#132, AECS Layout, IT Park Road, Kundalahalli, Bangalore – 560 037
T: +9180 28524466 / 77

CMR INSTITUTE OF TECHNOLOGY

SESSION WISE – COURSE PLAN

DEPARTMENT OF ELECTRICAL & ELECTRONIC ENGINEERING

SEMESTER	:	IV B	**NAME OF THE FACULTY**	:	KAMAL KUMAR.M
BRANCH	:	EEE	**DATE OF COMMENCEMNET**	:	18TH JAN 2016
SUBJECT	:	ENNG. MATHS-4	**DATE OF CLOSING**	:	21ST MAY 2016
SUBJECT CODE	:	10MAT41	**CLASS STRENGTH**	:	61
NO OF HRS/WK	:	6	**TOTAL HRS**	:	75

Session No.	Chapter No. (No of hours planed for the chapter)	Date	Topics planned for the Session	Teaching Aids	Assignments (IA) /Tests planned for the chapter	Topics covered As per plan
1	**1/1**	18/01/16	**Unit I:** Numerical Solution of ordinary differential equations of first order	Board, chalk, duster	Assign ment- I	
2	**2/1**	19/01/16	Numerical methods for initial value problems	,,		
3	**3/1**	21/01/16	Picard's method	,,		
4	**4/1**	21/01/16	Taylor's series method	,,		
5	**5/1**	22/01/16	Modified Euler's method	,,		
6	**6/1**	23/01/16	Runge-Kutta method of fourth order	,,		
7	**7/1**	25/01/16	Predictor and corrector methods Milne's Method	,,		
8	**8/1**	27/01/16	Predictor and corrector methods Adams-Bashforth)	Board, chalk, duster		
9	**9/1**	29/01/16	Numerical Solution of ordinary differential equations of first order	,,		
10	**10/1**	29/01/16	Numerical methods for initial value problems	,,		
11	**1/2**	30/01/16	**Unit II:** Numerical solution of simultaneous first order ODEs	,,	Assign ment - II	
12	**2/2**	01/02/16	Picard's Method	,,		
13	**3/2**	2/02/16	Picard's Method	,,		

14	**4/2**	3/02/16	Problems on Picard's Method and Runge-Kutta method of fourth order	,,		
15	**5/2**	5/02/16	Runge-Kutta method of fourth order			
16	**6/2**	5/02/16	Numerical solution of second order ODES - Picard's Method			
17	**7/2**	8/02/16	Problems on Picards method			
18	**8/2**	9/02/16	Numerical solution of second order ODES Runge-Kutta method	,,		
19	**9/2**	10/02/16	Problems on Runge-Kutta method. concept on Milne's method	,,		
20	**10/2**	11/02/16	Tutorial class	,,		
21	**1/3**	13/02/16	**Unit III:** Introduction to Probability, Definitions	,,	Assign ment – III	
22	**2/3**	13/02/16	Probability theorems, addition theorem of probability	,,		
23	**3/3**	15/02/16	problems			
24	**4/3**	16/02/16	Probability associated with set theory	Board, chalk, duster		
25	**5/3**	17/02/16	Random experiments, Sample Space and events	,,		
26	**6/3**	18/02/16	Axioms of probability	,,		
27	**7/3**	23/02/16	Conditional Probability, problems	,,		
28	**8/3**	23/02/16	Multiplication Law, problems	,,		
29	**9/3**	24/02/16	Baye's Theorem-proof	,,		
30	**10/3**	25/02/16	Problems on Baye's Theorem	,,		
31	**1/4**	26/02/16	**Unit IV:** Random Variables(Discrete random and continuous variables)	,,	Assign mnt – IV	
32	**2/4**	29/02/16	Bernoulli's theorem,-Binomial Distribution(Mean and Standard deviation of the Binomial Distribution)	,,		
33	**3/4**	2/03/16	Problems on Binomial Distribution	Board, chalk, duster		
34	**4/4**	2/03/16	Problems on Binomial Distribution	,,		
35	**5/4**	3/03/16	Poisson distribution(Mean and Standard deviation of the Poisson Distribution)	,,		

