

MATHS

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

T: +9180 28524466 / 77

CMR INSTITUTE
OF TECHNOLOGY



Session wise – Course Plan

Department of Mathematics

SEMESTER : IV NAME OF THE FACULTY : Dr.K.Meenakshi
BRANCH : EEE DATE OF COMMENCEMENT : 13.02.2017
SUBJECT : ENGG MATHS IV DATE OF CLOSING : 02.06.2017
SUBJECT CODE : 15MAT41 CLASS STRENGTH : 109
NO OF HRS/WK : 6 TOTAL HOURS : 67

S. 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	3/3	13.2.17-15.2.17	Complex Variables: Review of a function of a complex variable, limits, continuity, differentiability.	Chalk, Duster		
2	2/3	16.2.17-17.2.17	Analytic functions-Cauchy-Riemann equations in Cartesian forms.	„		
3	1/3	18.2.17	Cartesian equations in polar form	„		
4	1/3	20.2.17	Properties of analytic functions.	„	Assignment- I	
5	2/3	21.2.17-22.2.17	Properties and construction of analytic functions.	„		
6	2/3	23.2.17-	Complex line integrals-Cauchy's theorem and Cauchy's integral formula	„		

		24.2.17				
7	3/3	27.2.17- 01.03.17	Residue, poles, Cauchy's Residue theorem (without proof) and problems	„		
8	4/3	02.03.17- 06.03.17	Transformations: Conformal transformations, discussion of transformations: $w = z^2$, $w = e^z$, $w = z + (1/z), (z \neq 0)$	„		
9	1/3	07.03.17	Discussion of transformations: $w = z + (1/z), (z \neq 0)$, problems	„	Assignment- II	
10	1/3	08.03.17	Bilinear transformations-problems	“	Revision Test I	
11	2/2	09.03.17- 10.03.17	Special Functions: Series solution- Frobenius method.	„		
12	3/2	11.3.17- 13.3.17	Series solution of Bessel's differential equation leading to $J_n(x)$ -Bessel's function of first kind.	„		
13	2/2	14.3.17- 15.3.17	Bessel's function of first kind-properties	„		
14	2/2	16.7.13- 17.7.13	Bessel's function -recurrence relations and orthogonality.	„		
15	3/2	18.3.17- 20.3.17	Series solution of Legendre's differential equation leading to $P_n(x)$ -	„	Assignment- III	
16	2/2	21.3.17- 22.3.17	Legendre polynomials	„		
17	½	22.3.17	Rodrigue's formula, problems	“	Revision Test II	
18	2/4	31.3.17- 1.4.17	Probability Distributions: Random variables (discrete and continuous), probability mass/density functions.	“		
19	1/4	3.4.17	Binomial distribution	“		
20	1/4	4.4.17	Poisson distribution	„		
21	1/4	5.4.17	Exponential distributions-problems	„	Assignment –IV	
22	1/4	6.4.17	Normal distribution problems	„		
23	4/5	17.4.17- 18.4.17	Sampling Theory: Sampling, Sampling distributions, standard error,			

24	1/5	19.4.17- 20.4.17	Test of hypothesis for means and proportions			
25	1/5	21.4.17- 22.4.17	Confidence limits for means	„		
26	1/5	23.4.17	Confidence limits for means-problems	„		
27	1/5	24.4.17	Student's t-distribution			
28	1/5	25.4.17	Student's t-distribution		Revision Test III	
29	1/5	26.4.17	Chi-square distribution as a test of goodness of fit.			
30	1/5	27.4.17	Chi-square distribution as a test of goodness of fit-- problems		Assignment –V	
31	1/5	28.4.17	Test of hypothesis for means and proportions			
32	1/5	30.4.17	Test of hypothesis for means and proportions	„		
33	1/5	2.5.17- 4.5.17	Stochastic process: Stochastic processes, probability vector	„		
34	1/5	5.5.17- 6.5.17	Stochastic matrices, fixed points, regular stochastic matrices,	„		
35	4/5	11.5.17	Markov chains, higher transition probability, simple problems.	„	Assignment –VI	
36	1/1	12.5.17	Numerical Methods: Numerical solution of ordinary differential equations of first order and first degree	„	Revision Test IV	
37	1/1	12.5.17	Taylor's series method	“		
38	1/1	13.5.17	Taylor's series method			
39	1/1	15.5.17	Modified Euler's method	„		
40	1/1	16.5.17	Modified Euler's method	„		
41	1/1	17.5.17	Runge - Kutta method of fourth order	„		
42	1/1	18.5.17	Milne's Method	„		
43	1/1	19.5.17	Adams Bashforth Method	„	Assignment –VII	
44	1/1	20.5.17	Numerical Methods: Numerical solution of second order ordinary	„		

