

CTPS

#132, AECS Layout, IT Park Road, Kundalahalli, Bangalore – 560 037

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CMR INSTITUTE OF TECHNOLOGY



Session wise – Course Plan

Department of Electrical & Electronics Engg

SEMESTER : VII
NAME OF THE FACULTY : Ms. Sanitha Michail C
BRANCH : EEE
DATE OF COMMENCEMENT : 07.08.2017
SUBJECT : CTPS
DATE OF CLOSING : 21.11.2017
SUBJECT CODE : 10EE71
CLASS STRENGTH : 115
NO OF HRS/WK : 5
TOTAL HOURS : 63

Session No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1	1/6	7/8/2017	Introduction, Elementary graph theory –oriented graph	Board &	Prerequisite Assignme	

				chalk	nt	
2	1/6	8/8/2017	tree, co-tree, basic cut-sets, basic loops, Incidence matrices – Element-node, Bus incidence	„		
3	1/6	9/8/2017	Tree-branch path, Basic cut-set, Augmented cut-set, Basic loop and Augmented loop	„		
4	1/6	10/8/2017	Primitive network – impedance form, admittance form	„	Assignme nt- I	
5	1/6	11/8/2017	Formation of network matrices by singular transformations	„		
6	1/6	12/8/2017	Branch impedance matrices & loop incidence matrices	„		
7	1/6	14/8/2017	Problems	„		
8	2/6	16/8/2017	Algorithm for formation of bus impedance matrix	„		
9	2/6	17/8/2017	Modification of bus impedance matrix for changes in the network	„		
10	2/6	18/8/2017	Formation of YBUS – by method of inspection	„	Assignme nt -II	
11	2/6	19/8/2017	Formation of YBUS – by method of singular transformation ($Y_{BUS} = A^T y_A$)	„		
12	2/6	21/8/2017	Formation of Bus Impedance Matrix by step by step building algorithm (without mutual coupling elements).	„		
13	2/6	22/8/2017	Transformer off nominal tap setting	„		
14	2/6	23/8/2017	Problems	„		

15	2/6	24/8/2017	Problems	„		
16	3 & 4 /14	28/8/2017	Power flow equations	„		
17	3 & 4 /14	29/8/2017	Classification of buses	„		
18	3 & 4 /14	29/8/2017	Operating constraints	„		
19	3 & 4 /14	30/8/2017	Data for load flow	„		
20	3 & 4 /14	30/8/2017	Gauss Seidal method	„		
21	3 & 4 /14	31/8/2017	Algorithm & flow chart for PQ and PV buses	„		
22	3 & 4 /14	31/8/2017	Acceleration for convergence	„	Assignme nt –III	
23	3 & 4 /14		Problems on GS method	„		
24	3 & 4 /14	1/9/2017	Problems on GS method	„		
25	3 & 4 /14	4/9/2017	Algorithm & flow chart for NR method in polar coordinates	„		
26	3 & 4 /14	5/9/2017	Problems on NR method	„		
27	3 & 4 /14	6/9/2017	Problems on NR method	„		
28	3 & 4 /14	7/9/2017	Algorithm for fast decoupled load flow method	„	Assignmnt –IV	
29	3 & 4 /14	8/9/2017	Comparison of load flow method	„		
30	3 & 4 /14	9/9/2017	Problems on fast decoupled method	„		
31	3 & 4 /14	11/9/2017	Problems on fast decoupled method	„		
32	5 & 6/12	12/9/2017	Economic load dispatch - Introduction	„		

33	5 & 6/12	13/9/2017	Economic generation scheduling neglecting losses and generator limits	„		
34	5 & 6/12	14/9/2017	Economic generation scheduling including generator limits	„	Assignment -V	
35	5 & 6/12	15/9/2017	Problems on Economic generation scheduling	„		
36	5 & 6/12	16/9/2017	Problems on Economic generation scheduling	„		
37	5 & 6/12	22/9/2017	Economic Dispatch including transmission losses	„		
38	5 & 6/12	3/10/2017	Problems on transmission losses	„		
39	5 & 6/12	4/10/2017	Problems on transmission losses	„		
40	5 & 6/12	4/10/2017	penalty factor	„		
41	5 & 6/12	6/10/2017	Problems on penalty factor	„		
42	5 & 6/12	7/10/2017	Problems on penalty factor	„	Assignment -VI	
43	5 & 6/12	9/10/2017	Economic load dispatch - Introduction	„		
44	5 & 6/12	10/10/2017	Economic generation scheduling neglecting losses and generator limits	„		
45	5 & 6/12	11/10/2017	Economic generation scheduling including generator limits	„		
46	7 & 8 /14	12/10/2017	Numerical solution of Swing Equation	„		
47	7 & 8 /14	13/10/2017	Equal area criteria	„		
48	7 & 8 /14	14/10/2017	Equal area criteria	„	Assignment -VII	
49	7 & 8 /14	16/10/2017	Factors affecting stability	„		