36	**6/4**	4/03/16	Continuous Probability distributions	,,		
37	**7/4**	5/03/16	Exponential distribution(Mean and Standard deviation of the Exponential Distribution and problems)	,,		
38	**8/4**	8/03/16	Normal distribution and Standard Normal distribution	,,		
39	**9/4**	10/03/16	Problems on Normal distribution and Standard Normal distribution	,,		
40	**10/4**	10/03/16	Problems on Normal distribution and Standard Normal distribution	,,		
41	**1/5**	11/03/16	**Unit V:** Function of a complex variable, limit, continuity, differentiability	,,	Assign ment - V	
42	**2/5**	17/03/16	Cauchy-Riemann equations in Cartesian and Polar form	,,		
43	**3/5**	18/03/16	Harmonic function, orthogonal property	,,		
44	**4/5**	19/03/16	Finding the derivative of an analytic function Milne-Thompson method	,,		
45	**5/5**	22/03/16	Problems	,,		
46	**6/5**	22/03/16	Finding the conjugate harmonic function and the analytic function	,,		
47	**7/5**	23/03/16	Properties of analytic functions	,,		
48	**8/5**	24/03/16	Harmonic Property	,,		
49	**9/5**	28/03/16	Orthogonal Property	Board, chalk, duster		
50	**10/5**	29/03/16	Application to flow problems	,,		
51	**1/6**	31/03/16	**Unit VI:** Conformal transformation	,,	Assign ment - VI	
52	**2/6**	31/03/16	Bilinear transformation	,,		
53	**3/6**	1/4/16	Discussion of $w = z^2$	,,		
54	4/6	2/4/16	Discussion of $w = e^z$	,,		
55	**5/6**	4/4/16	Problems	,,		
56	**6/6**	5/4/16	Discussion of $w = z+a^2/z$	,,		
57	**7/6**	7/4/16	Complex line integral	,,		
58	**8/6**	7/4/16	Cauchy's theorem and integral formula	,,		

59	**1/7**	11/4/16	**Unit VII:** Solution of Laplace Equation in cylindrical system leading to Bessel differential equation	,,	Assign ment - VII	
60	**2/7**	12/4/16	Solution of Laplace Equation in Spherical system leading to Bessel differential equation	,,		
62	**3/7**	13/4/16	Properties on Bessel functions, Legendre's equation	,,		
63	**4/7**	15/4/16	Bessel's function and properties	,,		
64	**5/7**	18/4/16	Orthogonal Property of Bessel's function	,,		
65	**6/7**	18/4/16 20/4/16	Series Solution of Legendre's Differential equation	,,		
66	**7/7**	21/4/16	Rodrigue's formula-Derivation and problems	,,		
67	**1/8**	22/4/16	**Unit VIII:** Sampling distribution	,,	Assign ment - VIII	
68	**2/8**	23/4/16	Testing Hypothesis	,,		
69	**3/8**	29/4/16	Standard error	,,		
70	**4/8**	29/4/16	Test for hypothesis for means	,,		
71	**5/8**	30/4/16	Limits for means	,,		
72	**6/8**	2/05/16	Student's *t* distribution	,,		
73	**7/8**	3/05/16	Test of Significance of Difference between sample means	,,		
74	**8/8**	4/05/16	Chi square distribution	,,		
75	**9/8**	5/05/16- 11/05/16	Sampling distribution	,,		

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CMR INSTITUTE OF TECHNOLOGY

Session wise – Course Plan

Department of Electrical and Electronics

SEMESTER :IV
BRANCH : TCE
SUBJECT : MC
SUBJECT CODE: 10ES42
NO OF HRS/WK: 5

NAME OF THE FACULTY : Mrs.Sujatha
DATE OF COMMENCEMENT : 18.01.2016
DATE OF CLOSING : 20.5.2016
CLASS STRENGTH : 110
TOTAL HRS : 60

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	18.01.16	Introduction	Board, chalk, duster	Assignment- 0	
2	2/1	19.01.16	About computer	,,		
3	3/1	21.01.16	Types of Memory	,,		
4	4/1	23.01.16	Microprocessor and Micro- controller system.	,,		
5	5/1	23.01.16	Differences of Microprocessors & Micro controller, Von Neumann & Harvard Architecture, RISC and CISC architecture	,,		
6	6/1	25.01.16	Features of 8051& family	,,		
7	7/1	28.01.16	Block diagram of 8051	,,	Assignment- I	
8	8/1	29.01.16	CPU of 8051 in detail	Board, chalk, duster		
9	9/1	01.02.16	Internal RAM structure of 8051	,,		
10	10/1	01.02.16	Programming Model of 8051	,,		
11	11/1	02.02.16	Memory Organization	,,		
12	12/1	04.02.16	Memory Interfacing	,,		
13	1/2	05.02.16	Instruction syntax, Data types	,,	Assignme	

					nt -II	
14	2/2	09.02.16	Addressing Modes in detail, types, disadvantages of each type	,,		
15	3/2	09.02.16				
16	4/2	10.02.16	Subroutine and stack of 8051			
17	5/2	12.02.16	Instruction set in detail with example			
18	6/2	13.02.16		,,		
19	7/2	16.02.16		,,		
20	8/2	16.02.16	Simple 8051 program	,,		
21	9/2	17.02.16		,,		
22	10/2	22.02.16		,,		
23	1/3	23.02.16	Assembler Directives. Machine cycle, instruction cycle.		Assignme nt –III	
24	2/3	25.02.16	Time delay calculation for given instruction	Board, chalk, duster		
25	3/3	25.02.16	Execution time calculation of program	,,		
26	4/3	26.02.16	Time delay calculation	,,		
27	5/3	01.03.16		,,		
28	1/4	02.03.16	Port operation. Simple port programs	,,	Assignmn t –IV	
29	2/4	04.03.16	Simple port programs	,,		
30	3/4	04.03.16	Interfacing of DAC and program for waveform generation	,,		
31	4/4	05.03.16		,,		
32	5/4	09.03.16	ADC interfacing and program	,,		
33	6/4	10.03.16	Serial ADC interfacing	Board, chalk, duster		
34	7/4	17.03.16	8051 interfacing of stepper motor & programming	,,		
35	8/4	17.03.16	8051 interfacing to DC Motor and programming	,,		
36	9/4	18.03.16	8051 interfacing to LCD	,,		

