LESSON PLAN (August -2025 to December 2025)

Name of Faculty : **Sh. SONU PRAKASH SHARMA**
Discipline : **Mechanical Engineering**
Semester : **3rd Semester**
Subject : **BEEE**
Lesson Plan Duration: : **15 Weeks**
Work Load per week(in hours) :2 **Hrs.**

Week	Theory	
	Lecture Day	**Topic(Including Assignement/Test)**
1	1	Difference between ac and dc,
	2	various applications of electricity
	3	advantages of electrical energy over othertypes of energy
2	4	Definition of voltage, current, power andenergy with their units,
	5	name of instruments used for measuringabove quantities
	6	connection of these instruments in anelectric circuit
3	7	Revision of Unit I-II
	8	Electromagnetic induction-Faraday's Laws,Lenz's Law; Fleming's rules,
	9	Principles of a.c. Circuits; Alternating emf,Definition of cycle, frequency, amplitude and time period.
4	10	Instantaneous, average, r.m.s and maximum value of sinusoidal wave; form factor andPeak Factor.
	11	Concept of phase and phase difference.
	12	Concept of resistance, inductance andcapacitance in simple a.c. circuit.
5	13	Power factor and improvement of powerfactor by use of capacitors.
	14	Concept of three phase system; star and delta connections; voltage and currentrelationship (no derivation)
	15	**1st class test**
6	16	**1st Sessional test**
	17	Working principle and construction ofsingle phase transformer,
	18	transformer ratio, emf equation,
	19	losses and efficiency, cooling of transformers
	20	isolation transformer, CVT
7	21	auto transformer (brief idea), applications.
	21	Difference between high and low voltage

		distribution system
	22	identification of three-phase wires
8	23	eutral wire and earth wire in a low voltagedistribution system
	24	Identification of voltages between phasesand between one phase and neutral
	25	Difference between three-phase and single-phase supply
9	26	Revision of Unit - V
	27	Description and applications of single-phase
	28	three-phase motors.
10	29	Connection and starting of three-phaseinduction motors by star-delta starter.
	30	Changing direction of rotation of a given 3phase induction motor.
	31	Motors used for driving pumps, compressors, centrifuge, dyers etc
11	32	Totally enclosed submersible and flameproof motors
	33	2nd class test
	34	**2nd Sessional test**
12	35	Distinction between light-fan circuit andsingle phase power circuit, sub-circuits
	36	various accessories and parts of domesticelectrical installation.
	37	. Identification of wiring systems.
13	38	Common safety measures and earthing
	39	Electrical shock and precautions againstshock, treatment of electric shock,
	40	concept of fuses and their classification,selection and application
	41	concept of earthing and various types ofearthing
14	42	applications of MCBs and ELCBs
	43	Basic idea of semiconductors – P and Ntype
	44	diodes, zener diodes and their applications
15	45	transistor – PNP and NPN
	46	their characteristics and uses.
	47	Characteristics and applications of athyristor
16	48	characteristics and applications of stepper

		motors
	49	servo motors in process control
	50	**3rd class test**
17	51	3rd seeional test