50	7 & 8 /14	17/10/2017	Point-by-point method	„		
51	7 & 8 /14	19/10/2017	Problem on point by point method	„		
52	7 & 8 /14	21/10/2017	Problem on point by point method	„		
53	7 & 8 /14	23/10/2017	Modified Euler's method	„		
54	7 & 8 /14	24/10/2017	Modified Euler's method	„		
55	7 & 8 /14	25/10/2017	Runge kutta method	„		
56	7 & 8 /14	26/10/2017	Runge kutta method	„	Assignme nt -VIII	
57	7 & 8 /14	27/10/2017	Milne's predictor corrector method,	„		
58	7 & 8 /14	28/10/2017	Milne's predictor corrector method,	„		
59	7 & 8 /14	29/10/2017	Representation of power systems for transient studies	„		
60	7 & 8 /14	30/10/2016	Network performance equations	„		
61	7 & 8 /14	2/11/2017	Solution techniques with flow charts	„		
62	7 & 8 /14	3/11/2017	Problems	„		
63	7 & 8 /14	4/11/2017	Problems	„		

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**CMR INSTITUTE
OF TECHNOLOGY**



Session wise – Course Plan

Department of Electrical & Electronics Engg

SEMESTER : VII

NAME OF THE FACULTY : Ms. Parvathy Thampi M.S.

BRANCH : EEE

DATE OF COMMENCEMENT : 16.08.2017

SUBJECT :EPU

DATE OF CLOSING : 25.11.2017

SUBJECT CODE : 10EE72

CLASS STRENGTH : 66 + 66

NO OF HRS/WK : 5

TOTAL HOURS : 51

Session No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1	1/1	16/8/2017	Introduction Topics	Chalk Talk	Assignments(1) Pre -requisites	
2	2/1	18/8/2017	Advantages and methods of Electric Heating, Resistance Ovens	Chalk Talk		
3	3/1	19/8/2017	Induction Heating	Chalk Talk	Assignment- 2	
4	4/1	21/8/2016	Dielectric Heating	Chalk Talk		

5	5/1	21/8/2016	Arc Furnace, Heating of Building	Chalk Talk		
6	6/1	23/8/2016	Electric Welding, Resistance and Arc Welding	Chalk Talk		
7	7/1	28/8/2017	Control Devices, Welding Equipments	Chalk Talk		
8	8/1	29/8/2017	Problems	Chalk Talk		
9	9/1	30/8/2017	Fundamental Principles	Chalk Talk		
10	10/1	30/8/2017	Extraction and Refining of Metals	Chalk Talk	Assignment -3	
11	11/1	1/9/2017	Electroplating, Factors affecting electro Deposition processes	Chalk Talk		
12	12/1	5/9/2017	Power supply for Electrolytic process	Chalk Talk		
13	1 / 2	6/9/2017	Problems	Chalk Talk		
14	2/2	7/9/2017	Laws of Illumination	PPT		
15	3/2	7/9/2017	Distribution and Control Of Lighting	PPT	Assignment -4	
16	4/2	9/9/2017	Lighting Calculations, Factory Lighting	PPT		
17	5/2	12/9/2017	Factory Lighting Flood Lighting	PPT		
18	6/2	13/9/2017	Flood Lighting, Street Lighting,	PPT		
19	1/3,4	14/9/2017	Different types of lamps	PPT		
20	2/3,4	14/9/2017	Incandescent Lamp and its Working	Chalk Talk	Assignment -5	
21	3/3,4	22/9/2017	Fluorescent lamp and its working	Chalk Talk		
22	4/3,4	25/9/2017	Vapor and CFL and LED lamps and their working	Chalk Talk		
23	5/3,4	26/9/2017	Comparison among different lamps, Glare and its remedy	Chalk Talk		
24	6/3,4	27/9/2017	Problems	Chalk Talk		

25	7/3,4	27/9/2017	Problems	Chalk Talk		
26	8/3,4	3/10/2017	Introduction, Requirements of an ideal traction System of Traction	Chalk Talk		
27	9/3,4	6/10/2017	Speed Time curve	Chalk Talk		
28	10/3,4	7/10/2017	Tractive Effort / coefficient of Adhesion	Chalk Talk		
29	11/3,4	9/10/2017	Selection of Traction Motors	Chalk Talk		
30	1 /5,6,7	9/10/2017	Methods of Speed Control	Chalk Talk	Assignment -6	
31	2/5,6,7	11/10/2017	Energy Saving by Series Parallel control	Chalk Talk		
32	3/5,6,7	13/10/2017	AC Traction Equipment	Chalk Talk		
33	4/5,6,7	14/10/2017	AC Series Motor	Chalk Talk		
34	5/5,6,7	16/10/2017	Characteristics	Chalk Talk		
35	6/5,6,7	16/10/2017	Regenerative Braking	Chalk Talk		
36	7/5,6,7	23/10/2017	Linear Induction Motor	Chalk Talk		
37	8/5,6,7	25/10/2017	LIM and its Use	Chalk Talk	Assignment-7	
38	9/5,6,7		AC Traction	Chalk Talk		
39	10/5,6,7	26/10/2017	Diesel Electric Equipment	Chalk Talk		
40	11/5,6,7	27/10/2017	Train Lighting Systems	PPT		
41	12/5,6,7	27/10/2017	Specific Energy	Chalk Talk		
42	13/5,6,7	30/10/2017	Factors effecting energy consumption	Chalk Talk		
43	14/8	2/11/2017	Configuration and Performance of electric vehicles	Chalk Talk		
44	15/8	3/11/2017	Traction motor characteristics	Chalk Talk		

