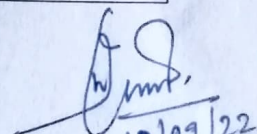
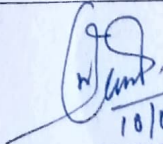


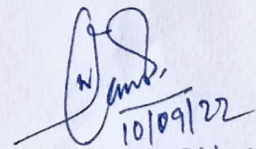
Discipline : Electrical	Semester 5 th	Name of the teaching faculty : Er. Rabindra Patra
Subject : Energy conversion -II	No of days	Semester from 15.9.2022 to 22.12.2022
	weeks/classes allotted : 5	No of weeks : 15
Weeks	Class day	theory
12.9.2022 to 17.9.2022	1 st	
	2 nd	
	3 rd	ALTERNATOR: Types of alternator and their constructional features
	4 th	Basic working principle of alternator and the relation between speed and frequency
	5 th	Biswakarma puja
19.9.2022 to 24.9.2022	1 st	Terminology in armature winding and expressions for winding factors (Pitch factor, Distribution factor).
	2 nd	Explain harmonics, its causes and impact on winding factor.
	3 rd	E.M.F equation of alternator. (Solve numerical problems).
	4 th	E.M.F equation of alternator. (Solve numerical problems).
	5 th	Explain Armature reaction and its effect on emf at different power factor of load.
26.9.2022 to 1.10.2022	1 st	The vector diagram of loaded alternator. (Solve numerical problems)
	2 nd	Testing of alternator (Solve numerical problems) Open circuit test.
	3 rd	Testing of alternator (Solve numerical problems) Short circuit test
	4 th	Determination of voltage regulation of Alternator by direct loading and synchronous impedance method. (
	5 th	Parallel operation of alternator using synchro-scope and dark & bright lamp method.
3.10.2022 to 8.10.2022	1 st	Durga puja holiday
	2 nd	
	3 rd	
	4 th	
	5 th	
10.10.2022 to 15.10.2022	1 st	Explain distribution of load by parallel connected alternators.
	2 nd	SYNCHRONOUS MOTOR: Constructional feature of Synchronous Motor
	3 rd	Principles of operation, concept of load angle
	4 th	Derive torque, power developed
	5 th	Effect of varying load with constant excitation.
17.10.2022 To 22.10.2022	1 st	Effect of varying excitation with constant load
	2 nd	Power angle characteristics of cylindrical rotor motor
	3 rd	Explain effect of excitation on Armature current and power factor
	4 th	Hunting in Synchronous Motor


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24.10.2022 To 29.10.2022	5 th	Hunting in Synchronous Motor
	1 st	Diwali
	2 nd	Function of Damper Bars in synchronous motor and generator.
	3 rd	Describe method of starting of Synchronous motor
	4 th	State application of synchronous motor.
31.10.2022 To 5.11.2022	5 th	THREE PHASE INDUCTION MOTOR: Production of rotating magnetic field , Constructional feature of Squirrel cage and Slip ring induction motors
	1 st	Working principles of operation of 3-phase Induction motor.
	2 nd	Define slip speed, slip and establish the relation of slip with rotor quantities
	3 rd	Derive expression for torque during starting and running conditions and derive conditions for maximum torque. (solve numerical problems)
	4 th	Torque-slip characteristics
7.11.2022 to 12.11.2022	5 th	Derive relation between full load torque and starting torque etc. (solve numerical problems)
	1 st	Last Monday of kartika
	2 nd	Establish the relations between Rotor Copper loss, Rotor output and Gross Torque and relationship of slip with rotor copper loss. (solve numerical problems)
	3 rd	Methods of starting and different types of starters used for three phase Induction motor
	4 th	Methods of starting and different types of starters used for three phase Induction motor
14.11.2022 to 19.11.2022	5 th	Explain speed control by Voltage Control, Rotor resistance control, Pole changing, frequency control methods.
	1 st	Explain speed control by Voltage Control, Rotor resistance control, Pole changing, frequency control methods.
	2 nd	Prathamastami
	3 rd	Plugging as applicable to three phase induction motor
	4 th	Describe different types of motor enclosures.
21.11.2022 to 26.11.2022	5 th	Explain principle of Induction Generator and state its applications
	1 st	SINGLE PHASE INDUCTION MOTOR: Explain Ferrari's principle.
	2 nd	Explain double revolving field theory and Cross-field theory to analyze starting torque of 1-phase induction motor
	3 rd	Explain double revolving field theory and Cross-field theory to analyze starting torque of 1-phase induction motor
	4 th	. Explain Working principle, Torque speed characteristics, performance characteristics and application of following single phase motors.


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	5 th	Split phase motor. Capacitor Start motor
28.11.2022 To 3.12.2022	1 st	Capacitor start, capacitor run motor
	2 nd	Permanent capacitor type motor. Shaded pole motor
	3 rd	Explain the method to change the direction of rotation of above motors
	4 th	COMMUTATOR MOTORS: Construction, working principle, running characteristic and application of single phase series motor.
	5 th	Construction, working principle and application of Universal motors
5.12.2022 To 10.12.2022	1 st	Construction, working principle and application of Universal motors
	2 nd	Working principle of Repulsion start Motor, Repulsion start Induction run motor, Repulsion Induction motor.
	3 rd	Last Thursday of margasira
	4 th	SPECIAL ELECTRICAL MACHINE: Principle of Stepper motor.
	5 th	Principle of variable reluctant stepper motor.
12.12.2022 to 17.12.2022	1 st	Principle of Permanent magnet stepper motor.
	2 nd	Principle of hybrid stepper motor.
	3 rd	Applications of Stepper motor.
	4 th	. THREE PHASE TRANSFORMERS: Explain Grouping of winding, Advantages.
	5 th	Explain parallel operation of the three phase transformers.
19.12.2022 to 24.12.2022	1 st	Explain tap changer (On/Off load tap changing)
	2 nd	Maintenance Schedule of Power Transformers.
	3 rd	Maintenance Schedule of Power Transformers.
	4 th	Closing of attendance
	5 th	


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