

# Switch gear & Protective Lesson Plan

Subject: Switch gear & Protective devices (Code) Th-2 Name of faculty: Smeudirekha mohanty  
 Semester: 6th Class allotted: 5PIWEP Branch: Electrical Engg

Discipline	Semester	From date:	To date:	Teaching Aid
Subject:	No. of days/ per week	Theory/ Practical - Topics/ Lesson		
Week	Date/Period			
1	14/12/23 +0	Introduction of essential features of Switch gear. Switch gear Equipment. Bus-Bar Arrangement.		White board & Marker
	17/12/23			
2	20/12/23 +0	Switch gear Accommodation Short circuit, Faults on a Power system. Symmetrical Faults on 3-Phase system. Limitation of fault current.		White board & Marker
	25/12/23			
3	27/12/23 +0	Percentage Reactance. Percentage Reactance and Base kVA. Short circuit kVA. Reactor control of short circuit currents. Location of reactor.		White board & Marker
	4/1/23			
4	6/1/23 +0	Steps for symmetrical fault calculations. Solve numerical problem on symmetrical fault.		White board & Marker
	11/1/23	Desirable characteristics of fuse element. Fuse element material.		
5	13/1/23 +0	Types of Fuses and important terms used for fuses. Low & High voltage fuses. Current carrying capacity of fuse element.		White board & Marker
	18/1/23			
6	20/1/23 +0	Difference between a fuse & circuit breaker. Definition and principle of circuit breaker. Arc phenomenon and principle of arc extinction.		White board & Marker
	25/1/23			
7	27/1/23 +0	Methods of Arc extinction. Definitions of Arc voltage, Restriking voltage and recovery voltage. Classification of circuit breaker.		White board & Marker
	31/1/23			

Smeudirekha  
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Week	Date-Period	Theory Practical- Topics/Lesson	Teaching Aid
8	31/4/23	Oil circuit Breakers. Main-	White board
	+	tenance of oil circuit	Marker
	8/4/23	breaker. Air Blast C.B. and Its classification.	
9	10/4/23	Sulphur Hexa-fluoride (SF <sub>6</sub> )	White board
	+	Circuit breaker. Vacuum C.B.	Marker
	15/4/23	Switch gear component. Prob- lems of circuit interruption. Circuit Breaker Rating.	
10	17/4/23	Define Protective Relay.	White board
	+	Fundamental requirement of	Marker
	21/4/23	Protective relay. Basic Relay Operation. Define of fol- lowing important terms.	
11	24/4/23	Pick-up current, current setting	White board
	+	Plug setting Multiplier.	Marker
	29/4/23	Time setting Multiplier. Cla- ssification of functional relays. Induction type over current relay.	
12	1/5/23	Induction type directional power	White board
	+	relay. Induction type direction- al over current relay. Differential	Marker
	6/5/23	Relay. Types of Protection. Protection of Alternator.	
13	8/5/23	Differential Protection of Alter- nators. Balanced Protection of	White board
	+	Alternators. Balanced earth fault	Marker
	13/5/23	Protection. Protection system of transformer. Buchholz Relay, Busbar Protection, Protection of Transmission line	
14	15/5/23	Different Pilot wire, Graplan	White board
	+	Protection of Feeder. Voltage	Marker
	20/5/23	Surge and cause of over voltage. In- ternal & external cause of voltage. Mechanism of lightning discharge, Types of lightning strokes. Harmful effect of light. Lightning Arrestor.	
15	22/5/23	Surge Absorber	White board
	+	Advantage of static relay.	Marker
	23/5/23	Instantaneous over current relay. Principle of IDMT relay.	

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