45	16/8	4/11/2017	Problems	Chalk Talk		
46	17/8	4/11/2017	Problems	Chalk Talk	Assignment -8	
47	18/8	10/11/2017	Problems	Chalk Talk		
48	19/8	14/11/2017	Tractive effort	Chalk Talk		
49	20/8	15/11/2017	Transmission requirement	Chalk Talk	Assignment-9	
50	21/8	16/11/2017	Transmission requirement	Chalk Talk		
51	22/8	16/11/2017	Vehicle performance and energy consumption	Chalk Talk		

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HVDC

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CMR INSTITUTE OF TECHNOLOGY



Session wise – Course Plan

Department of Electrical & Electronics Engineering

SEMESTER	: VII	NAME OF THE FACULTY	: Ms Sharen Ranjit
BRANCH	: EEE	DATE OF COMMENCEMENT	: 16-08-17
SUBJECT	: HVDC Transmission	DATE OF CLOSING	: 25 -11-17
SUBJECT CODE	: 10EE751	CLASS STRENGTH	: 40
NO OF HRS/WK	: 5	TOTAL HOURS	: 49

Session No	Chapter no./No.of hours planned	Date	Topics planned for the session	Teaching Aids	Assignments / Tests planned for the chapter	Topics Covered as per plan
1	1/7	16-08-2017	Intro to HVDC Transmission	Board, chalk, duster	Assignment - I	
2	2/7	17-08-2017	Intro to UNIT - 1 & 2 GENERAL ASPECTS OF DC TRANSMISSION AND COMPARISON OF IT WITH AC TRANSMISSION:	"		
3	3/7	19-08-2017	Historical sketch,.	"		
4	4/7	21-08-2017	constitution of EHV AC and DC links,	"		
5	5/7	22-08-2017	Types of dc links	PPT Presentation	Assignment -II	
6	6/7	23-08-2017	Limitations and Advantages of AC and DC Transmission.			
7	7/7	24-08-2017	Revision of unit 1 & 2	"		
8	1/9	29-08-2017	Intro to UNIT - 3 & 4 CONVERTER CIRCUITS:	Board, chalk, duster		
9	2/9	30-08-2017	Valve Characteristics,	PPT Presentation		

10	3/9	31-08-2017	Properties of converter circuits,	PPT Presenta tion	Assignment -III	
11	4/9	01-09-2017	assumptions,	Board, chalk, duster		
12	5/9	04-09-2017	single phase converters			
13	6/9	06-09-2017	three phase converters,	"		
14	7/9	07-09-2017	three phase converters,	"	Assignment -IV	
15	8/9	08-09-2017	choice of best circuits for HV DC circuits.	"		
16	9/9	09-09-2017	Revision of unit 3 & 4	"		
17	1/10	11-09-2017	Intro to UNIT - 5 ANALYSIS OF THE BRIDGE CONVERTER:			
18	2/10	13-09-2017	Analysis with grid control but no overlap,	"		
19	3/10	14-09-2017	Analysis with grid control and with overlap less than 60 deg,			

				"		
20	4/10	15-09-2017	Analysis with grid control and with overlap less than 60 deg,	"		
21	5/10	22-09-2017	Analysis with overlap greater than 60 deg ,	"		
22	6/10	23-09-2017	Analysis with overlap greater than 60 deg ,	"	Assignment -V	
23	7/10	26-09-2017	complete characteristics of rectifier	PPT Presenta tion		
24	8/10	27-09-2017	complete characteristics of rectifier	"		
25	9/10	28-09-2017	Inversion.	Board, chalk, duster		
26	10/10	03-10-17	Revision of unit V	"		
27	1/12	04-10-17	Intro to UNIT - 6 & 7 CONTROL OF HVDC CONVERTERS AND SYSTEMS:	"		
28	2/12	07-10-17	grid control, basic means of control,	"	Assignment -VI	
29	3/12	09-10-17	power reversal,	"		
30	4/12	10-10-17	limitations of manual control,			

