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: III B Tech Branch-Section: EEE Semester: I

Subject: Power System - II Lectures per week: 3+1(Tutorial)

Lecture Number	Topics to be covered	Date
UNIT – I: Performance of Lines		
1	Representation of lines	01 September 2020
2	Short transmission lines	02 September 2020
3	Medium length lines	04 September 2020
4	Tutorial: Numerical of short and medium lines	05 September 2020
5	Nominal T and PI representations, Long transmission lines	08 September 2020
6	Long transmission lines	09 September 2020
7	The equivalent circuit representation of a long Line, A, B, C, D constants	11 September 2020
8	Tutorial: Numerical on long transmission lines	12 September 2020
9	Ferranti Effect	15 September 2020
10	Power flow through a transmission line, receiving end power circle	16 September 2020
11	Revision	18 September 2020
UNIT-II: Voltage Control & Compensation In Power Systems		
12	Tutorial: Introduction	19 September 2020
13	Methods of voltage control	22 September 2020
14	Shunt and series capacitors / Inductors	23 September 2020
15	Tap changing transformers, Synchronous phase modifiers	25 September 2020
16	Tutorial: Review of methods of voltage control	26 September 2020
17	Concepts of load compensation	29 September 2020
18	Load ability characteristics of overhead lines	30 September 2020
19	Tutorial: Load Compensation objectives	03 October 2020
20	Uncompensated transmission line, Symmetrical line	06 October 2020
21	Compensation of lines.	07 October 2020
UNIT-III: Per Unit Representation of Power Systems & Travelling Waves on Transmission Lines		
22	Per unit representation of power systems, The one-line diagram	09 October 2020
23	Tutorial: Revision of UNIT-II	10 October 2020
24	Impedance and reactance diagrams	13 October 2020
25	Per unit quantities	14 October 2020
26	Changing the base of per unit quantities	16 October 2020
27	Changing the base of per unit quantities	27 October 2020
28	Advantages of per unit system	28 October 2020
29	Tutorial: Revision for Mid-I	31 October 2020
30	Travelling waves on transmission lines	10 November 2020
31	Open circuited line, Short circuited line	11 November 2020
32	line terminated through a resistance, line connected to a cable,	13 November 2020
33	Reflection and refraction at T-junction line terminated through a capacitance	17 November 2020
34	Capacitor connection at a T-junction	18 November 2020
35	Attenuation of travelling waves	20 November 2020
36	Tutorial: Revision of UNIT-III	21 November 2020
UNIT-IV: Overvoltage Protection and Insulation Coordination		
37	Over voltage due to arcing ground and Peterson coil,	24 November 2020
38	Lightning, horn gaps, Surge diverters, Rod gaps	25 November 2020
39	Expulsion type lightning arrester & Valve type lightning arrester	27 November 2020
40	Tutorial: Overvoltage Protection	28 November 2020

41	Ground wires, ground rods	01 December 2020
42	Counter poise	02 December 2020
43	Insulation coordination, volt-time curves	04 December 2020
44	Tutorial: Revision of UNIT-IV	05 December 2020
UNIT-V: SYMMETRICAL COMPONENTS AND FAULT CALCULATIONS		
45	Significance of positive, negative and zero sequence components	08 December 2020
46	Average 3-phase power in terms of symmetrical components	09 December 2020
47	Sequence impedances and sequence networks, Fault calculations	11 December 2020
48	Tutorial: Fault calculations	12 December 2020
49	Sequence network equations	15 December 2020
50	Single line to ground fault	16 December 2020
51	Line to line fault, double line to ground fault, Three phase fault	18 December 2020
52	Tutorial: Fault calculations	19 December 2020
53	Faults on power systems	22 December 2020
54	Faults with fault impedance	23 December 2020
55	Reactors and their location	29 December 2020
56	Short circuit capacity of a bus	30 December 2020
57	Revision	02 January 2021

Textbooks:

1. John J. Grainger & W.D.Stevenson, “Power System Analysis” Mc Graw Hill International, 1994.
2. C.L. Wadhwa, “Electrical Power Systems” Third Edition, New Age International, 2001.
3. Hadi Scadat, “Power System Analysis” Second Edition, Tata Mc Graw Hill Pub. Co., 2002
4. W.D.Stevenson, “Elements of Power System Analysis” Student Edition, McGraw Hill.
5. D.P. Kothari and I. J. Nagrath, “Modern Power System Analysis” Fourth edition, Tata Mc Graw Hill Pub. Co.,New Delhi, , 2011.

Name and signature of the faculty: Ms G Poorna ----

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