37	10/4	21.03.16	8051 interfacing to keyboard	,,		
38	11/4	24.03.16		,,		
39	1/5	24.03.16	Basics of interrupts, 8051 interrupt structure of 8051	,,	Assignment -V	
40	2/5	28.03.16	Interrupt Priority register, Interrupt Enable register.	,,		
41	3/5	30.03.16	8051 timer and counter: TMOD register, TCON register	,,		
42	4/5	31.03.16	Timer programming to generate delay	,,		
43	5/5	02.04.16		,,		
44	6/5	02.04.16	8051 programming using interrupt	,,		
45	7/5	04.04.16		,,		
46	1/6	06.04.16	Basic data communication in various modes. SCON register.	,,	Assignment -VI	
47	2/6	07.04.16	Setting of baud rate. Serial communication programming assembly and C programming	,,		
48	3/6	12.04.16		,,		
49	4/6	12.04.16		Board, chalk, duster		
50	5/6	13.04.16	8255 block diagram	,,		
51	6/6	16.04.16	Interfacing of 8255 with 8051	,,		
52	7/6	18.04.16		,,		
53	1/7	21.04.16	MSP 430 RISC CPU Architecture, families and features	,,	Assignment -VII	
54	2/7	21.04.16	Registers of MSP 430	,,		
55	3/7	22.04.16	Instruction set and programming	,,		
56	4/7	28.04.16	Clock system, memory sub system.	,,		
57	5/7	29.04.16	Interrupt Programming, Digital I/O ports	,,		
58	6/7	02.05.16	Mixing scheme of MSP 430 pins	,,		
59	7/7	02.05.16	Low power modes of MSP 430	,,		
60	1/8	03.05.16	Watch-dog timer, basic timer and programming	,,	Assignment -VIII	
61	2/8	05.05.16	comparator, op-amps, real-time clock(RTC)			

62	3/8	06.05.16	ADC, DAC			
63	4/8	10.05.16	Interfacing of LCD, LED and external memory.			
64	5/8	10.05.16	Case Studies of application of MSP 430: data acquisition system, wired sensor network, wireless sensor network with chip on RF interfaces.			
65	6/8	11.05.16	DMA			

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CMR INSTITUTE OF TECHNOLOGY

SESSION WISE – COURSE PLAN

DEPARTMENT OF ELECTRICAL & ELECTRONIC ENGINEERING

SEMESTER	:	IV B	**NAME OF THE FACULTY**	:	RICHA TENGSHE
BRANCH	:	EEE	**DATE OF COMMENCEMNET**	:	18TH JAN 2016
SUBJECT	:	CONTROL SYSTEMS	**DATE OF CLOSING**	:	21ST MAY 2016
SUBJECT CODE	:	10ES43	**CLASS STRENGTH**	:	61
NO OF HRS/WK	:	6	**TOTAL HRS**	:	75

Session No.	Chapter No. (No of hours planed for the chapter)	Date	Topics planned for the Session	Teaching Aids	Assignments (IA) /Tests planned for the chanter	Topics covered As per plan
1.	**1/0**	18/01/16	Pre-requisites complex numbers	Board,chalk, duster	I	
2.	**2/0**	19/01/16	Laplace Transforms	,,		
3.	**3/0**	19/01/16	Inverse Laplace Transforms	,,		
4.	**4/0**	20/01/16	Differential equations	,,		
5.	**5/0**	21/01/16	Solving Differential equations using Laplace Transforms	,,		
6.	**6/0**	21/01/16	Problems	,,		
7.	**1/1**	25/01/16	Modeling of Systems: Introduction to control system, Types of control system Effect of feedback systems	,,		
8.	**2/1**	27/01/16	Differential equation of physical system – Mechanical system	,,		

