Discipline : ETC	Semester:- 4th	Name of the Teaching Faculty: GANESH PRADHAN
Subject:- ELECTRICAL MACHINE	No of Days/per Week Class Allotted :- 04	Semester From:- 14.02.2023 To:- 23.05.2023
Week	**Class Day**	**Theory**
1st	1st	Properties of different conducting material.
	2nd	uses of different conducting material
	3rd	Properties of various insulating materials used electrical engineering
	4th	uses of various insulating materials used electrical engineering
2nd	1st	Various magnetic materials
	2nd	Uses of Various magnetic materials
	3rd	Construction, of DC Generator.
	4th	Principle & application of DC Generator
3rd	1st	Classify DC generator including
	2nd	voltage equation.of dc generator
	3rd	Derive EMF equation.
	4th	simple problems on dc generator
4th	1st	Parallel operation of DC generators.
	2nd	Conditions for Parallel operation of DC generators
	3rd	Principle of working of a DC motor
	4th	Construction of a DC motor
5th	1st	Concept of development of torque
	2nd	back EMF in DC motor including simple problems
	3rd	Derive equation relating to back EMF, Current, Speed and Torque equation
	4th	Classify DC motors
6th	1st	explain characteristics of dc motor
	2nd	application of DC motors
	3rd	Three point & four point stator/static of DC motor by solid State converter.
	4th	Speed control of DC motor by field control method
7th	1st	Speed control of DC motor by armature control method
	2nd	Power stages of DC motor & derive Efficiency of a DC motor.
	3rd	Mathematical representation of phasors, significant of operator "J"
	4th	Addition, Subtraction, Multiplication and Division of phasor quantities
8th	1st	AC series circuits containing resistance, capacitances, Conceptionof active ,Reactive and apparent power and Q-factor of series circuits & solverelated problems
	2nd	Find the relation of AC Parallel circuits containing Resistances, Inductance and Capacitances Q-factor of parallel circuits
	3rd	. Construction & working principle of transformer

	4th	Derive of EMF equation of transformer, voltage transformation ratio
9th	1st	Discuss Flux, Current, EMF components of transformer and their phasor diagram under no load Condition.
	2nd	Phasor representation of transformer flux, current EMF primary and secondary Voltages under loaded condition
	3rd	Types of losses in Single Phase (1-ø) Transformer
	4th	Open circuit & short-circuit test (simple problems)
10th	1st	Parallel operation of Transformer
	2nd	Auto Transformer
	3rd	Construction feature, types of three-phase induction motor.
	4th	Principle of development of rotating magnetic field in the stator.
11th	1st	Establish relationship between synchronous speed, actual speed and slip of induction motor.
	2nd	Slip of induction motor
	3rd	Establish relation between torque, rotor current and power factor.
	4th	Methods of starting of I.M.
12th	1st	Explain starting of an induction motor by using DOL and Star-Delta stator.
	2nd	State industrial use of induction motor
	3rd	Principle of capacitor type induction motor
	4th	Construction features of operation of capacitor type induction motor
13th	1st	Construction features of shaded pole type of single-phase induction motor
	2nd	Principle of shaded pole type of single-phase induction motor
	3rd	Explain construction of AC series motor
	4th	Explain operation of AC series motor
14th	1st	Applications of AC series motor
	2nd	Concept of alternator
	3rd	Application of alternator
	4th	**PREVIOUS SEMESTER QUESTION DISCUSSION**
15th	1st	DISCUSSION OF ASSIGNMENT QUESTION
	2nd	CLASS TEST-II
	3rd	**OMR TEST**
	4th	

G. Pradhan 13/02/23
Teaching Faculty

13/02/23
HOD,ETC