Badriprasad Institute of Technology, Sambalpur

Lesson plan for Theory -2,Energy Conversion-II

Semester & Branch : 5th Sem, Electrical Engineering **Total Periods-60**

Name of the faculty : Prasanta Samal **No of periods /week-4**

WEEK	CLASS DAY	THEORY
1ST	1ST	Types of Alternator,construction
	2ND	Working principle of Alternator
	3RD	Armature winding,winding factors
	4TH	Emf Equation of Alternator(numericals)
2ND	1ST	armature reaction,its effect at different power factor
	2ND	vector diagram of loaded alternator
	3RD	testing of alternator(OC and SC test)
	4TH	voltage regulation of alternator by synchronous Impedance method
3RD	1ST	parallel operation of alternator using dark and bright lamp methods
	2ND	parallel operations by synchroscope method.
	3RD	construction of synchronous motor(principle of operation)
	4TH	concept of load angle,torque and power developed.
4TH	1ST	effect of varying load with constant excitation.
	2ND	effect of varying excitation with constant load
	3RD	effects of excitation on armature current and power factor.
	4TH	hunting in synchronous motor(function of damper bars)
5TH	1ST	methods of starting of synchronous motor and its application
	2ND	construction of different types of three phase induction motor
	3RD	working principle of operation of three phase induction motor
	4TH	concept of slip,slip speed and their relation
6TH	1ST	expression for torque during starting and running conditions
	2ND	condition for maximum torque(numericals)
	3RD	torque slip characteristics
	4TH	relation between full load torque and starting torque etc(numericals)
7TH	1ST	relation between rotor cu loss,rotor output and gross torque(numerical)
	2ND	method of starting of different types of starters used in induction motors.
	3RD	speed control by voltage control,rotor resistance control methods.
	4TH	plugging as applicable to three phase induction motor.
8TH	1ST	principle of induction generator(application,motor enclosures)
	2ND	ferraris principle
	3RD	double revolving field theory
	4TH	working principle and application of split phase motors
9TH	1ST	capacitor start motor
	2ND	capacitor start and capacitor run motor
	3RD	permanent capacitor type motor
	4TH	shaded pole motor
10TH	1ST	method of changing the direction of single phase motor
	2ND	doubt solving classes of 3phase induction motor
	3RD	class test
	4TH	single phase series motor
11TH	1ST	universal motor and its application
	2ND	repulsion start motor
	3RD	repulsion start and induction run motor
	4TH	repulsion induction motor
12TH	1ST	doubt solving classes of alternator
	2ND	class test of alternator
	3RD	principle of stepper motor
	4TH	classification of stepper motor

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13TH	1ST	VR stepper motor
	2ND	PM stepper motor
	3RD	principle of hybrid stepper motor
	4TH	application of stepper motor
14TH	1ST	grouping of winding of 3 phase transformer
	2ND	parallel operation of 3phase transformer
	3RD	tap changer
	4TH	maintenance schedule of power transformer
15TH	1ST	class test of single phase motor
	2ND	doubt solving classes of synchronous motor
	3RD	doubt solving classes of 3phase transformer
	4TH	80 marks semester pattern mock test

(SIGNATURE OF FACULTY) **(SIGNATURE OF HOD**