				"		
31	5/12	11-10-17	constant current versus constant voltage,	"		
32	6/12	12-10-17	desired feature of control,	"		
33	7/12	14-10-17	actual control characteristics,	"		
34	8/12	16-10-17	constant -minimum -ignition -angle control,	Board, Chalk		
35	9/12	17-10-17	constant -current control,	"		
36	10/12	23-10-17	constant -extinction -angle control,	"	Assignment -VII	
37	11/12	24-10-17	Stability of control.			
38	12/12	26-10-17	Revision of unit VI & VII	"		
39	1/11	27-10-17	Intro to UNIT - 8 PROTECTION:	"		
40	2/11	28-10-17	Introduction,	"		
41	3/11	30-10-17	DC reactor,	"	Assignment -VIII	
42	4/11	31-10-17	voltage oscillations and valve dampers,	"		

43	5/11	03-11-17	current oscillations and anode dampers,	"		
44	6/11	04-11-17	current oscillations and anode dampers,	"		
45	7/11	09-11-17	DC line oscillations and line dampers,	"		
46	8/11	10-11-17	DC line oscillations and line dampers,	"		
47	9/11	13-11-17	clear line faults, Reenergizing the line.	"		
48	10/11	15-11-17	Revision of unit VIII	"		
49	11/11	16-11-17	Revision	"		

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CMR INSTITUTE OF TECHNOLOGY



Session wise – Course Plan

Department of Electrical & Electronics Engineering

SEMESTER	:VII	NAME OF THE FACULTY	: Ms. Keka M
BRANCH	:EEE	DATE OF COMMENCEMENT	:16-08-17
SUBJECT	:High Voltage Engineering	DATE OF CLOSING	:25-11-17
SUBJECT CODE	: 10EE73	CLASS STRENGTH	: 66+66
NO OF HRS/WK	: 5	TOTAL HRS	: 50

	Chapter no (No of hrs planned for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments / Tests planned for the chapter	Topics covered As per plan
1	1/1	16/8/17	Introduction: Introduction to HV technology Advantages of High Voltage Transmission, Industrial applications of high voltage			
2	2/1	17/8/17	Need for generating high voltages in laboratory,			
3	3/1	18/8/17	. Electrostatic precipitation			
4	4/1	21/8/17	Electrostatic Separation			
5	5/1	22/8/17	Electrostatic printing, painting			
6	1/2 &3	23/8/17	Breakdown Phenomena: Classification of HV insulating media.			
7	2/2 &3	24/8/17	Properties of important HV insulating media under each category		Assignment 1	
8	3/2 &3	28/8/17	Properties of important HV insulating media under each category			
9	4/2 &3	30/8/17	Properties of important HV insulating media under each category			
10	5/2 &3	31/8/17	Ionization: primary and secondary ionization processes.			
11	6/2 &3	1/9/17	Criteria for gaseous insulation breakdown based on Townsend's theory.			
12	7/2 &3	4/9/17	Limitations of Townsend's theory.		Assignment 2A	
13	8/2 &3	5/9/17	Streamer's theory breakdown			

			uniform fields.			
14	9/2 &3	7/9/17	Corona discharges, Breakdown in electronegative gases			
15	10/2 &3	8/9/17	Paschen's law and its significance.			
16	11/2 &3	1/9/17	Time lags of break down.			
17	12/2 &3	9/9/17	Suspended particle theory , Electro convection breakdown			
18	1/4	11/9/17	High Voltage Tests on Electrical Apparatus : Definitions of terminologies		Assignment 2B	
19	2/4	12/9/17	tests on isolators, circuit breakers			
20	3/4	14/9/17	tests on isolators, circuit breakers,			
21	4/4	15/9/17	Cables ,insulators and transformers			
22	1/8	22/9/17	GENERATION OF HV AC AND DC VOLTAGE: HV AC-HV transformer		Assignment 3	
23	2/8	23/9/17	Need for cascade transformers units connected in cascade.			
24	3/8	25/9/17	Series resonant circuit principle of operation and advantages. Tesla coil			
25	4/8	27/9/17	HV DC- voltage doubler circuit			
26	5/8	28/9/17	cock croft- Walton type high voltage DC set			
27	7/8	3/10/17	Calculation of high voltage regulation			
28	8/8	4/10/17	Optimum number of stages for minimum voltage drop.			
29	1/6	6/10/17	Generation of Impulse Voltage and Current: Introduction		Assignment 4	

30	2/6	9/10/17	Introduction to standard lightning and switching impulse voltages.			
31	3/6	10/10/17	Analysis of single stage impulse generator-expression for Output impulse voltage			
32	4/6	11/10/17	Multistage impulse generator working of Marx impulse.			
33	5/6	12/10/17	Rating of impulse generator. Components of multistage impulse generator. Triggering of impulse generator by three electrode gap arrangement.			
34	7/6	13/10/17	Trigatron gap and oscillograph time sweep circuits. Generation of switching impulse voltage. Generation of high impulse current.			
35	1/10	16/10/17	6) Measurement of High Voltages: Electrostatic voltmeter-principle and limitation		Assignment 5	
36	2/10	17/10/17	Chubb and Fortescue method for HV AC measurement.			
37	3/10	23/10/17	Generating voltmeter-Principle, construction			
38	4/10	24/10/17	Series resistance micro ammeter for HV DC measurements			
39	5/10	25/10/17	Standard sphere gap measurements of HV AC, HV DC, and impulse voltages;			
40	6/10	27/10/17	Factors affecting the measurements.			
41	7/10	28/10/17	Potential dividers-resistance dividers capacitance dividers mixed RC potential dividers.			
42	8/10	30/10/17	Measurement of high impulse currents			
43	9/10	31/10/17	Rogowski coil and Magnetic Links.			

