circuit & short-circuit test (simple problems)
11th (16/05/2022-21/05/2022)	**16/05/2022**	**BUDDHA PURNIMA**
	17/05/2022	5.8 Parallel operation of Transformer. 5.9 Auto Transformer
	20/05/2022	**Unit-6. INDUCTION MOTOR** 6.1 Construction feature, types of three-phase induction motor
	21/05/2022	6.2 Principle of development of rotating magnetic field in the stator.
12th (23/05/2022-28/05/2022)	23/05/2022	6.3 Establish relationship between synchronous speed, actual speed and slip of induction motor.
	24/05/2022	6.4 Establish relation between torque, rotor current and power factor.
	27/05/2022	6.5 Explain starting of an induction motor by using DOL and Star-Delta stator. State industrial use of induction motor.

	28/05/2022	**Unit-7. SINGLE PHASE INDUCTION MOTOR** 7.1 Construction features and principle of operation of capacitor type and shaded pole type of single-phase induction motor.
13th (30/05/2022-04/06/2022)	**30/05/2022**	**SABITRI AMABASYA**
	31/05/2022	7.1 Construction features and principle of operation of capacitor type and shaded pole type of single-phase induction motor.
	03/06/2022	7.2 Explain construction & operation of AC series motor.
	04/06/2022	7.3 Concept of alternator & its application.
14th (06/06/2022-10/06/2022)	**06/06/2022**	**CLASS TEST**
	07/06/2022	7.3 Concept of alternator & its application.
	10/06/2022	**REVISION**