

Expt. No. _____

Date _____
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Name of faculty : Sanjay Gupta (Theory)
 Sanjay Gupta (Practical)

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 12/12/17

Discipline : Electrical

Semester : 4th

Subject : Electrical Machines - I

Lesson Plan Duration : JAN 2018 to April 2018

Workload : Lectures - 04 Practicals - 03

Week	Theory		Practical Day	Practical Topic
	Lecture Day	Topic		
1 st	1	Def. of motor & Gen., concept of torque	1	Measurement of angular displacement of motor
	2	Torque dev, Torque angle		
	3	Electromag. induced emf		
	4	Elementary concept of Gen.		
2 nd	1	Elementary concept of motor	2	Speed control of DC shunt motor by Armature control method
	2	comparison of Gen & Motor		
	3	Main constructional feature		
	4	Types of Arm. wdg.		
3 rd	1	function of commutator	3	speed control of DC shunt motor by field control method.
	2	factors determining induced emf		
	3	factors determining e.m. Torque		
	4	Types of DC Gen. on the basis of excitation		
4 th	1	voltage build up in a dc shunt Gen	4	Study of DC series motor
	2	Significance of back emf, relation b/w back emf & terminal voltage		
	3	Armature reaction		
	4	Revision / Assignment		

Teacher's Signature: _____

5 th	1	Test	5	Test Viva/Revision/
	2	Commutation methods		Test Absent
	3	ch. of DC motor		Students
	4	Speed control of DC shunt		
6 th	1	Speed control of DC series	6	Study of 3 point
	2	Three point DC motor starter		starter
	3	4 Point starter		
	4	Applications of DC motors		
7 th	1	Losses in DC machines	7	O.C & S.C test of
	2	Swinburne's Test		Xe
	3	Revision / Assignment		
	4	Introduction to Xe		
8 th	1	Const features of Xe	8	O.C & S.C Test of
	2	Working Principle of Xe		Xe
	3	Emf eqn of Xe		
	4	Xe on no load & phasor Diag		
9 th	1	Xe, neglecting voltage drop &	9	Eff & Regn of Xe by
	2	phasor Diagram.		actually loading it
	3	Mutual & leakage fluxes &		
	4	Reactance		
		Revision / Problems solution.		
10 th	1	Test	10	Test/viva/ Revision/
	2	Xe on load		Absent- students
	3	voltage drops & phasor Diag		
	4	Equivalent ckt of Xe		
11 th	1	Regulation of Xe	11	check the polarity of
	2	losses in a Xe		windings of a three
	3	O.C & S.C test of Xe		phase Xe & connections
	4	Eff of Xe, cond ⁿ for max		
		efficiency		

Teacher's Signature: _____

12 th	1	Maintenance of Xer	12	Finding voltage & current
	2	Auto Xer, working, Application		relationships of PFI &
	3	Diff. types of Xer.		sec. of a 3 ϕ Xer
	4	Revision / Poob's Solutions		Star-star
13 th	1	Const of 3 ϕ Xer	13	finding voltage & current
	2	Types of 3 ϕ Xer		relationships of a 3 ϕ
	3	Conditions for parallel operation		Xer in Star Delta
	4	On load tap changer		configuration
14 th	1	Diff b/w Power & Dist. Xer	14	finding voltage & current
	2	Cooling of Xer		relationships of a 3 ϕ Xer
	3	Cooling of Xer		in Delta star & Delta
	4	Assignment		Delta configurations
15 th	1	Problems solution	15	Test / viva / Revision /
	2	Test		Absent student
	3	Revision / Problems solution		
	4	Revision / Problems solution		