44	1/6	2/11/17	Non-destructive Insulation Testing Techniques : Dielectric loss and loss angle measurements using Schering Bridge		Assignment 6	
45	2/6	4/11/17	Transformer ratio Arms Bridge Need for discharge detection and PD measurements aspects.			
46	3/6	9/11/17	Factor affecting the discharge detection. Factor affecting the discharge detection.			
47	4/6	10/11/17	Discharge detection methods- straight and balanced methods.		Assignment 7	
48	5/6	13/11/17	Discharge detection methods- straight and balanced methods.			
49		14/11/17	QP Revision			
50		16/11/17	QP Revision			

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Session wise – Course Plan

Department of Electrical and Electronics Engineering

SEMESTER :VII
NAME OF THE FACULTY : M.CHITHRA
BRANCH : EEE
DATE OF COMMENCEMENT : 16 -8-2017
SUBJECT : INDUSTRIAL DRIVES & APPLICATION
DATE OF CLOSING : 25-11-2017
SUBJECT CODE : 10EE74
CLASS STRENGTH : 65(A)/63(B)
NO OF HRS/WK : 5
TOTAL HRS : 52

Session No	Chapter no (No of hrs planned for the chapter)	Date	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1	1/1	16/8/17	UNIT I – AN INTRODUCTION TO ELECTRICAL DRIVES & ITS DYNAMICS	Board, chalk,		

			Electrical drives. Advantages of electrical drives.	duster		
2	2/1	17/8/17	Parts of electrical drives,	„		
3	3/1	18/8/17	Choice of electrical drives,	„		
4	4/1	19/8/17	Status of dc and ac drives,	„		
5	5/1	22/8/17	Dynamics of electrical drives, Fundamental torque equation,	„		
6	6/1	23/8/17	Speed torque conventions and multi-quadrant operation.	„		
7	7/1	24/8/17	Equivalent values of drive parameters,	„	Assignme nt- I	
8	8/1	28/8/17	Components of low torques, nature and classification of load torques,	Board, chalk, duster		
9	9/1	29/8/17	Calculation of time and energy loss in transient operations,	„		
10	10/1	31/8/17	Steady state stability,	„		
11	11/1	1/9/17	Load equalization. Problems	„	Assignme nt - II	
12	1 / 2	4/9/17	UNIT II –SELECTION OF MOTOR RATING Thermal model of motor for heating and cooling,	„		
13	2/2	5/9/17	Classes of motor duty,	„		
14	3/2	6/9/17	Determination of motor rating. (Continuous duty, fluctuating	„		

			and intermittent loads)			
16	4/2	8/9/17	Determination of motor rating. (Short time duty)		Assignment -III	
16	5/2	9/9/17	Determination of motor rating. (Intermittent periodic duty)			
17	6/2	11/9/17	Problem solving			
18	1/3	12/9/17	UNIT III & IV Dc motor drives starting			
19	2/3	13/9/17	Braking,	„		
20	3/3	15/9/17	Transient analysis,	„		
21	4/3	22/9/17	Single phase fully controlled rectifier control of dc separately excited motor,	„		
22	5/3	23/9/17	Single-phase half controlled rectifier control of dc separately excited motor.			
23	6/3	25/9/17	Three phase fully controlled rectifier control of dc separately excited motor,	„		
24	7/3	26/9/17	Three phase half controlled rectifier control of dc separately excited motor	„		
25	1/4	28/9/17	Problems	„	Assignment –IV	
26	2/4	3/10/17	Multi-quadrant operation of dc separately excited motor fed from fully controlled rectifier.			
27	3/4	4/10/17	Problems			
28	4/4	6/10/17	Rectifier control of dc series	„		

			motor,			
29	5/4	7/10/17	Chopper controlled dc drives,	„		
30	6/4	10/10/17	chopper control of separately excited dc motor.	„		
31	7/4	11/10/17	Problems			
32	8/4	12/10/17	Chopper control of series motor.	„		
33	1/5	13/10/17	UNIT V- INDUCTION MOTOR DRIVES Operation with unbalanced source voltage and single phasing,	Board, chalk, duster	Assignment -V	
34	2/5	14/10/17	Operation with unbalanced rotor impedances,	„		
35	3/5	17/10/17	Analysis of induction motor fed from non-sinusoidal voltage supply,	„		
36	4/5	19/10/17	starting ,Braking	„		
37	5/5	21/10/17	Transient analysis.	„		
38	1/6	23/10/17	UNIT VII STATOR VOLTAGE CONTROL Variable voltage frequency control from voltage sources,	„		
39	2/6	24/10/17	Voltage source inverter control,	„		
40	3/6	25/10/17	Closed loop control,	„		
41	4/6	26/10/17	Current source inverter control,	„		
42	5/6	28/10/17	Current regulated voltage	„	Assignment	