			differential equations : Runge-Kutta method			
45	1/1	20.5.17	Numerical solution of second order ordinary differential equations : Runge Kutta Method	„		
46	1/1	22.5.17	Numerical solution of second order ordinary differential equations : Milne's method	„	Assignment –VIII	
47	1/1	23.5.17	Numerical solution of second order ordinary differential equations : Milne's method	„	Revision Test V	
48	3/1	24.5.17	Revision	„		

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**CMR INSTITUTE OF
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Session wise – Course Plan

Department of Electrical And Electronics Engg

SEMESTER : IV	NAME OF THE FACULTY	TANIA .H.M
BRANCH : EEE	DATE OF COMMENCEMENT	13.02.2017
SUBJECT : PGE	DATE OF CLOSING	02.06.2017
SUBJECT CODE : 15EE42	CLASS STRENGTH	111
	NO OF HOURS PER WEEK	05
	TOTAL NUMBER OF 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	Topics covered
1	1/1	13.02.2017	Hydrology, Run off and stream flow, Hydrograph, Flow duration curve, Mass curve, Reservoir capacity, Dam storage.	Board, chalk, duster		
2	2/1	14.02.2017	Hydrology, Run off and stream flow, Hydrograph, Flow duration curve, Mass curve, Reservoir capacity, Dam	,,		
3	3/1	15.02.2017	Hydrological cycle, Merits and demerits of hydroelectric power plants, Selection of site.	,,		
4	4/1	16.02.2017	General arrangement of hydel	,,	Debate	
5	5/1	18.02.2017	Classification of the plants based on water flow regulation	,,		
6	6/1	20.02.2017	Water head and type of load the plant has to supply	,,		
7	7/1	21.02.2017	Water turbines – Pelton wheel, Francis,	,,		
8	8/1	22.02.2017	Characteristic of water turbines Governing of turbines, Selection of water turbines.	,,		

9	9/1	23.02.2017	Underground, Small hydro and pumped storage plants.	„		
10	10/1	28.02.2017	Choice	„	Assignment – I	
11	1/2	01.03.2017	Introduction, Efficiency of steam plants, Merits and demerits of plants, Selection of site.	„		
12	2/2	02.02.2017	Working of steam plant, Power plant equipment and layout, Steam turbines.	„		
13	3/2	06.03.2017	Fuels and fuel handling	„		
14	4/2	07.03.2017	Dust collection, Draught systems,	„		
15	5/2	09.03.2017	Feed water, Steam power plant controls, Plant auxiliaries	„	Debate	
16	6/2	10.03.2017	Diesel PP-Introduction, Merits and demerits, Selection site	„		
17	7/2	11.03.2017	Elements of diesel power plant, Applications.	„		
18	8/2	13.03.2017	Gas Turbine-Selection of site ,Merits, Demerits, Working	„		
19	9/2	14.03.2017	Fuels	„		
20	10/2	14.03.2017	Methods of improving thermal efficiency			
21	11/2	16.03.2017	Closed Cycle plants, Comparison	„	Assignment – II	
22	1/3	17.03.2017	Nuclear PP: Introduction, Economics of nuclear plants.	„		
23	2/3	18.03.2017	Merits and demerits,	„		
24	3/3	20.03.2017	Nuclear reaction, Nuclear fission process.	„		
25	4/3	21.03.2017	Nuclear chain reaction, Nuclear energy, Nuclear fuels.	„		
26	5/3	23.03.2017	Nuclear plant and layout, Nuclear reactor.	„	Debate	
27	6/3	24.03.2017	Disposal of nuclear waste	„		
28	7/3	31.03.2017	Shielding	„		
29	8/3	01.04.2017	Effects of Nuclear plants.	„	Assignment – III	
30	1/4	03.04.2017	Substations Equipment	„		
31	2/4	05.04.2017	Substations Equipment	„		