9.	**3/1**	27/01/16	Analogous systems (force voltage analogy)	,,		
10.	**4/1**	28/01/16	Analogous systems (force current analogy)	,,		
11.	**5/1**	29/01/16	Differential equation of physical system – Rotational System	,,		
12.	**6/1**	29/01/16	Analogous systems (Torque voltage analogy)	,,	II	
13.	**7/1**	2/02/16	Analogous systems (Torque current analogy)	,,		
14.	**8/1**	3/02/16	Gear train, Modeling of electromechanical system(DC motor)	,,		
15.	1/2	3/02/16	Unit 2 Block diagrams and signal flow graphs:Definition of transfer function and block diagram, Effect of feedback	,,		
16.	**2/2**	4/02/16	Block diagram representation and reduction	,,		
17.	**3/2**	5/02/16	Problems on block diagram reduction	,,	III	
18.	**4/2**	5/02/16	Problems on block diagram reduction	,,		
19.	**5/2**	10/02/16	Signal flow graph	,,		
20.	**6/2**	11/02/16	Problems on signal flow graph	,,		
21.	**7/2**	11/02/16	Problems on signal flow graph	,,		
22.	**1/3**	12/02/16	Unit 3 Time Response of feedback control systems: Time response of feedback system for standard test signals	,,		
23.	**2/3**	13/02/16	Unit step response of second order system	,,		
24.	**3/3**	13/02/16	Unit step response of second order system	,,		
25.	**4/3**	17/02/16	Time response, specifications of second order system	,,	IV	
26.	**5/3**	18/02/16	Time response, specifications of second order system	,,		
27.	**6/3**	18/02/16	Illustrative examples,	,,		
28.	**7/3**	22/02/16	Illustrative examples,	,,		
29.	**8/3**	23/02/16	Steady state errors and error constant,	,,		
30.	**9/3**	23/02/16	Illustrative examples,	,,		
31.	**10/3**	26/02/16	PID controllers introduction	,,		
32.	**1/4**	29/02/16	Unit 4 Stability analysis: Concepts of	,,		

			stability			
33.	**2/4**	29/02/16	Necessary conditions for stability			
34.	**3/4**	1/03/16	Routh Hurwitz criterion for stability analysis	Board, chalk, duster	V	
35.	**4/4**	2/03/16	Illustrative examples	,,		
36.	**5/4**	2/03/16	Illustrative examples	,,		
37.	**6/4**	5/03/16	Illustrative examples	,,		
38.	**7/4**	8/03/16	Relative stability analysis	,,		
39.	**8/4**	8/03/16	Illustrative examples	,,		
40.	**9/4**	9/03/16	Illustrative examples	,,		
41.	**1/5**	10/03/16	Unit 5 Root–Locus Techniques: Introduction of root locus	,,		
42.	**2/5**	10/03/16	Root locus technique and properties, Construction of root locus, Illustrative examples	,,	VI	
43.	**3/5**	18/03/16	Root locus technique and properties, Construction of root locus, Illustrative examples	,,		
44.	**4/5**	19/03/16	Root locus technique and properties, Construction of root locus, Illustrative examples	,,		
45.	**5/5**	19/03/16	Root locus technique and properties, Construction of root locus, Illustrative examples	,,		
46.	**6/5**	21/03/16	Root locus technique and properties, Construction of root locus, Illustrative examples	,,		
47.	**7/5**	22/03/16	Problems	,,		
48.	**8/5**	22/03/16	Problems	,,		
49.	**9/5**	28/03/16	Problems	,,		
50.	**10/5**	29/03/16	Problems	,,		

51.	**1/6**	29/03/16	Unit 6 Frequency domain analysis: Frequency domain analysis and introduction	Board,chalk, duster		
52.	**2/6**	30/03/16	Correlation b/w time and frequency domain	,,		
53.	**3/6**	31/03/16	Bode plot explanation and Illustrative examples	,,		
54.	**4/6**	31/03/16	Problems		VII	
55.	**5/6**	4/4/16	Problems	,,		
56.	6/6	5/4/16	Problems	,,		
57.	**7/6**	5/4/16	Problems	,,		
58.	**8/6**	6/4/16	Experimental determination of transfer function with Illustrative examples	,,		
59.	**9/6**	7/4/16	Relative stability using bode plot and Illustrative examples	,,		
60.	**10/6**	7/4/16	Introduction to lead, lag and lead-lag compensating networks	,,		
61.	**1/7**	13/4/16	Unit 7 Stability in the frequency domain: Introduction to Polar Plots, Mathematical preliminaries	,,		
62.	**2/7**	15/4/16	Nyquist stability criterion Illustrative examples,	,,		
63.	**3/7**	15/4/16	Illustrative examples	,,	VIII	
64.	**4/7**	16/4/16	Illustrative examples	,,		
65.	**1/7**	18/4/16	Illustrative examples	,,		
66.	**2/7**	18/4/16	Illustrative examples	,,		
67.	**3/7**	22/4/16	Illustrative examples	,,		
68.	**4/7**	23/4/16	Illustrative examples	,,		
69.	**5/7**	23/4/16	Assessment of relative stability using Nyquist criterion, Illustrative examples	,,		
70.	**6/7**	28/4/16	Illustrative examples	,,		
71.	**7/7**	29/4/16	Illustrative examples	,,		
72.	**1/8**	29/4/16	Unit 8 Introduction to State variable analysis:Concept of state and related definitions, State variable and state models for electricalsystems	,,		
73.	**2/8**	3/4/16	Illustrative examples,	Board,chalk, duster		