			source inverter control,		nt -VI	
43	7/6	30/10/17	Rotor resistance control, slip power recovery	„		
44	8/6	31/10/17	Speed control of single phase induction motors.	Board, chalk, duster		
45	1/7	2/11/17	UNIT VII SYNCHRONOUS MOTOR DRIVES Operation from fixed frequency supply,	„		
46	2/7	3/11/17	Synchronous motor variable speed drives,	„		
47	3/7	9/11/17	Synchronous motor variable speed drives (continued)	„		
48	4/7	10/11/17	Variable frequency control of multiple synchronous motors.	„	Assignment -VII	
49	5/7	13/11/17	Self-controlled synchronous motor drive employing load commutated thruster inverter.	„		
50	6/7	14/11/17	Self-controlled synchronous motor drive employing load commutated thruster inverter.	„		
51	1/8	15/11/17	UNIT VIII INDUSTRIAL DRIVES Rolling mill drives,	„	Assignment -VII	
52	1/8	16/11/17	Cement mill drives, paper mill drives	„		

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**CMR INSTITUTE
OF TECHNOLOGY**



Session wise – Course Plan

Department of Electrical & Electronics Engineering

SEMESTER: VII

NAME OF THE FACULTY: CHITRALEKHA G

BRANCH: EEE

DATE OF COMMENCEMENT: 16.08.2017

SUBJECT: PROGRAMMABLE LOGIC CONTROLLER

DATE OF CLOSING: 20.11.2017

SUBJECT CODE: 10EE752

CLASS STRENGTH: 20

NO OF HRS/WK: 5

TOTAL HOURS: 52

Session No	Chapter no (No of hrs planned for the chapter)	Date	Topics planned for the session	Teaching Aids	Assignments/Tests planned for the chapter	Topics covered as per plan
1	1/7	16/8/2017	Unit I- Introduction: Introduction to PLC, Role in Automation (SCADA), Advantages and Disadvantages.	Board & chalk		

2	2/7	17/8/2017	Hardware and Internal Architecture, Sourcing and Sinking	„		
3	3/7	19/8/2017	Characteristics of I/O devices and List of I/O devices	„		
4	4/7	21/8/2017	List of I/O devices and Examples of applications	„		
5	5/7	22/8/2017	I/O Processing and I/O units	„		
6	6/7	23/8/2017	Signal Conditioning and Remote Connections	„		
7	7/7	24/8/2017	Networks, Processing Inputs and I/O Addresses	„	Assignment - I	
8	1/8	29/8/2017	Unit II – Programming: Ladder Diagrams	„		
9	2/8	30/8/2017	Logic Functions	„		
10	3/8	31/8/2017	Latching	„		
11	4/8	1/9/2017	Multiple Outputs	„		
12	5/8	4/9/2017	Entering Programs	„		
13	6/8	6/9/2017	Functional Blocks	„		
14	7/8	7/9/2017	Programming examples	„		
15	8/8	8/9/2017	Programming examples	„	Assignment - II	
16	1 /10	9/9/2017	Unit III & IV – Programming Languages: Instruction List	„		
17	2/10	11/9/2017	Instruction List	„		
18	3/10	13/9/2017	Sequential Function Charts	„		
19	4/10	14/9/2017	Sequential Function Charts	„		
20	5/10	15/9/2017	Structured Text	„		
21	6/10	22/9/2017	Structured Text	„		

22	7/10	23/9/2017	Jump and Call Subroutines	„		
23	8/10	26/9/2017	Jump and Call Subroutines	„	Assignment – III & IV	
24	9/10	27/9/2017	Exercise programs	„		
25	10/10	28/9/2017	Exercise programs	„		
26	1/5	3/10/2017	Unit V – Internal Relays: Ladder Programs	„		
27	2/5	4/10/2017	Battery backed relays	„		
28	3/5	7/10/2017	One shot operation	„		
29	4/5	9/10/2017	Set and Reset relay	„		
30	5/5	10/10/2017	Master control relay	„	Assignment – V	
31	1/12	11/10/2017	Unit VI & VII – Timers and Counters: Types of Timers	„		
32	2/12	12/10/2017	Programming timers	„		
33	3/12	14/10/2017	ON delay timers	„		
34	4/12	16/10/2017	OFF delay timers	„		
35	5/12	17/10/2017	Pulse timers	„		
36	6/12	23/10/2017	Forms of counter	„		
37	7/12	24/10/2017	Programming	„		
38	8/12	26/10/2017	Up and Down Counters	„		
39	9/12	27/10/2017	Timers with counters	„		
40	10/12	28/10/2017	Sequencer	„	Assignment –VI & VII	

