Lesson plan				
Name of Faculty		**Sh. Sushil Verma**		
Discipline		**Electrical Engineering**		
Semester		**6th**		
Subject		**Electrical Power-II**		
Lesson Plan Duration		**15 week(From March2023to June2023) Theory : 04,Practical: 03**		
Week	**Theory**		**Practical**	
	Lecture Day	**Topic (including Assignment/ Test)**	**Practical Day**	**Topic**
1st	Day 1	**Unit1: faults, introduction**	Day1	Testing of the dielectric strength of transformer oil and air
	Day2	Common type of faults in both overhead and underground systems		
	Day 3	symmetrical/ Unsymmetrical faults		
	Day 4	Single line to ground fault		
2nd	Day 1	double line to ground fault, 3-phase to Ground fault open circuit	Day1	Study of different types of circuit breakers and isolators
	Day2	Simple problems relating to fault finding.		
	Day 3	Revision of important topics		
	Day 4	Assignment / Class test		
3rd	Day 1	**2 Switch Gears:** Purpose of protective gear. Difference between switch, isolator and circuit breakers	Day1	Revision/ file checking
	Day2	Function of isolator and circuit breaker. Making capacity and breaking		
	Day 3	capacity of circuit breaker (only definition)		
	Day 4	2.2 Circuit breakers. Types of circuit breakers, bulk and minimum oil circuit breakers,		
4th	Day 1	air SF6 circuit breakers	Day1	Plot the time current characteristics of over current relay
	Day2	2.3 Principles of Arc extinction blast circuit breakers in OCB and ACB, Constructional		
	Day 3	features of OCB, ACB, and their working		
	Day 4	Method of arc extinction		
5th	Day 1	2.4 Miniature circuit breakers MCB, MCCB	Day1	Power measurement by using CTs and PTs
	Day2	ELCB, for distribution and transmission system (Descriptive)		
	Day 3	Revision of important topics		
	Day 4	Assignment / Class test		
6th	Day 1	**3 Protection devices**: Fuses; function of fuse.	Day1	Revision/ file checking
	Day2	Types of fuses HV and LV fuses,		
	Day 3	rewire-able, cartridge, HRC		
	Day 4	3.2 Earthing: purpose of earthing, method of earthing		
7th	Day 1	Equipment earthing, Substation earthing,	Day1	Earthing of different equipment/Main Distribution Board and Energy Meter Box
	Day2	System earthing as per Indian Electricity rules. Methods of reducing earth resistance.		
	Day 3	3.3 Relays: a) Introduction - types of relays		
	Day 4	Electromagnetic and thermal relays, their		
8th	Day 1	construction and working	Day1	Performthe overload and short circuit test of MCB as per IS specifications
	Day2	b) Induction type over-current, earth fault relays		
	Day 3	instantaneous over current		
	Day 4	Directional over-current, differential relays, their functions	Day1	
	Day 1	d) Distance relays, their functions	Day1	Revision/ file checking

9	Day2	e) Idea of static relays and their applications		
	Day 3	Revision of important topics		
	Day 4	Assignment / Class test		
10th	Day 1	**4 Protection Scheme :** introduction	Day1	Plot the time-current characteristics of Kit-Kat fuse wire
	Day2	Relays for generator protection		
	Day 3	4.2 Relays for transformer protection including Buchholtz relay protection		
	Day 4	4.3 Protection of feeders and bus bars		
11th	Day 1	Over current and earth fault protection.	Day1	Taking reading of current on any LT line with clip on meter
	Day2	4.4 Distance protection for transmission system		
	Day 3	4.5 Relays for motor protection		
	Day 4	Relays for generator protection		
12th	Day 1	Revision of important topics		
	Day2	Assignment / Class test	Day1	Revision/ file checking
	Day 3	**5 Over-voltage Protection :** Protection of systemagainst over voltages		
	Day 4	causes of over voltages, utility of ground wire		
13th	Day 1	5.2 Lightning arrestors, rod gap	Day1	Revision/ file checking
	Day2	Horn gap, metal oxide type.		
	Day 3	5.3 Transmission Line protection against over-voltages and lightning		
	Day 4	substation protection against over-voltages and lightning		
14th	Day 1	Revision of important topics	Day1	Quiz /viva-voice related to electrical machine
	Day2	Assignment / Class test		
	Day 3	**6:Concept of Tariffs**		
	Day 4	6.2 Block rate, flat rate		
15th	Day 1	maximum demand and two part tariffs	Day1	Quiz /viva-voice related to electrical machine
	Day2	6.3 Simple problems		
	Day 3	Assignment / Class test		
	Day 4	Problem solution/ test check		