

ELECTRICAL ENGINEERING DEPARTMENT

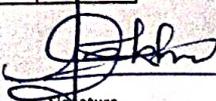
SUBJECT-SWITCH GEAR AND PROTECTIVE DEVICES

SEMESTER-6TH

NAME OF THE TEACHING FACULTY-SACHINDRA GOUKHRA

WEEK No	DATE	NO OF PERIODS AVAILABLE	CHAPTER	TOPIC NAME	PERIODS ASSIGNED AS PER SYLLABUS
Week - 1	14.02.23 to 18.02.23	5	Introduction To Switchgear CHAP-01	1.1 Essential Features of switchgear	1
				1.2 Switchgear Equipment.	1
				1.3 Bus-Bar Arrangement.	1
				1.4 Switchgear Accommodation.	1
				1.5 Short Circuit.	1
				1.7 Faults in a power system	1
				2.1 Symmetrical faults on 3-phase system	1
Week - 2	20.02.23 to 25.04.23	5	Fault Calculation CHAP-02	2.2 Limitation of fault current	1
				2.3 Percentage Reactance.	1
				2.4 Percentage Reactance and Base KVA	1
Week - 3	27.02.23 to 04.03.23	5	Fault Calculation CHAP-02	2.5 Short – circuit KVA	1
				2.6 Reactor control of short circuit currents.	1
				2.7 Location of reactors.	1
				2.8 Steps for symmetrical Fault calculations	1
				2.9 Solve numerical problems on symmetrical fault	1
				3.1 Desirable characteristics of fuse element.	1
Week - 4	06.03.23 to 11.03.23	3	FUSES CHAP-03	3.2 Fuse Element materials.	1
				3.3 Types of Fuses and important terms used for fuses.	1
				3.4 Low and High voltage fuses	1
				3.6 Difference Between a Fuse and Circuit Breaker.	1
Week-5	13.03.23 to 18.03.23	5	CIRCUIT BREAKERS CHAP-04	4.1 Definition and principle of Circuit Breaker. 4.2 Arc phenomenon and principle of Arc Extinction.	1
				4.3 Methods of Arc Extinction. 4.4 Definitions of Arc voltage, Re-striking voltage and Recovery voltage.	1
				4.5 Classification of circuit Breakers. 4.6 Oil circuit Breaker and its classification.	1
				4.7 Plain break oil circuit breaker. 4.8 Arc control oil circuit breaker.	1
				4.9 Low oil circuit breaker. 4.10 Maintenance of oil circuit breaker	1
Week - 6	20.03.23 to 25.03.23	5	CIRCUIT BREAKERS CHAP-04	4.11 Air-Blast circuit breaker and its classification. 4.12 Sulphur Hexa-fluoride (SF6) circuit breaker.	1
				4.13 Vacuum circuit breakers. 4.14 Switchgear component.	1
				4.15 Problems of circuit interruption. 4.16 Resistance switching.	1
				4.17 Circuit Breaker Rating.	1
Week-8	27.03.23 to 31.03.23	4	PROTECTIVE RELAYS CHAP-05	5.1 Definition of Protective Relay. 5.2 Fundamental requirement of protective relay.	1
				5.3 Basic Relay operation 5.3.1. Electromagnetic Attraction type 5.3.2. Induction type	1
				5.4 Definition of following important terms 5.5.1. Pick-up current.	1
				5.5.2. Current setting.	1
				5.5.3. Plug setting Multiplier. 5.5.4. Time setting Multiplier	1
Week-9	03.04.23 to 06.04.23	4	PROTECTION OF ELECTRICAL POWER EQUIPMENT AND LINES CHAP-06	5.6 Classification of functional relays 5.7 Induction type over current relay (Non-directional)	1
				5.8 Induction type directional power relay. 5.9 Induction type directional over current relay	1
				6.1 Protection of alternator. 6.2 Differential protection of alternators.	1
Week-10	10.04.23 to 15.04.23	4	PROTECTION OF ELECTRICAL POWER EQUIPMENT AND LINES CHAP-06	6.3 Balanced earth fault protection. 6.4 Protection systems for transformer.	1
				6.5 Buchholz relay. 6.6 Protection of Bus bar.	1
Week-11	17.04.23 to 22.04.23	5	PROTECTION AGAINST OVER VOLTAGE AND LIGHTNING CHAP-07	6.7 Protection of Transmission line. 6.8 Different pilot wire protection (Merz-price voltage Balance system)	1
				6.9 Explain protection of feeder by over current and earth fault relay.	1
				7.1. Voltage surge and causes of over voltage.	1
				7.2. Internal cause of over voltage.	1
				7.3. External cause of over voltage (lighting)	1
				7.4. Mechanism of lightning discharge.	1
				7.5. Types of lightning strokes.	1
				7.6. Harmful effect of lightning.	1
7.7. Lightning arresters and Type of lightning Arresters.	1				
Week-12	24.04.23 TO 29.04.23	5	STATIC RELAY CHAP-08	7.7.1. Rod-gap lightning arrester.	1
				7.7.2. Horn-gap arrester.	1
				8. 1 Advantage of static relay.	1
				8. 2 Instantaneous over current relay.	1
				8. 3 Principle of IDMT relay.	1
REVISION	1				
REVISION	1				

Signature
Lecturer


 Signature
 Academic Coordinator