74.	**3/8**	4/05/16	Solution of state equations, Illustrative examples	,,	IX	
75.	**4/8**	4/05/16	Illustrative examples	,,		
76.	**5/8**	5/05/16	Illustrative examples	,,		
77.	**6/8**	6/05/16-	Illustrative examples	,,		
78.		6/05/16	Revision	,,		
79.		11/05/16	Revision	,,		

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CMR INSTITUTE OF TECHNOLOGY

Session wise – Course Plan

Department of Electrical and Electronics

SEMESTER	: IV	NAME OF THE FACULTY	: SUGANYA JEYAPRAKASH
BRANCH	: EEE	DATE OF COMMENCEMENT	: 18.01.2016
SUBJECT	: Field Theory	DATE OF CLOSING	: 11.05.2016
SUBJECT CODE	: 10EE44	CLASS STRENGTH	: 62
NO OF LECTURES/WK	: 6	TOTAL HRS	: 60

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/Prerequisites**	18.01.2016	Prerequisites: Introduction to Vector Calculus	Board, chalk, duster		
2	**2/ Prerequisites**	19.01.2016	3D co-ordinate system(Cartesian)	,,		
3	**3/ Prerequisites**	20.01.2016	3D co-ordinate system(Cylindrical)	,,	Assignment on Prerequisites	
4	**4/ Prerequisites**	21.01.2016	3D co-ordinate system(Cylindrical)	,,		
5	**5/ Prerequisites**	22.01.2016	3D co-ordinate system(spherical)	Board, chalk, duster		

6	**6/ Prerequisites**	23.01.2016	3D co-ordinate system(spherical)	,,		
7	**1/1**	27.01.2016	Coulomb's Law and electric field intensity	,,		
8	**2/1**	28.01.2016	Problems on Electric field intensity and Coulomb's law.	,,		
9	**3/1**	29.01.2016	Field due to continuous volume charge distribution, Field of a line charge(finite and infinite)	,,		
10	**4/1**	30.01.2016	Field due to ring of charge and problems	,,	Assignment- I	
11	**5/1**	01.02.2016	Surface charge.	,,		
12	**6/1**	02.02.2016	Electric flux density, Gauss' law	,,		
13	**7/1**	03.02.2016	Gauss's divergence theorem.	,,		
14	**8/1**	04.02.2016	Maxwell's First equation of electrostatics, Verification of Gauss's divergence theorem in Cartesian co-ordinates	,,		
15	**9/1**	05.02.2016	Verification of Gauss's divergence theorem in Cylindrical and spherical co-ordinates			
16	**10/1**	08.02.2016	Problem			
17	**1/2**	09.02.2016	Work(Energy expended in moving a point charge) and Potential, The line integral		Assignment -II	
18	**2/2**	10.02.2016	Problems on work and potential	,,		
19	**3/2**	11.02.2016	Definition of potential difference and Potential, The potential field of a point charge and system of charges,	,,		
20	**4/2**	12.02.2016	Potential gradient , and related problems	,,		
21	**5/2**	13.02.2016	Energy density in an electrostatic field	,,		
22	**6/2**	15.02.2016	Current and current density, Continuity of current,	,,		
23	**7/2**	16.02.2016	Metallic conductors, Conductor properties and boundary conditions,	,,		

24	**8/2**	17.02.2016	Problems	,,		
25	**9/2**	18.02.2016	Boundary conditions for perfect Dielectrics,	Board, chalk, duster		
26	**10/2**	22.02.2016	Relaxation time, capacitance and examples.	,,		
27	**11/2**	23.02.2016	Capacitance and examples.	,,		
28	**1/3**	24.02.2016	Derivations of Poisson's and Laplace's Equations, Uniqueness theorem,	,,	Assignment –III	
29	**2/3**	25.02.2016	Capacitance of coaxial cylinder, angular variation of cylinder using Laplace's equation.	,,		
30	**3/3**	26.02.2016	Capacitance of sphere, coaxial cylinder using Laplace's equation.	,,		
31	**4/3**	29.02.2016	Example of angular variation in spherical.	,,		
32	**5/3**	01.03.2016	Problem practice.	,,		
33	**1/4**	02.03.2016	Magnetic field intensity, Biot-Savart's law.	Board, chalk, duster	Assignment –IV	
34	**2/4**	03.03.2016	Magnetic field intensity for infinite line conductor.	,,		
35	**3/4**	04.03.2016	Magnetic field intensity for finite line conductor.	,,		
36	**4/4**	05.03.2016	Problem on Magnetic field intensity for finite conductor – ring conductor, Ampere's Circuital Law	,,		
37	**5/4**	08.03.2016	Ampere's Circuital Law for co-axial cable	,,		
38	**6/4**	09.03.2016	Infinite sheet of charge, solenoid	,,		
39	**6/4**	10.03.2016	Derivation of Curl, Point form of Ampere's Circuital Law	,,		
40	**8/4**	11.03.2016	Stoke's theorem and problems	,,		

