Bhoj Reddy Engineering College for Women: Hyderabad

Department of Electrical and Electronics Engineering

Lesson plan of faculty member for the academic year 2020–21

Class: IV B Tech Branch-Section: EEE Semester: I
Subject: Flexible A.C. Transmission Systems Lectures per week: 3

Lecture Number	Topics to be covered	Date
UNIT – I: Facts Concepts		
1	Introduction	02 September 2020
2	Transmission interconnections	03 September 2020
3	Power flow in an AC system	07 September 2020
4	Loading capability limits, Dynamic stability considerations	09 September 2020
5	Importance of controllable parameters	10 September 2020
6	Basic types of FACTS controllers	14 September 2020
7	Benefits from FACTS controllers	16 September 2020
8	Revision of UNIT-I	17 September 2020
UNIT-II: Voltage Source Converters		
9	Single phase full wave bridge converters	21 September 2020
10	Three phase full wave bridge converters	23 September 2020
11	Converters	24 September 2020
12	Transformer connections for 12 pulse operation	28 September 2020
13	Three level voltage source converters	30 September 2020
14	Pulse width modulation converter	01 October 2020
15	Basic concept of current source Converters	05 October 2020
16	Current source Converters	07 October 2020
17	Comparison of current source converters with voltage source converters.	08 October 2020
18	Revision of UNIT-II	12 October 2020
UNIT-III: Static Shunt Compensation		
19	Objectives of shunt compensation	14 October 2020
20	Midpoint voltage regulation	15 October 2020
21	Voltage instability prevention	26 October 2020
22	Improvement of transient stability	28 October 2020
23	Revision for mid exams	29 October 2020
24	Power oscillation damping	09 November 2020
25	Methods of controllable var generation	11 November 2020
26	Variable impedance type static var generators	12 November 2020
27	Parent Teacher Meeting	16 November 2020
28	Variable impedance type static var generators	18 November 2020
29	Switching converter type var generators	20 November 2020
30	Hybrid var generators	23 November 2020
31	Revision of UNIT-III	25 November 2020
UNIT-IV: SVC and STATCOM		
32	SVC: FC-TCR	26 November 2020
33	TSC-TCR	02 December 2020
34	STATCOM:	03 December 2020
35	The regulation and slope	07 December 2020
36	Comparison between SVC and STATCOM	09 December 2020
37	Revision of UNIT-IV	10 December 2020
UNIT-V: Series Compensators		
38	Objectives of Series compensation	14 December 2020
39	Concept of series capacitive compensation	16 December 2020

40	GTO thyristor-controlled series capacitor (GSC)	17 December 2020
41	Thyristor switched series capacitor (TSSC)	21 December 2020
42	Thyristor-controlled series capacitor (TCSC)	23 December 2020
43	Control schemes for GSC TSSC and TCSC.	24 December 2020
44	Revision of UNIT-V	28 December 2020
45	Revision for MID exams-II	30 December 2020
46	Revision	31 December 2020

Textbooks:

1. N.G.Hingorani, L. Gyugyi, "Understanding FACTS Devices" IEEE Press publication 2000.
2. Yong- Hua Song, Allan Johns, "Flexible AC Transmission System" IEE Press 1999.
3. Kalyan K. Sen and Meylingsen, "Introduction to FACTS Controllers" John wiley & sons, Inc., Mohamed E. EI – Hawary Series editor, 2009.
4. K. R Padiyar, Motilal, "FACTS controllers in power transmission and distribution" UK Books of India 2007.

Name and signature of the faculty: Ms S Deepti ----

Name and signature of Head of the Department: Ms R Manju Bhargavi ----