DISCIPLINE: **EEE**	SEMESTER: **4TH**	NAMEOFTHETEACHINGFACULTY: PRITEE P. MINZ, Sr. LECTURER (EE)
SUBJECT: **Electrical Machine**		NO. OF DAYS/ WEEK CLASS ALLOTTED-75

WEEK	CLASS DAY	THEORY TOPICS
1ST	01	ELECTRICAL MATERIAL: Properties & uses of different conducting material
	02	Properties & use of various insulating materials used electrical engineering.
	03	Properties & use of various insulating materials used electrical engineering.
	04	Types of Magnetic materials & their uses.
	05	DC GENERATOR: Basic working principle of DC Generator.
2ND	06	Constructional feature of DC Generator.
	07	Classification of DC generator with voltage equation.
	08	simple problems on Classification of DC generator with voltage equation
	09	Derivation of EMF equation
	10	simple problems on EMF equation of DC generator
3RD	11	Applications of DC generators.
	12	Parallel operation of DC generators.
	13	DC MOTOR: Working Principle of a DC motor.
	14	Concept of development of torque & back EMF in DC motor.
	15	simple problems on Concept of development of torque & back EMF in DC motor.
4TH	16	Derive equation relating to back EMF, Current, Speed and Torque equation.
	17	Classification of DC motors & their characteristics
	18	Application of DC motors.
	19	State & explain three point & four point stator of DC motor.
	20	Speed control of DC motor by field control and armature voltage control method.
5TH	21	Explain power stages of DC motor & derive Efficiency of a DC motor.
	22	Performance test 1
	23	AC CIRCUITS: State Mathematical representation of phasors, significant of operator "J
	24	Addition, Subtraction, Multiplication and Division of phasor quantities.
	25	Addition, Subtraction, Multiplication and Division of phasor quantities.
6TH	26	Explain AC through resistive, inductive, capacitive circuit
	27	Explain AC through RL, RC, RLC series circuit
	28	Explain Concept of active, reactive and apparent power and Q-factor of series circuits

		29	Solve related problems
		30	Find the relation of AC Parallel circuits containing Resistances, Inductance and Capacitances
7TH		31	Q-factor of parallel circuits
		32	Solve related problems
		33	THREE PHASE SUPPLY: Star and Delta circuit.
8TH		34	Star and Delta circuit.
		35	Line and Phase relationship , Power equation with numerical problems
		36	Line and Phase relationship , Power equation with numerical problems
		37	TRANSFORMER: State construction & working principle of transformer.
		38	Derive of EMF equation of transformer, voltage transformation ratio.
		39	Discuss operation of transformer on no-load with phasor diagram.
		40	Operation of transformer on load condition in secondary with phasor diagram for different load.
9TH		41	Types of losses in Single Phase (1-ø) Transformer.
		42	Open circuit & short-circuit test (simple problems).
		43	Parallel operation of Transformer.
		44	INDUCTION MOTOR: Constructional feature and types of three-phase induction motor.
		45	Principle of development of rotating magnetic field in the stator.
10TH		46	Working principle of three phase induction motor.
		47	Slip speed and slip of induction motor.
		48	Establish relation between torque, rotor current and power factor.
		49	Solve Numerical problems
		50	Explain starting of an induction motor by using DOL stator.
11TH		51	Explain starting of an induction motor by using Star-Delta stator.
		52	Industrial use of induction motor.
		53	Performance test 2
		54	SINGLE PHASE INDUCTION MOTOR: Explain construction features and principle of operation of capacitor type of single-phase induction motor.
		55	Explain construction features and principle of operation of shaded pole type of single-phase induction motor.
12TH		56	Explain construction of AC series motor.
		57	Explain operation of AC series motor.
		58	ALTERNATOR: Concept of alternator
		59	application of alternator
		60	Solve Numerical problems
		61	Revision of chapter1.
		62	Revision of chapter2.

	63	Revision of chapter2
13TH	64	Revision of chapter3
	65	Revision of chapter3
	66	Revision of chapter4
14TH	67	Revision of chapter4
	68	Revision of chapter5
	69	Revision of chapter5
	70	Revision of chapter6
	71	Revision of chapter6
15TH	72	Revision of chapter7
	73	Revision of chapter8
	74	Revision of chapter8
	75	Revision of chapter9