41	**9/4**	17.03.2016	Stokes's theorem verification	,,		
42	**10/4**	18.03.2016	Stokes's theorem verification	,,		
43	**11/4**	19.03.2016	Magnetic flux and flux density, scalar and Vector magnetic potentials.	,,		
44	**1/5**	21.03.2016	Force on a moving charge and related problems	,,	Assignment -V	
45	**2/5**	22.03.2016	differential current element, Force between differential current elements, problem	,,		
46	**3/5**	23.03.2016	Force and torque on a closed circuit.	,,		
47	**4/5**	24.03.2016	Problems	,,		
48	**5/5**	28.03.2016	Magnetic materials, Magnetization and permeability	,,		
49	**6/5**	29.03.2016	Magnetic boundary conditions	Board, chalk, duster		
50	**7/5**	30.03.2016	Magnetic circuit, Potential energy and forces on magnetic materials,	,,		
51	**8/5**	31.03.2016	Inductance and Mutual Inductance.	,,	Assignment - VI	
52	**9/5**	01.04.2016	Inductance and Mutual Inductance, related problems.	,,		
53	**1/6**	02.04.2016	Faraday's law, point form of Faraday's law.	,,		
54	**2/6**	04.04.2016	Displacement current, Modified form of Ampere's law.	,,		
55	**3/6**	05.04.2016	Maxwell's equation in point and Integral form,	,,		
56	**4/6**	06.04.2016	Retarded potentials.	,,		
57	**5/6**	07.04.2016	Problem	,,		
58	**1/7**	11.04.2016	Wave propagation in free space	,,		
59	**2/7**	12.04.2016	Wave propagation in dielectrics	,,		
60	**3/7**	13.04.2016	Wave propagation in dielectrics	,,		
61	**4/7**	15.04.2016	propagation in good Conductors – (skin effect).			
62	**5/7**	16.04.2016	Poynting's theorem and wave power,			

63	**6/7**	18.04.2016	Problems			
64	**1/8**	20.04.2016	Reflection of uniform plane waves at normal incidence, reflection and transmission coefficient			
65	**2/8**	21.04.2016	SWR			
66	**3/8**	22.04.2016	Plane wave propagation in general directions.			
67	**4/8**	23.04.2016	Practice Problems			
68	**5/8**	28.04.2016	Practice Problems			
69	**6/8**	29.04.2016	Practice Problems			
70	**7/8**	30.04.2016	Practice Problems			
71	**8/8**	02.05.2016	Practice Problems			
72	**9/8**	03.05.2016	Practice Problems			
73	**10/8**	04.05.2016	Practice Problems			

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T:+9180 28524466 / 77

CMR INSTITUTE OF TECHNOLOGY

Session wise – Course Plan

Department of EEE

SEMESTER : IV
BRANCH : EEE
SUBJECT : PE
SUBJECT CODE : 10EE45
NO OF HRS/WK : 5

NAME OF THE FACULTY : Ms. Reba Kundu
DATE OF COMMENCEMENT : 18.01.2016
DATE OF CLOSING : 21.05.2016
CLASS STRENGTH : 110(A&B)
TOTAL HRS : 60

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**	18/01/2016	**Unit-1** Power Semiconductor Devices:	Board, chalk, duster		

2	**2/1**	19/01/2016	Introduction to semiconductors, Power Electronics,	,,		
3	**3/1**	20/01/2016	Power semiconductor devices, Control Characteristics..	,,		
4	**4/1**	21/01/2016	Types of power electronic converters and industrial applications-Drives, Electrolysis, Heating,	,,		
5	**5/1**	22/01/2016	Welding, Static Compensators, SMPS, HVDC power transmission, Thyristorized tap changers and Circuit breakers	,,		
6	**6/1**	23/01/2016	**Unit-3** Thyristors: Introduction characteristics-static and dynamic	,,		
7	**7/1**	25/01/2016	Two Transistor Model,	,,	Assignment- I	
8	**8/1**	27/01/2016	di/dt and dv/dt protection.	,,		
9	**9/1**	28/01/2016	Ratings of thyristors. Thyristor types.	,,		
10	**10/1**	29/01/2016	Series and parallel operation of Thyristors.	,,		
11	**11/1**	30/01/2016	Thyristor firing circuits.	,,		
12	**12/1**	01/02/2016	Design of firing circuits using UJT	,,		
13	**1/3**	02/02/2016	R, R-C circuits.	Board, chalk, duster		
14	**2/3**	03/02/2016	Analysis of firing circuits using operational amplifiers and digital IC's.	,,	Assignment - II	
15	**3/3**	04/02/2016	**Unit-2** Power Transistors: Power BJT's – switching characteristics,	,,		
16	**4/3**	08/02/2016	switching limits	,,		
17	**5/3**	09/02/2016	base drive control.	,,		
18	**6/3**	10/02/2016	Power MOSFET's and IGBT's –characteristics	,,		
19	**1/4**	11/02/2016	gate drive	Board, chalk, duster		
20	**2/4**	12/02/2016	di/dt and dv/dt limitations.	,,		
21	**3/4**	13/02/2016	Isolation of gate and base drives.	,,	Assignment – III	
22	**4/4**	15/02/2016	Simple design of gate and base drives.	,,		
23	**5/4**	16/02/2016	**Unit-4** CommutationTechniques: Introduction.,	,,		
24	**6/4**	18/02/2016	Natural Commutation.	,,		

