

Discipline	Semester	Name of the teaching faculty
Electrical Engg	5th	S.K. Belera.
Subject :-	No of days	Semester from date :- 01.10.2021
Energy Conversion-II	PER Week	To date :- 08.01.2022
	Class all	No of weeks :- 15

Months	Weeks	Class Day	Theory topic
OCT	1st	1st	Types of alternator and their Constructional Features.
		2nd	Basic working principle of alternator.
		3rd	The relation between speed.
		4th	Terminology in armature winding.
		5th	Expression for winding factors.
	2nd	1st	Distribution factor.
		2nd	Explain harmonics, its causes and impact on winding factor.
		3rd	E.M.F equation of alternator.
		4th	Explain Armature reaction.
		5th	The vector diagram of loaded alternator.
		6th	Testing of alternator.

	3rd	1st	Open circuit test.
		2nd	Short circuit test.
		3rd	Determination of voltage regulation
		4th	synchronous impedance method.
	4th	1st	Explain distribution of load by parallel connected alternators.
		2nd	Constructional feature of synchronous motors.
		3rd	Principles of operation.
		4th	Concept of load angle.
		5th	Derive torque.
NOV	1st	1st	Power developed
		2nd	Effect of varying load with constant excitation. load.
		3rd	Effect of varying exciting with constant load.
		4th	Hunting in synchronous motor.
		5th	Function of damper bars

	2nd	1st	Synchronous motor.
		2nd	state application of synchronous motor.
		3rd	Production of rotating magnetic field.
		4th	Constructional feature of squirrel case.
		5th	slip ring induction motors.
	3rd	1st	Working principles of operation of 3-phase induction motor.
		2nd	Define slip speed, slip and establish the relation of slip with motor quantities
		3rd	Derive expression for torque during starting.
		4th	Running condition.
		5th	Derive conditions for maximum torque.
		4th	1st Torque - slip characteristics.
		2nd	Derive relation between full load torque.
		3rd	Torque etc.

		4th	Establish the relation between Rotor Copper loss.		2nd	1st	Explain double revolving field theory.
		5th	Rotor out put and Gross Torque.			2nd	Cross-field theory to analyze starting torque.
5th		1st	Relationship of slip with rotor Copper loss.			3rd	1-phase induction motor.
		2nd	Method of starting and different types of starters used for three phase induction motor.			4th	Torque-speed characteristics.
		3rd	Explain speed control by voltage control.		3rd	1st	Performance characteristics.
		4th	Rotor resistance control.			2nd	single phase motor.
		5th	Pole changing.			3rd	split phase motor.
DEC		1st	Frequency control methods.			4th	Capacitor start motor.
		2nd	plugging as applicable to three phase induction motor.		4th	1st	Capacitor run motor.
		3rd	Describe different types of motor enclosures.			2nd	Permanent capacitor type motor.
		4th	Explain principle of induction generator and state its applications.			3rd	shaded pole motor.
		5th	Explain Ferraris principle.			4th	Construction, working principle.
				JAN	1st	1st	Principle of stepper motor
						2nd	Classification of stepper motor.
						3rd	principle of hybrid stepper motor.
						4th	Application of stepper motor.

5th

Explain Grouping of winding Advantages.

2ND

1st

Explain parallel operation of the three phase transformers.

2nd

Explain tap Changer

2nd

Maintenance schedule of power Transformer.