41	11/12	30/10/2017	Exercise programs	„		
42	12/12	31/10/2017	Exercise programs	„		
43	1/10	3/11/2017	Unit VIII – Shift Registers and Data Handling: Shift Registers	„		
44	2/10	4/11/2017	Ladder Programs	„		
45	3/10	9/11/2017	Registers and Bits	„		
46	4/10	10/11/2017	Data Handling	„		
47	5/10	13/11/2017	Arithmetic Functions	„		
48	6/10	15/11/2017	Temperature Control Applications	„		
49	7/10	16/11/2017	Bottle Packing Applications	„	Assignment -VIII	
50	8/10	17/11/2017	Exercise Programs	„		
51	9/10	18/11/2017	Exercise Programs	„		
52	10/10	20/11/2017	Exercise Programs	„		

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Session wise – Course Plan

Department of Electrical And Electronics Engg

SEMESTER : VII
NAME OF THE FACULTY : Ms. Sharen Ranjit
BRANCH : EEE
DATE OF COMMENCEMENT : 16.08.2017
SUBJECT : POWER SYSTEM PLANNING
DATE OF CLOSING : 25.11.2017
SUBJECT CODE : 10EE761
CLASS STRENGTH : 98
NO OF HRS/WK : 5
TOTAL HOURS : 62

Session No.	Chapter no. (No of hrs planned for the chapter)	Date	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered as per plan
1	1/8	17/8/2017	Introduction of power planning: National and regional planning	board	Pre-requisites	
2	2/8	18-08-2017	National and regional	"		

			planning			
3	3/8	19-08-2017	Structure of power system	"		
4	4/8	21-08-2017	Planning tools	"	Assignment-1	
5	5/8	22-08-2017	Electricity regulation	"		
6	6/8	24-08-2017	Load forecasting	"		
7	7/8	28-08-2017	Forecasting techniques	"		
8	8/8	29-08-2017	Modeling	"		
9	1/13		Unit 2 & 3 Generation planning :	"		
		30-08-2017	Integrated power generation			
10	2/13	31-08-2017	Integrated power generation	"		
11	3/13	04-09-2017	Co-generation / captive power	"		
12	4/13	05-09-2017	Power pooling and power trading	"		
13	5/13	06-09-2017	Transmission & distribution planning	"		
14	6/13	07-09-2017	Transmission & distribution planning	"		
15	7/13	08-09-2017	Power system economics	"		
16	8/13	11-09-2017	Power sector finance	"		
17	9/13	12-09-2017	Financial planning	"		
18	10/13	13-09-2017	Financial planning	"		
19	11/13	14-09-2017	Private participation	"		
20	12/13	15-09-2017	Rural electrification investment,	"	Assignment-2	
21	13/13	23-09-2017	concept of rational tariffs	"		

22	1/8	25-09-2017	Computer aided planning : Wheeling	"		
23	2/8	26-09-2017	Environmental effects	"		
24	3/8	27-09-2017	Green house effect	"		
25	4/8	28-09-2017	technological impacts	"		
26	5/8	04-10-17	Insulation co-ordination	"		
27	6/8	06-10-17	Insulation co-ordination	"	Assignment-3	
28	7/8	07-10-17	Reactive compensation	"		
29	8/8	09-10-17	Reactive compensation	"		
30	1/13	10-10-17	Unit 5 &6 Power supply reliability : Introduction	"		
31	2/13	12-10-17	Reliability planning	"		
32	3/13	13-10-17	Reliability planning	"		
33	4/13	14-10-17	System operation planning	"		
34	5/13	16-10-17	Load management	"		
35	6/13	17-10-17	Load management	"		
36	7/13	24-10-17	load prediction	"		
37	8/13	25-10-17	Reactive power balance	"		
38	9/13	26-10-17	Reactive power balance	"		
39	10/13	27-10-17	Online power flow studies	"		
40	11/13	28-10-17	Test estimation	"	Assignment-4	
41	12/13	31-10-17	computerized management	"		
42	13/13	02-11-17	Power system simulator	"		
43	1/7	03-11-17	Optimal power system expansion planning	"		

44	2/7	04-11-17	Optimal power system expansion planning	„	Assignment-5	
45	3/7	09-11-17	Formulation of least cost optimization problem incorporating the capital	„		
46	4/7	13-11-17	Formulation of least cost optimization problem incorporating the capital	„		
47	5/7	14-11-17	Operating and maintenance cost of candidate plants of different types	„		
48	6/7	15-11-17	Optimization techniques for solution by programming	„		
49	7/7	16-11-17	Revision	„		