32	3/4	06.04.2017	Substations Equipment	„		
33	4/4	07.04.2017	Classification of SS,Site selection	„		
34	5/4	08.04.2017	Bus Bar Arrangement Schemes,Single Line diagrams	„		
35	6/4	10.04.2017	GIS Substation	„	Debate	
36	7/4	12.04.2017	Grounding Types	„		
37	8/4	12.04.2017	Advantages			
38	9/4	17.04.2017	Grounding Types	„		
39	10/4	18.04.2017	Earthing Transformer	„		
40	11/4	19.04.2017	Neutral grounding	„	Assignment – IV	
41	1/5	20.04.2017	Economics: Variable Load, Cost Analysis. Interest and Depreciation.	„		
42	2/5	22.04.2017	Economics of Power Generation, terms concerned	„		
43	3/5	24.04.2017	load sharing, Choice of size & number of generating plants.	„		
44	4/5	25.04.2017	Tariffs, objective	„	Debate	
45	5/5	25.04.2017	Factors affecting the tariff, types			
46	6/5	26.04.2017	Types of consumers factor	„		
47	7/5	27.04.2017	Economics of power factor improvement	„		
48	8/5	02.05.2017	Methods to improve Power Factor,	„		
49	9/5	03.05.2017	Choice of Equipment.	„		
50	10/5	04.05.2017	Choice of specific Electric loading	„		
51	11/5	05.05.2017	Consumer's tariff, Power Factor.	„	Assignment – V	

52	11/1&2	11.05.2017	Solution to Previous year question paper/Seminaar	„		
53	12/1&2	13.05.2017	Solution to Previous year question paper/Seminaar	„		
54	11/3&4	15.05.2017	Solution to Previous year question paper/Seminaar	„		
55	12/3&4	16.05.2017	Solution to Previous year question paper/Seminaar	„		
56	13/3&4	17.05.2017	Solution to Previous year question paper/Seminaar	„		
57	12/5	18.05.2017	Solution to Previous year question paper/Seminaar	„		
58	13/5	20.05.2017	Solution to Previous year question paper/Seminaar	„		
59	14/5	20.05.2017	Solution to Previous year question paper/Seminaar			
60	15/5	24.05.2017	Solution to Previous year question paper/Seminaar	„		

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CMR INSTITUTE OF TECHNOLOGY



Session wise – Course Plan

Department of Electrical And Electronics Engg

SEMESTER : IV

NAME OF THE FACULTY : Ms. T ArunaKumari

BRANCH : EEE

DATE OF COMMENCEMENT : 13.02.2017

SUBJECT : T & D

DATE OF CLOSING : 2.06.2017

SUBJECT CODE : 10EE53

CLASS STRENGTH : 56+55

NO OF HRS/WK : 5

TOTAL HOURS : 59

Sessi on No	Chapter no (No of hrs planned for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignm ents/ Tests planned for the chapter	Topics covere d As per plan
1	1/17	13/2/17	Structure of electric power system: Generation, Transmission and distribution. Feeders, Distributors and service mains.	Board & chalk	Assignm ent- I	
2	2/17	14/2/17	Advantages of high voltage transmission	„		

3	3/17	15/2/17	HVAC, EHVAC, UHVAC and HVDC. Interconnection	„		
4	4/17	16/2/17	A brief introduction to types of supporting structures	„	Assignment -II	
5	5/17	18/2/17	line conductors-Conventional conductors; Aluminium Conductor steel reinforced (ACSR), All –aluminium alloy conductor (AAAC)	„		
6	6/17	20/2/17	All –aluminium conductor (AAC). High temperature conductors; Thermal resistant aluminium alloy (ATI),	„		
7	7/17	21/2/17	Super thermal resistant aluminium alloy (ZTAI), Gap type thermal resistant aluminium alloy conductor steel reinforced (GTACSR),	„		
8	8/17	22/2/17	Gap type super thermal resistant aluminium alloy conductor steel reinforced (GZTACSR). Bundle conductor and its advantages.	Board, chalk, duster		
9	9/17	23/2/17	Importance of sag, Sag calculation – supports at same levels	„		
10	10/17	28/2/17	Sag calculation – supports at different levels, Effect of wind and ice numerical	„		
11	11/17	1/3/17	Line vibration and vibration dampers, Overhead line protection against lightning;	„		

