

BHUBANANANDAORISSASCHOOLOF

ENGINEERING, CUTTACK

A&ET DEPARTMENT

LESSON PLAN

SEMESTER:4TH

SESSION-SUMMER(2022-23)

SUBJECT: ELECTRICAL MACHINE

NAME OF FACULTY :Miss Padmini Pradhan

Discipline: AE&I Engg.	Semester: 4th	Name of the teaching faculty: Padmrini Pradhan
Subject-ELECTRICAL MACHINE	No. of Days/per week classallotted: 04 PERIODS /WEEK(MON -1, TUE-1, FRI-1, SAT -1PERIOD EACH)	Semester:FromDate: 14/02/2023 ToDate: 23/05/2023 No. of weeks: 15WEEKS
Week	Class Day	Theory/Practical Topics
1 st (14/02/2023-18/02/2023)	14/02/2023 17/02/2023	1.1 Properties & uses of different conducting material. 1.2 Properties & use of various insulating materials used electrical engineering 1.3 Various magnetic materials & their uses.
	18/02/2023	MAHA SHIVARATRI
2 nd (20/02/2023-25/02/2023)	20/02/2023 21/02/2023 23/02/2023	1.3 Various magnetic materials & their uses.. 2.1 Construction, Principle & application of DC Generator. 2.2 Classify DC generator including volage equation.
	24/02/2023	2.3 Derive EMF equation & simple problems.
3 rd (25/02/2023-04/03/2023)	27/02/2023 28/02/2023 03/03/2023 04/03/2023	2.3 Derive EMF equation & simple problems. 2.4 Parallel operation of DC generators 2.4 Parallel operation of DC generators 3.1 Principle of working of a DC motor.
4 th (06/03/2023-11/03/2023)	06/03/2023 07/03/2023	3.2 Concept of development of torque & back EMF in DC motor including simple problems. 3.2 Concept of development of torque & back EMF in DC motor including simple problems.
	08/03/2023	HOLI....

	10/03/2023	CLASS TEST 1
	11/03/2023	3.2 Concept of development of torque & back EMF in DC motor including simple problems.
5 TH (13/03/2023-18/03/2023)	13/03/2023	3.3 Derive equation relating to back EMF, Current, Speed and Torque equation
	14/03/2023	3.3 Derive equation relating to back EMF, Current, Speed and Torque equation
	17/03/2023	3.4 Classify DC motors & explain characteristics, application.
	18/03/2023	3.4 Classify DC motors & explain characteristics, application.
6 TH (20/03/2023-25/03/2023)	20/03/2023	3.5 Three point & four-point star/static of DC motor by solid state converter.
	21/03/2023	3.6 Speed of DC motor by field control and armature control method.
	24/03/2023	3.7 Power stages of DC motor & derive Efficiency of a DC motor.
	25/03/2023	4.1 Mathematical representation of phasors, significant of operator "j"
7 TH (27/03/2023-01/04/2023)	27/03/2023	4.2 Addition, Subtraction, Multiplication and Division of phasor quantities
	28/03/2023	4.3 AC series circuits containing resistance, capacitances, Conception of active, Reactive and apparent power and Q-factor of series circuits & solve related problems.
	31/03/2023	4.3 AC series circuits containing resistance, capacitances, Conception of active, Reactive and apparent power and Q-factor of series circuits & solve related problems.
	01/04/2023	Utkal Diwas
8 TH (03/04/2023-08/04/2023)	03/04/2023	4.3 AC series circuits containing resistance, capacitances, Conception of active, Reactive and apparent power and Q-factor of series circuits & solve related problems.
	04/04/2023	4.4 Find the relation of AC Parallel circuits containing Resistances, Inductance and Capacitances Q-factor of parallel circuits.
	07/04/2023	Good Friday
	08/04/2023	CLASS TEST 2

9th (10/04/2023-15/04/2023)	10/04/2023	5.1 Ideal transformer.
	11/04/2023	5.2 Construction & working principle of transformer
10th (17/04/2023-22/04/2023)	14/04/2023	5.3 Derive of EMF equation of transformer, voltage transformation ratio
	15/04/2023	5.4 Discuss Flux, Current, EMF components of transformer and their phasor diagram under no load Condition.
	17/04/2023	5.4 Discuss Flux, Current, EMF components of transformer and their phasor diagram under no load Condition.
	18/04/2023	5.5 Phasor representation of transformer flux, current EMF primary and secondary Voltages under loadedcondition
	21/04/2023	5.5 Phasor representation of transformer flux, current EMF primary and secondary Voltages under loadedcondition
	22/04/2023	5.6 Types of losses in Single Phase (1- ϕ) Transformer
	24/04/2023	5.7 Open circuit & short-circuit test (simple problems)
	25/04/2023	INTERNAL ASSESSMENT
	26/04/2023	INTERNAL ASSESSMENT
	27/04/2023	5.7 Open circuit & short-circuit test (simple problems)
11th (24/04/2023-29/04/2023)	28/04/2023	5.7 Open circuit & short-circuit test (simple problems)
	01/05/2023	5.8 Parallel operation of Transformer.
	02/05/2023	5.9 Auto Transformer
	05/05/2023	6.1 Construction feature, types of three-phase induction motor
	06/05/2023	6.2 Principle of development of rotating magnetic field in the stator.
12th (01/05/2023-06/05/2023)	06/05/2023	6.3 Establish relationship between synchronous speed, actual speed and slip of induction motor.
	08/05/2023	6.4 Establish relation between torque, rotor current and power factor.
	09/05/2023	6.5 Explain starting of an induction motor by using DOL and Star-Delta stator. State industrial use of induction motor.
	12/05/2023	6.5 Explain starting of an induction motor by using DOL and Star-Delta stator. State industrial use of induction motor.
	13/05/2023	7.1 Construction features and principle of operation of capacitor type and shaded pole type of single-phase induction motor.
13th (08/05/2023-13/05/2023)	08/05/2023	

14th (15/05/2023-20/05/2023)	15/05/2023	Quiz Test
	16/05/2023	7.1 Construction features and principle of operation of capacitor type and shaded pole type of single-phase induction motor
	19/05/2023	7.2 Explain construction & operation of AC series motor.
	20/05/2023	7.3 Concept of alternator & its application.
15th (22/05/2023-27/05/2023)	22/05/2023	REVISION
	23/05/2023	REVISION