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Session wise – Course Plan

Department of Electrical & Electronics Engineering

SEMESTER : VII NAME OF THE FACULTY : Ms. SARANYA.S
BRANCH : EEE DATE OF COMMENCEMENT : 16-08-17
SUBJECT : Testing & Commissioning DATE OF CLOSING : 25 -11-17
SUBJECT CODE: 10EE756 CLASS STRENGTH : 35
NO OF HRS/WK: 5 TOTAL HOURS : 50

Session No	Chapter no./No.of hours planned	Date	Topics planned for the session	Teaching Aids	Assignments / Tests planned for the chapter	Topics Covered as per plan
1	1/15	16-08-2017	Introduction(UNIT 1&2)	Board, chalk,		

				duster		
2	2/15	17-08-2017	Specification : Power and distribution transformers as per BIS standards	“		
3	3/15	19-08-2017	Installation: Location, site, selection, foundation details Foundation details	“		
4	4/15	21-08-2017	code of practice for terminal plates polarity & phase sequence	“		
5	5/15	22-08-2017	Transformer oil	PPT Presenta tion		
6	6/15	23-08-2017	Dying of winding and general inspection	“		
7	7/15	24-08-2017	Commissioning tests Testing of transformers, polarity tests, volt ratio test, , earth resistance, oil strength	Board, chalk, duster		
8	8/15	29-08-2017	earth resistance, oil strength Bucholz & other relays	PPT Presenta tion		
9	9/15	30-08-2017	Bucholz & other relays tap changing gear, fans & pumps insulation test, impulse test	PPT Presenta tion	Assignment - I	
10	10/15	31-08-	insulation test, impulse test			

		2017	polarizing index	Board, chalk, duster		
11	11/15	01-09-2017	Polarizing index load & temperature rise test. load & temperature rise test	"		
12	12/15	04-09-2017	Specific Tests :Determination of performance curves, like efficiency	"		
13	13/15	06-09-2017	Determination of performance curves like regulation	"		
14	14/15	07-09-2017	Determination of mechanical stress under normal conditions	"		
15	15/15	08-09-2017	Determination of mechanical stress under abnormal conditions	"	Assignment -II	
16	1/10	09-09-2017	Synchronous machinesUNIT 3 & 4) Specification & physical details	"		
17	2/10	11-09-2017	Installation :foundation details, alignments, excitation systems	"		
18	3/10	13-09-2017	cooling and control gear , drying out.	"		
19	4/10	14-09-2017	Commissioning Tests: Insulation, Resistance measurement of armature & field windings	"		
20	5/10	15-09-2017	Waveform & telephone interference tests line charging	PPT Presenta		

			capacitance.	tion		
21	6/10	22-09-2017	Performance tests :slip test, maximum lagging current	"		
22	7/10	23-09-2017	maximum reluctance power tests, sudden short circuit tests	Board, chalk, duster		
23	8/10	26-09-2017	transient & sub transient parameters, measurements of sequence impedances, capacitive reactance	"		
24	9/10	27-09-2017	Separation of losses Temperature rise test, and retardation tests.	"		
25	10/10	28-09-2017	Gap length, magnetic eccentricity	"	Assignment -III	
26	10/10	03-10-2017	Balancing vibrations, bearing performance	"		
27	1/16	04-10-2017	Induction motors:UNIT (5,6,7) specifications for different types of motors, Duty, I.P. protection	"		
28	2/16	07-10-2017	Installation: Location of the motors (including the foundation details)	"		
29	3/16	09-10-2017	control apparatus	"		
30	4/16	10-10-2017	shaft & alignment for various coupling,	"	Assignment -IV	

31	5/16	11-10-2017	fitting of pulleys & coupling, drying of windings	Board, Chalk		
32	6/16	12-10-2017	Commissioning Test Mechanical tests for alignment	"		
33	7/16	14-10-2017	air gap symmetry, tests for bearings	"		
34	8/16	16-10-2017	tests for bearings, Vibration and balancing	"		
35	9/16	17-10-2017	Electrical Tests Insulation test, earth resistance	"		
36	10/16	23-10-2017	high voltage test, starting up failure to speed up to take the load	"		
37	11/16	24-10-2017	type of test, routine test	"		
38	12/16	26-10-2017	factory test and site test	"		
39	13/16	27-10-2017	Tests : Performance and temperature rise tests	"		
40	14/16	28-10-2017	Stray load losses	"		
41	15/16	30-10-2017	Shaft alignment	"	Assignment -V	
42	16/16	03-11-2017	Re-rating and special duty capability	"		

			Basic problems			
43	1/8	04-11-2017	SWITCH GEAR & PROTECTIVE DEVICES: Standards and types	“		
44	2/8	09-11-2017	Specification	“		
45	3/8	10-11-2017	Foundation	“		
46	4/8	13-11-2017	installation Commissioning tests	“		
47	5/8	14-11-2017	Commissioning tests	“	Assignment –VI	
48	6/8	15-11-2017	maintenance schedule	“		
49	7/8	16-11-2017	Type test	“		
50	8/8	16-11-2017	Routine tests	“		

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