			ground wires.			
12	12/17	2/3/17	A brief introduction to types of insulators	„	Assignment -III	
13	13/17	6/3/17	Material used porcelain, toughened glass and polymer (composite)	„		
14	14/17	7/3/17	Potential distribution over a string of suspension insulators. String efficiency	„		
15	15/17	9/3/17	Methods of increasing string efficiency, numericals			
16	16/17	10/3/17	Methods of increasing string efficiency, numericals			
17	17/17	11/3/17	Arcing horns, numericals			
18	1/17	13/3/17	Introduction to line parameters-Resistance	„	Assignment -IV	
19	2/17	14/3/17	Inductance of a conductor due to internal flux	„		
20	3/17	16/3/17	Inductance of a conductor due to external flux	„		
21	4/17	17/3/17	Flux linkages of one conductor in an array	„		
22	5/17	18/3/17	Inductance of composite conductor lines, GMR, GMD	„		
23	6/17	20/3/17	Inductance of 3-phase lines with symmetrical spacing, numerical			
24	7/17	21/3/17	3-phase unsymmetrical lines, transposition	Board, chalk,		

				duster		
25	8/17	23/3/17	3-phase unsymmetrical lines, untransposed line, numerical	„		
26	9/17	24/3/17	Numerical	„		
27	10/17	31/3/17	Inductance of 3-phase double circuit line with symmetrical spacing	„		
28	11/17	1/4/17	Inductance of 3-phase double circuit line with unsymmetrical spacing	„		
29	12/17	3/4/17	Potential difference between two points due to a charge, capacitance of a two wire line	„		
30	13/17	5/4/17	Capacitance of composite – conductor, Geometric mean radius (GMR) and geometric mean distance (GMD).	„	Assignment –V	
31	14/17	6/4/17	Capacitance of 3-phase lines-symmetrical and unsymmetrical spacing	„		
32	15/17	7/4/17	Effect of earth on capacitance of line	„		
33	16/17	8/4/17	Capacitance of 3-phase double circuit line	Board, chalk, duster		
34	17/17	10/4/17	Advantages of single circuit and double circuit lines.	„		
35	1/6	12/4/17	Classification of lines – Short, Medium and Long lines. Current and voltage relations, Line regulation and Ferranti effect in short length lines,	„	Assignment -VI	

36	2/6	13/4/17	Numericals	„		
37	3/6	17/4/17	Medium length lines considering Nominal T circuit, ABCD constants	„		
38	4/6	18/4/17	Medium length lines considering Nominal π circuit, ABCD constants	„		
39	5/6	19/4/17	Long lines considering hyperbolic form equations. Equivalent circuit of a long line	„		
40	6/6	21/4/17	Long lines considering hyperbolic form equations. Equivalent circuit of a long line	„		
41	1/10	22/4/17	Phenomena, Disruptive and visual critical voltages,	„	Assignment -VII	
42	2/10	24/4/17	Corona loss, numerical	„		
43	3/10	25/4/17	Advantages and disadvantages of corona. Methods of reducing corona.	„		
44	4/10	26/4/17	Types of cables, Constructional features,	„	Assignment -VIII	
45	5/10	28/4/17	Insulation resistance, Thermal rating	„		
46	6/10	2/5/17	Charging current, numericals	„		
47	7/10	3/5/17	Capacitance Grading of cables	„		
48	8/10	4/5/17	inter-sheath Grading of cables	„		
49	9/10	5/5/17	Comparison between ac and dc cables. Limitations of cables.	Board, chalk, duster		
50	10/10	12/5/17	Specification of power cables, numericals	„		
51	1/9	13/5/17	Primary AC distribution systems –	„	Assignment	

			Radial feeders		ent -IX	
52	2/9	15/5/17	parallel feeders	„		
53	3/9	16/5/17	loop feeders	PPT		
54	4/9	17/5/17	interconnected network system.	„		
55	5/9	19/5/17	Secondary AC distribution systems – Three phase 4 wire system	Board/Chalk		
56	6/9	20/5/17	single phase 2 wire distribution	„		
57	7/9	22/5/17	Effect of disconnection of neutral in a 3 phase four wire system	PPT/Board/Chalk,,		
58	8/9	23/5/17	Introduction, Definition of reliability, failure, Probability concepts	„	Assignment -X	
59	9/9	24/5/17	Limitation of distribution systems, Power quality, Reliability aids.	„		

