LESSON PLAN

Name of the Institute:	C. V. RAMAN POLYTECHNIC
Department:	ELECTRICAL ENGINEERING
Semester/Division/Branch:	6th SEM/EE
Subject Name with code:	SWITCH GEAR AND PROTECTIVE DEVICE(TH-2)
Total No. of Class (Required):	60
Faculty Name:	MADHUPRACHI NAYAK

Class No.	*Brief description of the Topic/Chapter to be taught*	Remarks
1	Essential Features of switchgear	
2	Switchgear Equipment.	
3	Bus-Bar Arrangement	
4	Switchgear Accommodation.	
5	Short Circuit.	
6	Faults in a power system.	
7	Symmetrical faults on 3-phase system	
8	Limitation of fault current.	
9	Percentage Reactance.	
10	Percentage Reactance and Base KVA	
11	Short circuit KVA	
12	Location of reactors.	
13	Steps for symmetrical Fault calculations	
14	Solve numerical problems on symmetrical fault	
15	Low and High voltage fuses.	
16	Current carrying capacity of fuse element.	
17	Difference Between a Fuse and Circuit Breaker.	
18	Definition and principle of Circuit Breaker.	

19	Arc phenomenon and principle of Arc Extinction	
20	Methods of Arc Extinction.	
21	Classification of circuit Breakers.	
22	Oil circuit Breaker and its classification.	
23	Method of ARC Extinction	
24	Plain brake oil circuit breaker	
25	Arc control oil circuit breaker	
26	Low oil circuit breaker.	
27	Maintenance of oil circuit breaker	
28	Air-Blast circuit breaker and its classification.	
29	Sulphur Hexa-fluoride (SF6) circuit breaker	
30	Vacuum circuit breakers.	
31	Switchgear component	
32	Problems of circuit interruption	
33	Resistance switching	
34	Circuit Breaker Rating	
35	Definition of Protective Relay	
36	Fundamental requirement of protective relay.	
37	Basic Relay operation	
38	Electromagnetic Attraction type	
39	Definition of following important terms	
40	Pick-up current	
41	Current setting.	
42	Time setting Multiplier.	
43	Classification of functional relays	
44	Induction type over current relay (Non-directional)	
45	Induction type directional power relay.	

46	Induction type directional over current relay	
47	Differential relay	
48	Current differential relay	
49	Voltage balance differential relay	
50	Types of protection	
51	Protection of alternator	
52	Differential protection of alternators.	
53	Balanced earth fault protection	
54	Protection systems for transformer	
55	Buchholz relay.	
56	Protection of Bus bar	
57	Protection of Transmission line	
58	Rod-gap lightning arreste	
59	Horn-gap arrester	
60	Valve type arrester, Surge Absorber	

Signature of the Faculty

Signature of the H.O.D