ELECTRICAL MACHINES - I

SWAYAM Prabha Course Code - E11

PROFESSOR'S NAME	Prof. Tapas Kumar Bhattacharya
DEPARTMENT	Electrical and Electronics Engineering
INSTITUTE	Indian Institute of Technology, Kharagpur
COURSE OUTLINE	Besides course outline, it should also indicate if there are any pre-requisities (i.e, prior knowledge) required .
	Transformer and D.C rotating machine will be the main topics to be discussed in this course. Working principle of ideal transformer and its equivalent circuit referred to two sides. Analysis of practical transformer & its equivalent circuit. Equivalent circuit referred to different sides and phasor diagram. Core loss and copper loss. Regulation & efficiency. Three phase transformer connection & vector group. Parallel operation of transformers. Autotransformer. Basic constructional features of D.C machine. Elementary lap and wave winding used in armature. Emf and torque equations of D.C. machine â? generator and motor mode. Armature reaction and its effect. Compensationg winding. Shunt, series and compound machines. Generator characteristics. Motor characteristics. Efficiency, Basic tests.

COURSE DETAILS

S. No	Module ID/ Lecture ID	Lecture Title/Topic
1	L1	Magnetic Circuit and Transformer
2	L2	Magnetizing Current from B-H Curve

3	**L3**	Ideal Transformer, dot Convention and phaser Diagram
4	**L4**	Operation with Load Connected
5		
6		
7		
8		
9		
10		

References if Any: