

**LESSON PLAN-2022-2023**  
**SWAMI VIVEKANANDA SCHOOL OF ENGG & TECH, BBSR**

Discipline- ELECTRICAL	Semester-5TH	Name of teaching faculty- Sasanka Tripathy
<b>SUBJECT- ENERGY CONVERSION -II</b>	<b>No of days/ per week class alloted-5</b>	<b>SEM From date- 16/09/2022 No of weeks-16</b>
<b>Week</b>	<b>Class day</b>	<b>Theory Topics</b>
1st	16.9.2022	Explain and derive production of rotating magnetic field. Explain principles of operation.
	19.09.2022	Explain constructional feature-squirrel cage and slip rings induction motors.
2nd	20.09.2022	Explain constructional feature-squirrel cage and slip rings induction motors.
	21.09.2022	Explain & derive slip and relationship with rotor copper losses.
	22.09.22	Derive Torque during starting and running.
	23.09.2022	Derive for Rotor copper losses, rotor output and gross Torque.
3rd	24.09.2022	-DO-
	26.09.2022	Derive Torque-Speed and load current speed characteristics.
	27.09.2022	Explain and state Methods of starting, different types of starter.
4th	28.09.2022	Explain speed control by pole changing, Rotor Rheostatic control, voltage control
	29.09.2022	Describe motor enclosures.
	30.09.2022	Explain Induction Generator's and state its applications.
	10.10.2022	Revision
	11.10.2022	State types of alternator
	12.10.2022	Describe constructional details of non salient and salient pole rotor.
1st	13.10.2022	Describe constructional details of stator.
2nd	14.10.2022	Explain armature winding, short pitch winding, pitch factor, distribution factor
	15.10.2022	Derive E.M.F equation
	17.10.2022	Explain Armature reaction.
	18.10.2022	-DO-
3rd	19.10.2022	Explain Alternator on load. Solved Problems
	20.10.2022	-DO-
	21.10.2022	Draw the phasor diagram of loaded alternator. (Solve problems)
	22.10.2022	Draw the characteristic of Alternator.
4th	26.10.2022	State and explain open circuit and short circuit tests (Solve

		problems)
	27.10.2022	Determination of regulation of Alternator by direct loading and synchronous impedance method.
	28.10.2022	Explain parallel operation and load division using synchro scope & dark and bright lamp method
5th	29.10.2022	IST INTERNAL
	31.10.2022	IST INTERNAL
	01.11.2022	IST INTERNAL
1st	02.11.2022	Explain construction
	03.11.2022	Explain principles of operation, phasor diagram
	04.11.2022	Explain effect of varying load with constant excitation
	05.11.2022	DO
2nd	07.11.2022	Explain effect of varying excitation with constant load.
	10.11.2022	DO
	11.11.2022	Derive torque, power developed
3rd	12.11.2022	Explain power angle characteristics of cylindrical rotor motor.
	15.11.2022	Explain effect of excitation on Armature current and power factor.
	16.11.2022	Explain Hunting & function of Damper Bars.
	17.11.2022	Describe method of starting of Synchronous motor.
4th	18.11.2022	State application of synchronous motor.
	19.11.2022	DO
	21.11.2022	Explain Single phase Rotating – field theory of 1-phase induction motor
	22.11.2022	Explain Ferrair’s principle, net torque
	23.11.2022	Explain capacitor motor with principle.
1st	24.11.2022	Explain split phase motor with principle.
	25.11.2022	Explain shaded pole motors with principle.
	26.11.2022	Explain their speed torque characteristics performance characteristics, applications.
2nd	28.11.2022	class test
	29.11.2022	Explain single phase series motor & Universal motors with principle
	30.11.2022	do
	01.12.2022	do
3rd	02.12.2022	do
	03.12.2022	Explain Repulsion Motors with principles
	05.12.2022	DO
	06.12.2022	class test

4th	07.12.2022	Principle of Stepper motor.
	08.12.2022	Classification of Stepper motor. Principle of variable reluctant stepper motor.
	09.12.2022	DO
	10.12.2022	Principle of Permanent magnet stepper motor.
5th	12.12.2022	Principle of hybrid stepper motor. Applications of Stepper motor.
	13.12.2022	DO
	14.12.2022	class test
	15.12.2022	Explain Grouping of winding, Advantages.
	17.12.2022	Explain Grouping of winding, Advantages
	19.12.2022	Explain parallel operation of the three phase transformers.
	20.12.2022	Explain tap changer (On/Off load tap changing)
1ST	21.12.2022	State maintenance of Transformers

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PRINCIPAL