25	**7/4**	22/02/2016	Forced commutation	,,		
26	**1/2**	23/02/2016	self-commutation	,,		
27	**2/2**	24/02/2016	impulse commutation	,,	Assignment – IV	
28	**3/2**	25/02/2016	resonant pulse commutation	,,		
29	**4/2**	26/02/2016	complementary commutation.	,,		
30	**5/2**	01/03/2016	**Unit-5** Controlled Rectifiers: Introduction.	,,		
31	**6/2**	02/03/2016	Principle of phase controlled converter operation.	,,		
32	**7/2**	03/03/2016	Single- phase semi-converters.	,,		
33	**8/2**	04/03/2016	Full converters.			
34	**1/5**	05/03/2016	Three-phase half-wave converters.	Board, chalk, duster		
35	**2/5**	08/03/2016	Three-phase full-wave converters.	,,	Assignment - V	
36	**3/5**	09/03/2016	**Unit-6** Choppers: Introduction.	,,		
37	**4/5**	10/03/2016	Principle of step down -..	,,		
38	**5/5**	11/03/2016	and step-up chopper with R-L load	,,		
39	**6/5**	12/03/2016	Performance parameters.	,,		
40	**7/5**	17/03/2016	Chopper classification	,,		
41	**8/5**	18/03/2016	Analysis of impulse commutated thyristor chopper (only qualitative analysis)	,,		
42	**1/6**	19/03/2016	**Unit-7** Inverters: Introduction.	Board, chalk, duster		
43	**2/6**	22/03/2016	Principle of operation	,,		
44	**3/6**	23/03/2016	Performance parameters.	,,	Assignment - VI	
45	**4/6**	27/03/2016	Single-phase bridge inverters.	,,		
46	**5/6**	28/03/2016	Three phase inverters.	,,		
47	**6/6**	29/03/2016	Voltage control of single-phase inverters	,,		
48	**7/6**	01/04/2016	single pulse width, multiple pulse width,	,,		
49	**8/6**	02/04/2016	sinusoidal pulse width modulation.	,,		
50	**9/6**	04/04/2016	Current source inverters.	,,		
51	**1/7**	05/04/2016	**Unit-8** AC Voltage Controllers: Introduction.	Board, chalk, duster		
52	**2/7**	06/04/2016	Principle of ON-OFF and phase control.	,,		
53	**3/7**	12/04/2016	Single-phase, bidirectional controllers with resistive and R-	,,		

			L loads.			
54	**4/7**	14/04/2016	Electromagnetic Compatibility: Introduction,	,,	Assignment - VII	
55	**5/7**	15/04/2016	effect of power electronic converters	,,		
56	**6/7**	20/04/2016	remedial measures.	,,		
57	**7/7**	22/04/2016	problems	,,		
58	**8/7**	24/04/2016	Previous years Question Discussion	,,		
59	**1/8**	26/04/2016	Previous years Question Discussion	Board, chalk, duster		
60	**2/8**	03/05/2016	Previous years Question Discussion	,,		

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CMR INSTITUTE OF TECHNOLOGY

Session wise – Course Plan

Department of Electrical And Electronics Engg

SEMESTER : IV
BRANCH : EEE
SUBJECT : TIM
SUBJECT CODE : 10EE46

NAME OF THE FACULTY : Ms. CHITHRA M
DATE OF COMMENCEMENT : 18/01/16
DATE OF CLOSING : 11/05/16
CLASS STRENGTH : 61
NO OF HRS/WK : 5
TOTAL HOURS : 60

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**	18/01/16	Basic Concepts.	Board, chalk, duster	Prerequisite Assignment	
2	**2/1**	19/01/16	Principle of operation of transformer, Concept of ideal transformers,	,,		

3	**3/1**	20/01/16	Constructional details of shell type and core type single-phase and three-phase transformers	,,		
4	**4/1**	22/01/16	EMF equation & problems based on transformation ratio	,,		
5	**5/1**	23/01/16	operation of practical power transformer under no load and on load (with phasor diagrams).	,,		
6	**6/1**	25/01/16	operation of practical power transformer under no load and on load (with phasor diagrams).continued	,,		
7	**7/1**	27/01/16	current inrush in transformers	,,	Assignment - I	
8	**1/2**	28/01/16	Single-phase Transformers equivalent circuit	Board, chalk, duster		
9	**2/2**	30/01/16	losses, efficiency, condition for maximum efficiency	,,		
10	**3/2**	1/02/16	Problems based on losses and efficiency	,,		
11	**4/2**	2/02/16	all day efficiency.	,,		
12	**5/2**	3/02/16	Open circuit and Short circuit tests,	,,		
13	**6/2**	4/02/16	calculation of parameters of equivalent circuit.	,,	Assignment -II	
14	**7/2**	8/02/16	Regulation, predetermination of efficiency and regulation.	,,		
15	**8/2**	9/02/16	Polarity test, Sumpner's test			
16	**1/3**	10/02/16	Parallel operation - need, conditions to be satisfied for parallel operation..			
17	**2/3**	11/02/16	Load sharing in case of similar and dissimilar transformers			
18	**3/3**	12/02/16	Load sharing in case of similar and dissimilar transformers continued	,,		
19	**4/3**	15/02/16	Auto-transformers, copper economy.	,,		
20	**5/3**	16/02/16	Brief discussion on constant voltage transformer, constant current transformer	,,		
21	**6/3**	17/02/16	Numerical problems	,,	Assignment –III	