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**CMR INSTITUTE
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Session wise – Course Plan

Department of Electrical And Electronics Engg

SEMESTER : IV

NAME OF THE FACULTY : Ms. Reba Kundu

BRANCH : EEE

DATE OF COMMENCEMENT : 13.02.2017

SUBJECT : Electric Motors

DATE OF CLOSING : 02.06.2017

SUBJECT CODE : 15EE44

CLASS STRENGTH : 110

NO OF HRS/WK : 6

TOTAL HOURS : 67

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	13/2/2017	Introduction of DC MOTOR	Board & chalk	Prerequisite Assignment	

2	1/6	14/2/2017	Classification of dc motor	„		
3	1/6	15/2/2017	Back emf, Torque equation	„		
4	1/6	16/2/2017	significance of back emf and Problem	„		
5	1/6	17/2/2017	Characteristics of shunt, Series & Compound motors	„		
6	1/6	18/2/2017	Speed control of shunt motor	„	Assignme nt- I	
7	1/6	20/2/2017	Series motor	„		
8	2/6	21/2/2017	Compound motors	„		
9	2/6	22/2/2017	Problems	„		
10	2/6	23/2/2017	Problems	„		
11	2/6	27/2/2017	Application of motors	„		
12	2/6	1/3/2017	DC motor starters – 3 point	„		
13	2/6	2/3/2017	DC motor starters – 4 point	„		
14	2/6	6/3/2017	Losses and efficiency- Losses in DC motors	„		
15	2/6	7/3/2017	Power flow diagram	„	Assignme nt -II	
16	3 &4 /14	8/3/2017	Efficiency, Condition for maximum efficiency	„		
17	3 &4 /14	9/3/2017	problems	„		
18	3 &4 /14	10/3/2017	Testing of dc motors: Direct method	„		
19	3 &4 /14	11/3/2017	indirect methods of testing of DC	„		

			motor			
20	3 & 4 /14	13/3/2017	Swinburne's test	„		
21	3 & 4 /14	14/3/2017	Retardation test	„		
22	3 & 4 /14	15/3/2017	Hopkinson's test	„	Assignment –III	
23	3 & 4 /14	16/3/2017	Field's test	„		
24	3 & 4 /14	17/3/2017	Merits and demerits of tests	„		
25	3 & 4 /14	18/3/2017	Three phase Induction motors: Review of concept and generation of rotating magnetic field	„		
26	3 & 4 /14	18/3/2017	Principle of operation	„		
27	3 & 4 /14	20/3/2017	construction	„		
28	3 & 4 /14	21/3/2017	classification and types; squirrel-cage, slip-ring	„	Assignment –IV	
29	3 & 4 /14	22/3/2017	Slip, Torque equation,	„		
30	3 & 4 /14	23/3/2017	Torque-slip characteristic	„		
31	3 & 4 /14	24/3/2017	Problems	„		
32	5 & 6/12	31/3/2017	Problems	„		
33	5 & 6/12	1/4/2017	Performance of three-phase Induction Motor: Phasor diagram of induction motor on no-load and load	„		
34	5 & 6/12	3/4/2017	Equivalent circuit	„	Assignment -V	
35	5 & 6/12	4/4/2017	Losses, Efficiency	„		

36	5 & 6/12	5/4/2017	No-load and blocked rotor tests.	„		
37	5 & 6/12	6/4/2017	Problems	„		
38	5 & 6/12	7/4/2017	Performance of the motor from the circle diagram and equivalent circuit	„		
39	5 & 6/12	8/4/2017	Problems	„		
40	5 & 6/12	10/4/2017	Cogging and crawling	„		
41	5 & 6/12	11/4/2017	Problems	„		
42	5 & 6/12	12/4/2017	Problems	„	Assignment -VI	
43	5 & 6/12	13/4/2017	High torque rotors-double cage and deep rotor bars	„		
44	5 & 6/12	17/4/2017	Problems	„		
45	5 & 6/12	18/4/2017	High torque rotors-double cage and deep rotor bars. Equivalent circuit and performance	„		
46	7 & 8 /14	19/4/2017	Evaluation of double cage induction motor. Induction motor working as induction	„		
47	7 & 8 /14	20/4/2017	Starting and speed Control of Three-phase Induction Motors: Need for starter	„		
48	7 & 8 /14	21/4/2017	. Direct on-line starter	„	Assignment -VII	
49	7 & 8 /14	22/4/2017	Star-Delta and autotransformer starting.	„		
50	7 & 8 /14	24/4/2017	Rotor resistance starting.	„		
51	7 & 8 /14	25/4/2017	Speed control by voltage	„		
52	7 & 8 /14	26/4/2017	Speed control by Frequency and rotor resistance methods	„		
53	7 & 8 /14	27/4/2017	problems	„		

