

Name of the Faculty: Anand yadav

Discipline : Electrical Engineering

Semester : 6th

Subject : HVDC & FLEXIBLE AC TRANSMISSION SYSTEMS

Duration : 15 weeks(from 20 January 2025 to 02 May 2025)

Work load (Lecture/Practical) per week (in Hours):Lecture-03,Practical -00

Week	Lecture Day	
I	1	Introduction of the Subject:HVDC & FLEXIBLE AC TRANSMISSION SYSTEMS
	2	HVDC Transmission
	3	1.1 Introduction to HVDC transmission
II	1	1.2 Comparison of AC and DC transmission.
	2	1.3 Application of DC transmission system,
	3	1.4 Equipment of HVDC transmission systems
III	1	1.5 Modern trends in D. C. transmission
	2	Assignment No.01
	3	Test No.01
IV	1	HVDC System Control
	2	2.1 Principles of dc link control
	3	2.2 Types of dc Link
V	1	2.3 Starting and Stopping of dc link,
	2	2.4 Power control
	3	2.5 Harmonics and Filters:, Effects of Harmonics
VI	1	Sources of harmonic generation,
	2	Types of filters
	3	Flexible AC Transmission Systems (FACTS)
VII	1	3.1 Objective of FACTS
	2	Concept of FACTS
	3	3.2 Control of power flow in transmission lines,

VIII	1	3.3 Application.
	2	FACTs Controller
	3	4.1 Need for compensation
IX	1	4.2 Classification of FACTS controllers
	2	4.3 Shunt Compensation:
	3	Objectives of shunt compensation,
X	1	Methods of controllable VAR generation,
	2	Static VAR Compensator (SVC), STATCOM.
	3	4.4 Series Compensation:
XI	1	Objectives of series compensation,
	2	GCSC, TSSC, TCSC and SSSC.
	3	Combined Controllers Compensation
XII	1	5.1 Unified Power Flow Controller:
	2	Principles of operation,
	3	comparison with other FACTS controller
XIII	1	5.2 Interline Power Flow Controller
	2	Principles of operation,
	3	comparison with other FACTS controller
XIV	1	Assignment No. 03
	2	Test No.03
	3	Revision of 1 st Unit
XV	1	Revision of 2 nd and 3 rd Unit
	2	Revision of 4 th and 5 th Unit
	3	Previous year Question Papers