22	**7/3**	18/02/16	Numerical problems	,,		
23	**1/4**	22/02/16	**Three-phase Transformers:** Introduction,. Conditions for parallel operation of three-phase transformers,			
24	**2/4**	24/02/16	choice between single unit three-phase transformer and bank of single-phase transformers	Board, chalk, duster		
25	**3/4**	25/02/16	Transformer connection for three phase operation – star/star,delta/delta,star/delta,zigzag/star and vee/vee,choice of connection.	,,		
26	**4/4**	26/02/16	Transformer connection for three phase operation – star/star,delta/delta,star/delta,zigzag/star and vee/vee,choice of connection.	,,		
27	**5/4**	29/02/16	Phase conversion – Scott connection for three-phase to two-phase conversion.	,,	Assignmnt –IV	
28	**6/4**	1/03/16	Labeling of three-phase transformer terminals, phase shift between primary and secondary and vector groups.	,,		
29	**7/4**	2/03/16	load sharing.	,,		
30	**8/4**	3/03/16	Equivalent circuit of three-phase transformer	,,		
31	**1/5**	4/03/16	**Basic Concepts of three phase Induction Machines:**	,,		
32	**2/5**	5/03/16	Concept of rotating magnetic field.	,,		
33	**3/5**	8/03/16	Principle of operation, construction,	Board, chalk, duster		
34	**4/5**	9/03/16	classification and types - single-phase, three-phase, squirrel-cage, slip-ring.	,,		
35	**6/5**	11/03/16	Slip,torque, torque-slip characteristic covering motoring, generating and braking regions of operation.	,,		
36	**7/5**	17/03/16	Maximum torque	,,		

37	**1/6**	18/03/16	**Three-phase Induction Motor:** Phasor diagram of induction motor on no-load and on load	,,		
38	**2/6**	19/03/16	equivalentcircuit Losses, efficiency	,,		
39	**3/6**	21/03/16	No-load and blocked rotor tests.	,,	Assignment -V	
40	**4/6**	23/03/16	Circle diagram and performance evaluation of the motor.	,,		
41	**5/6**	24/03/16	Circle diagram and performance evaluation of the motor.	,,		
42	**6/6**	28/03/16	Cogging and crawling	,,		
43	**7/6**	29/03/16	Numerical problems	,,		
44	**8/6**	30/03/16	Numerical problems	,,		
45	**1/7**	1/04/16	High torque rotors-double cage and deep rotor bars...	,,		
46	**2/7**	2/04/16	Equivalent circuit and performance evaluation of double cage induction motor	,,		
47	**3/7**	4/04/16	Induction generator – externally excited and self excited	,,	Assignment -VI	
48	**4/7**	5/04/16	Numerical problems	,,		
49	**5/7**	6/04/16	Numerical problems	Board, chalk, duster		
50	**6/7**	11/04/16	Importance of induction generators in windmills	,,		
51	**7/7**	12/04/16	Importance of induction generators in windmills	,,		
52	**8/7**	13/04/16	Numerical problems	,,		
53	**1/8**	15/04/16	**Starting and speed Control of Three-phase Induction Motors:**	PPT	Assignment -VII	
54	**2/8**	16/04/16	Need for starter. Direct on line(DOL),	,,		
55	**3/8**	20/04/16	Star-Delta and autotransformer starting. Rotor resistance starting. Soft(electronic) starters.	Board/Chalk		

56	**4/8**	21/04/16	Speed control - voltage, frequency, and rotor resistance.	,,		
57	**5/8**	22/04/16	**Single-phase Induction Motor:** Double revolving field theory and principle of operation.	PPT/Board/Chalk,,	Assignment -VIII	
58	**6/8**	28/04/16	Types of single-phase induction motors	,,		
59	**7/8**	30/04/16	Split-phase, capacitor start, shaded pole motors.	,,		
60	**8/8**	2/5/16	Applications	,,		
61		3/5/16	University QP revision	,,		
62		4/5/16	University QP revision	,,		
63		5/5/16	University QP revision	,,		
64		7/5/16	University QP revision	,,		
65		10/5/16	University QP revision	,,		
66		11/5/16	University QP revision	,,		