54	7 & 8 /14	28/4/2017	Single-phase Induction Motor: Double revolving field theory and principle of operation.	„		
55	7 & 8 /14	2/5/2017	Construction and operation of split-phase, Capacitor start, Capacitor run, and shaded pole	„		
56	7 & 8 /14	3/5/2017	problems	„	Assignment -VIII	
57	7 & 8 /14	4/5/2017	problems	„		
58	7 & 8 /14	5/5/2017	Synchronous motor: Principle of operation	„		
59	7 & 8 /14	11/5/2017	Phasor diagrams, Torque and torque angle	„		
60	7 & 8 /14	12/5/2017	Blondel diagram, Effect of change in load, Effect of change in excitation,	„		
61	7 & 8 /14	13/5/2017	V and inverted V curves. Synchronous condenser,	„		
62	7 & 8 /14	15/5/2017	Hunting and damping. Methods of starting synchronous motor			
63	7 & 8 /14	16/5/2017	Construction and operation of Universal motor, AC servomotor	„		
64	7 & 8 /14	17/5/2017	Problems			
65	7 & 8 /14	18/5/2017	Problems			
66	7 & 8 /14	19/5/2017	Discussion VTU question paper			
67	7 & 8 /14	20/5/2017	Discussion VTU question paper			

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Session wise – Course Plan

Department of Electrical and Electronics

SEMESTER : IV NAME OF THE FACULTY : Suganya Jeyaprakash
BRANCH : EEE DATE OF COMMENCEMENT : 13.02.2017
SUBJECT : Electromagnetic Field Theory DATE OF CLOSING : 24.05.2017
SUBJECT CODE : 15EE45 CLASS STRENGTH : 65
NO OF LECTURES/WK : 6 TOTAL HRS : 60

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	13.02.2017	Introduction to Vector Calculus	Board, chalk, duster		

2	1	14.02.2017	3D co-ordinate system(Cartesian)	„		
3	1	15.02.2017	3D co-ordinate system(Cylindrical)	„		
4	1	16.02.2017	3D co-ordinate system(Cylindrical)	„		
5	1	17.02.2017	3D co-ordinate system(spherical)	Board, chalk, duster		
6	1	18.02.2017	3D co-ordinate system(spherical)	„		
7	1	20.02.2017	Gradient Curl and divergence	„		
8	1	21.02.2017	Problems	„		
9	1	22.02.2017	Coulomb's Law and electric field intensity	„		
10	1	23.02.2017	Problems on Electric field intensity and Coulomb's law.	„	Assignme nt- I	
11	1	27.02.2017	Field due to continuous volume charge distribution, Field of a line charge(finite and infinite)	„		
12	1	28.02.2017	Field due to ring of charge and problems	„		
13	1	01.03.2017	Surface charge.	„		
14	1	02.03.2017	Electric flux density, Gauss' law	„		
15	1	06.03.2017	Gauss's divergence theorem.			
16	1	07.03.2017	Maxwell's First equation of electrostatics, Verification of Gauss's divergence theorem in Cartesian co-ordinates			

17	1	08.03.2017	Verification of Gauss's divergence theorem in Cylindrical and spherical co-ordinates			
18	1	09.03.2017	Problem	„		
19	2	10.03.2017	Work(Energy expended in moving a point charge) and Potential, The line integral	„		
20	2	11.03.2017	Problems on work and potential	„		
21	2	13.03.2017	Definition of potential difference and Potential, The potential field of a point charge and system of charges,	„		
22	2	14.03.2017	Potential gradient , and related problems, Dipole	„		
23	2	15.03.2017	Energy density in an electrostatic field	„	Assignment -II	
24	2	16.03.2017	Current and current density, Continuity of current,	„		
25	2	17.03.2017	Metallic conductors, Conductor properties and boundary conditions,	Board, chalk, duster		
26	2	18.03.2017	Problems	„		
27	2	20.03.2017	Boundary conditions for perfect Dielectrics,	„		
28	2	21.03.2017	Relaxation time, capacitance and examples.	„		
29	2	22.03.2017	Capacitance and examples.	„		

