

Lesson Plan 2024(5)

Subject :-SGPD(Code) TH-2Name of faculty:- **ATSURYA KUMAR MISHRA**

Semester :-6thClass allotted p/w

Branch :- Electrical engg

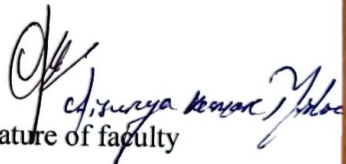
Discipline	Semester:-6th	From date:-16/01/24 To date:26/04/24	Teaching Aid
Subject:	No. of days/ per week p/w: 5	Theory/ Practical –Topics/Lesson	
Week	Date/Period		

1	16/01/24 – 20/01/24	INTRODUCTION TO SWITCHGEAR 1.1 Essential Features of switchgear. 1.2 Switchgear Equipment. 1.3 Bus-Bar Arrangement. 1.4 Switchgear Accommodation. 1.5 Short Circuit. 1.6 Short circuit. 1.7 Faults in a power system.	White board & marker
2	22/01/24 to 27/01/24	2.3 Percentage Reactance. 2.4 Percentage Reactance and Base KVA. 2.5 Short – circuit KVA. 2.6 Reactor control of short circuit currents.	White board & marker
3	29/01/24 To 03/02/24	2.7 Location of reactors. 2.8 Steps for symmetrical Fault calculations. 2.9 Solve numerical problems on symmetrical fault.	White board & marker
4	5/2/24 To 10/2/24	FUSES 3.1 Desirable characteristics of fuse element. 3.2 Fuse Element materials. 3.3 Types of Fuses and important terms used for fuses.	White board & marker
5	12/2/24 To 17/02/24	3.4 Low and High voltage fuses. 3.5 Current carrying capacity of fuse element. 3.6 Difference Between a Fuse and Circuit Breaker.	White board & marker
6	19/02/24 To 24/2/24	CIRCUIT BREAKERS 4.1 Definition and principle of Circuit Breaker. 4.2 Arc phenomenon and principle of Arc Extinction. 4.3 Methods of Arc Extinction. 4.4 Definitions of Arc voltage, Re-striking voltage and Recovery voltage.	White board & marker
7	26/2/24 To 2/3/24	4.5 Classification of circuit Breakers. 4.6 Oil circuit Breaker and its classification. 4.7 Plain brake oil circuit breaker. 4.8 Arc control oil circuit breaker. 4.9 Low oil circuit breaker. 4.10 Maintenance of oil circuit breaker.	White board & marker
8	4/3/24 To 9/3/24	4.11 Air-Blast circuit breaker and its classification. 4.12 Sulphur Hexa-fluoride (SF6) circuit breaker. 4.13 Vacuum circuit breakers. 4.14 Switchgear component.	White board & marker
9	11/3/24 To 16/3/24	4.15 Problems of circuit interruption. 4.16 Resistance switching. 4.17 Circuit Breaker Rating.	White board & marker
10	18/3/24 To 23/3/24	PROTECTIVE RELAYS 5.1 Definition of Protective Relay. 5.2 Fundamental requirement of protective relay. 5.3 Basic Relay operation 5.3.1. Electromagnetic Attraction type 5.3.2. Induction type 5.4 Definition of following important terms 5.5 Definition of following important terms. 5.5.1. Pick-up current. 5.5.2. Current setting. 5.5.3. Plug setting Multiplier. 5.5.4. Time setting Multiplier.	White board & marker

11	27/3/24 To 30/3/24	5.6 Classification of functional relays 5.7 Induction type over current relay (Non-directional) 5.8 Induction type directional power relay. 5.9 Induction type directional over current relay. VI Sem Electrical Page 8 of 28 5.10 Differential relay 5.10.1. Current differential relay 5.10.2. Voltage balance differential relay. 5.11 Types of protection	White board & marker
12	2/4/24 To 6/4/24	PROTECTION OF ELECTRICAL POWER EQUIPMENT AND LINES 6.1 Protection of alternator. 6.2 Differential protection of alternators. 6.3 Balanced earth fault protection. 6.4 Protection systems for transformer. 6.5 Buchholz relay.	White board & marker & smart board
13	8/4/24 To 13/4/24	6.6 Protection of Bus bar. 6.7 Protection of Transmission line. 6.8 Different pilot wire protection (Merz-price voltage Balance system) 6.9 Explain protection of feeder by over current and earth fault relay.	White board & marker
14	15/4/24 To 20/4/24	PROTECTION AGAINST OVER VOLTAGE AND LIGHTNING 7.1. Voltage surge and causes of over voltage. 7.2. Internal cause of over voltage. 7.3. External cause of over voltage (lightning) 7.4. Mechanism of lightning discharge. 7.5. Types of lightning strokes.	White board & marker
15	22/4/24 To 26/4/24	7.6. Harmful effect of lightning. 7.7. Lightning arresters and Type of lightning Arresters. 7.7.1. Rod-gap lightning arrester. 7.7.2. Horn-gap arrester. 7.7.3. Valve type arrester. 7.8. Surge Absorber 8. STATIC RELAY: 8. 1 Advantage of static relay. 8. 2 Instantaneous over current relay. 8. 3 Principle of IDMT relay.	White board & marker & smart board

Bikram Keshari Parida

Signature of HOD


Signature of faculty