

Bhoj Reddy Engineering College for Women: Hyderabad

Department of Electrical and Electronics Engineering

Lesson plan of faculty member for the academic year 2016–17

Class: IV B Tech

Branch-Section: EEE

Semester: I

Subject: Electrical Distribution Systems

Lectures per week: 4+1 (Tutorial)

Lecture Number	Topics to be covered	Date (s)
UNIT – I: Introduction & General Concepts		
1	Introduction to distribution systems	14 June 2016
2	Load Modeling and Characteristics	16 June 2016
3	Coincidence factor	17 June 2016
4	Contribution factor	18 June 2016
5	Tutorial (G2,G1,G3) - distribution systems automation	13, 15, 16 June 2016
6	Loss factor	21 June 2016
7	Relationship between load factor and loss factor	23 June 2016
8	Numerical	24 June 2016
9	Classification of loads: Residential, Commercial, Agricultural	25 June 2016
10	Tutorial (G2,G1,G3) - Problems related to load characteristics	20, 22, 23, June 2016
11	Industrial, characteristics of all loads	28 June 2016
UNIT-II: Distribution Feeders & Substations		
12	Design considerations of distribution feeders	30 June 2016
13	Radial type and loop type primary feeder	1 July 2016
14	Voltage levels	2 July 2016
15	Tutorial (G2,G1,G3) – Seminars on planning of distribution	27, 29, 30 June, 2016
16	Feeder loading	5 July 2016
17	Basic design practice of secondary distribution system	8 July 2016
18	Rating of distribution substation	9 July 2016
19	Tutorial (G2) - Derivations	4 July 2016
20	Location of substations	12 July 2016
21	Service area within the primary feeders	14 July 2016
22	Comparison of 4 feeder and 6 feeder circuit	15 July 2016
23	Benefits derived through optimal location of substation	16 July 2016
24	Tutorial (G2,G1,G3) - Design of distribution system	11, 13, 14 July 2016
25	Numerical	19 July 2016
UNIT-III: Distribution System Analysis		
26	Introduction	21 July 2016
27	Voltage drop and power loss calculations(ungrounded system)	22 July 2016
28	Voltage drop and power loss calculations (ungrounded system)	23 July 2016
29	Tutorial (G2,G1,G3) – problems on power loss	18, 20, 21 July 2016
30	Voltage drop and power loss calculations (multigrounded system)	26 July 2016
31	Numerical on voltage drop and power loss	28 July 2016
32	Manual methods of solution for radial network	29 July 2016
33	3-Phase balanced primary lines	30 July 2016
34	Tutorial (G2,G1,G3) - Voltage drop calculations	25, 27, 28 July 2016
35	Revision of Unit I	2 August 2016
36	Revision of Unit II & III	4 August 2016
37	Discussion on Previous question papers	5 August 2016
38	Discussion on objective questions	6 August 2016
39	Tutorial (G1, G3) – Revision	3, 4 August 2016
UNIT-IV: Protective Devices & Co-Ordination		
40	Objectives of distribution system protection ,types of common faults	16 August 2016
41	Procedure for fault calculation	18 August 2016
42	Protective device introduction	19 August 2016

43	Principle of operation of Fuses	20 August 2016
44	Tutorial (G2,G1,G3) – Seminars on protective devices	15, 17, 18 August 2016
45	Circuit Reclosures	23 August 2016
46	Line sectionalizes	26 August 2016
47	Circuit breaker	27 August 2016
48	Tutorial (G2, G1) - Numerical on Faults	22, 24 August 2016
49	Numerical on fault calculation	30 August 2016
50	Co-Ordination of protective devices	1 September 2016
51	General Co-Ordination procedure,	2 September 2016
52	Fuse to fuse coordination	3 September 2016
53	Tutorial (G2, G1, G3) - Types of protective devices	29, 31 August, 1 September 2016
54	Fuse to CB, CB to CB coordination	6 September 2016
55	Objectives of General Co-Ordination procedure	8 September 2016
UNIT-V: Voltage Control & P.F Improvement		
56	Introduction	9 September 2016
57	Equipment for voltage control	10 September 2016
58	Tutorial (G2, G1, G3) - Problems on power factor improvement	5, 7, 8 September 2016
59	Effect of series capacitors	13 September 2016
60	Line drop compensation	15 September 2016
61	Effect of AVB/AVR	16 September 2016
62	Numerical	17 September 2016
63	Tutorial (G2, G1, G3) – Problems on voltage drop	12, 14, 15 September 2016
64	Power factor control using different types of power capacitors	20 September 2016
65	Shunt capacitors	22 September 2016
66	Series capacitors	23 September 2016
67	Effect of shunt capacitors	24 September 2016
68	Tutorial (G2, G1, G3) – Seminars on Compensation	19, 21, 22 September 2016
69	Power factor correction	27 September 2016
70	Capacitor allocation	29 September 2016
71	Economic justification	1 October 2016
72	Tutorial (G2,G1,G3) – Solving of previous problem	26, 28, 29 September 2016
73	Problems on voltage drop	4 October 2016
74	Tutorial (G2) – Compensation	3 October 2016
75	Procedure to determine the best capacitor location	27 October 2016
76	Discussion on previous question paper	28 October 2016
77	Revision on IV Unit	29 October 2016
78	Tutorial (G3) – Compensation	27 October 2016
79	Revision on V Unit	1 November 2016
80	Discussion on objective type	3 November 2016
81	Tutorial (G2,G1,G3) - Question and Answers/ Objective type	31 October, 2,3 November 2016

Text books:

1. V.Kamaraju, "Electrical Power distribution systems", TMH.
2. Dr. S. Siva naga raju and Dr. K. Shankar, "Electrical distribution systems", Danapathi Rai Publications.
3. Turan Gonen, "Electric Power Distribution System Engineering", CRC Press
4. SN. Singh, "Electric Power Generation, Transmission and Distribution", PHI Publishers.

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

Name and signature of Head of the Department: Y Mastanamma ----