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<b>Class:- 5th semester Electrical</b>				
<b>Subject:- Electrical Machines-II ( Theory &amp; Practicals)</b>				
<b>Session :- July 2018 to November 2018</b>				
<b>Teaching Load:-Theory- 4 &amp; Practical-3</b>				
<b>Wk.</b>	<b>Lect. no.</b>	<b>Topic</b>	<b>Wk.</b>	<b>Name of Practical</b>
1	1	Introduction of the subject	1	Demonstration of revolving field set up
	2	Main constructional features of synchronous machine		by a 3-phase wound stator
	3	contd.		
	4	commutator and brushless excitation system		
2	5	Generation of three phase emf	2	To plot relationship between no load terminal voltage
	6	Production of rotating magnetic field in a three phase winding		and excitation current in a
	7	Concept of distribution factor and coil span factor		synchronous generator at constant speed
	8	Revision/Problems to be taken		
3	9	emf equation	3	Determination of the relationship between the voltage &
	10	Armature reaction at unity, lag and lead power factor		load current of an alternator,
	11	Operation of single synchronous machine independently supplying a load		keeping excitation and speed constant
	12	Voltage regulation by synchronous impedance method		
4	13	Need and necessary conditions of parallel operation of alternators	4	Revision/copies check/viva
	14	Synchronizing an alternator (Synchroscope method) with the bus bars		
	15	Operation of synchronous machine as a motor –its starting methods		
	16	contd.		
5	17	Revision/Problems to be taken	5	Determination of the regulation and efficiency of alternator
	18	Effect of change in excitation of a synchronous motor		from the open circuit and
	19	Concept and Cause of hunting and its prevention		short circuit test
	20	Rating and cooling of synchronous machines		
6	21	Applications of synchronous machines (as an alternator, as a synchronous condenser)	6	Synchronization of polyphase alternators and load sharing
	22	Revision/Problems to be taken/Test		
	23	Revision/Problems to be taken/Test		
	24	Revision/Problems to be taken/Test		
7	25	Induction motor - an introduction	7	Determination of the effect of variation of excitation on

	26	Salient constructional features of 3 phase squirrel cage induction motor		performance of a synchronous
	27	Constructional features of slip ring 3-phase induction motors		motor
	28	Principle of operation, slip and its significance		
8	29	Locking of rotor and stator fields	8	Study of ISI/BIS code for 3-phase induction motors
	30	Rotor resistance, inductance, emf and current		
	31	Relationship between copper loss and the motor slip		
	32	Revision/Problems to be taken		
9	33	Power flow diagram of an induction motor	9	Revision/copies check/viva
	34	Factors determining the torque		
	35	Torque-slip curve, stable and unstable zones		
	36	Effect of rotor resistance upon the torque slip relationship		
10	37	Double cage rotor motor and its applications	10	Perform at least two tests on a 3-phase
	38	Starting of 3-phase induction motors, DOL, star-delta, auto transformer		induction motor as per BIS code
	39	Causes of low power factor of induction motors		
	40	Revision/Problems to be taken		
11	41	Testing of 3-phase motor on no load and blocked rotor test and to find efficiency	11	Determination of efficiency by (a) no load test and blocked
	42	Speed control of induction motor		rotor test on an induction motor
	43	Harmonics and its effects, cogging and crawling in Induction Motors		(b) direct loading of an induction motor
	44	Revision/Problems to be taken/Test		(refer BIS code)
12	45	Revision/Problems to be taken/Test	12	Determination of effect of rotor resistance on torque speed
	46	Single phase induction motors - an introduction		curve of an induction motor
	47	Construction characteristics and applications		
	48	Nature of field produced in single phase induction motor		
13	49	Capacitors start and run motor	13	To study the effect of a capacitor on the starting and running of a
	50	Revision/Problems to be taken		single-phase induction motor by
	51	Shaded pole motor & Reluctance start motor		changing value of capacitor and also to reverse direction of
	52	Alternating current series motor and universal motors		rotation of a 1 ph induction motor
14	53	Reluctance motor n hysteresis motor	14	Revision/copies check/viva
	54	Construction and working principle of linear induction motor		
	55	Construction and working principle of stepper motor		

	56	Construction and working principle of servomotor n submersible motor		
15	57	Introduction to energy efficient motors	15	Revision/copies check/viva
	58	Revision/Problems to be taken/Test		
	59	Revision/Problems to be taken/Test		
	60	Revision/Problems to be taken/Test		