			Parallel plate and two wire line			
30	3	23.03.2017	Derivations of Poisson's and Laplace's Equations, Uniqueness theorem,	„		
31	3	24.03.2017	Capacitance of coaxial cylinder, angular variation of cylinder using Laplace's equation.	„		
32	3	31.03.2017	Capacitance of sphere, coaxial cylinder using Laplace's equation.	„	Assignment –III	
33	3	01.04.2017	Example of angular variation in spherical.	Board, chalk, duster		
34	3	03.04.2017	Problem practice.	„		
35	3	04.04.2017	Magnetic field intensity, Biot-Savart's law.	„		
36	3	05.04.2017	Magnetic field intensity for infinite line conductor.	„		
37	3	06.04.2017	Magnetic field intensity for finite line conductor.	„		
38	3	07.04.2017	Problem on Magnetic field intensity for finite conductor – ring conductor, Ampere's Circuital Law	„		
39	3	08.04.2017	Ampere's Circuital Law for co-axial cable	„		
40	3	10.04.2017	Infinite sheet of charge, solenoid	„		
41	3	11.04.2017	Derivation of Curl, Point form of Ampere's Circuital Law	„		
42	3	12.04.2017	Stoke's theorem and problems	„		

43	3	13.04.2017	Stokes's theorem verification	„		
44	3	17.04.2017	Stokes's theorem verification	„		
45	3	18.04.2017	Magnetic flux and flux density, scalar and Vector magnetic potentials.	„		
46	4	19.04.2017	Force on a moving charge and related problems	„		
47	4	20.04.2017	differential current element, Force between differential current elements, problem	„		
48	4	21.04.2017	Force and torque on a closed circuit.	„		
49	4	22.04.2017	Problems	Board, chalk, duster	Assignment –IV	
50	4	24.04.2017	Magnetic materials, Magnetization and permeability	„		
51	4	25.04.2017	Magnetic boundary conditions	„		
52	4	26.04.2017	Magnetic circuit, Potential energy and forces on magnetic materials,	„		
53	4	27.04.2017	Inductance and Mutual Inductance.	„		
54	4	28.04.2017	Inductance and Mutual Inductance, related problems.	„		
55	5	02.05.2017	Faraday's law, point form of Faraday's	„		

			law.			
56	5	03.05.2017	Displacement current, Modified form of Ampere's law.	„		
57	5	04.05.2017	Maxwell's equation in point and Integral form,	„		
58	5	05.05.2017	Retarded potentials.	„		
59	5	11.05.2017	Problem	„	Assignment -V	
60	5	12.05.2017	Wave propagation in free space	„		
61	5	13.05.2017	Wave propagation in dielectrics			
62	5	15.05.2017	Wave propagation in dielectrics			
63	5	16.05.2017	propagation in good Conductors – (skin effect).			
64	5	17.05.2017	Poynting's theorem and wave power,			
65	5	18.05.2017	Problems			
66	5	19.05.2017	Practice Problems			
67	5	20.05.2017	Practice Problems			
68	5	22.05.2017	Practice Problems			
69	5	23.05.2017	Practice Problems			
70	5	24.05.2017	Practice Problems			

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**CMR INSTITUTE
OF TECHNOLOGY**



Session wise – Course Plan

Department of Electrical and Electronics

SEMESTER : IV (A&B) NAME OF THE FACULTY : Ms.Anju Das
BRANCH : EEE DATE OF COMMENCEMENT : 13.02.17
SUBJECT : Operational amplifiers and Linear ICs DATE OF CLOSING : 02.06.2017
SUBJECT CODE: 15EE46 CLASS STRENGTH : 56+55
NO OF HRS/WK : 5 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	1/12	13.02.17	Operational amplifiers: Revision of topics from basic electronics			
2	2/12	14.02.17	Operational amplifiers: Introduction, Block diagram			

			representation of a typical Op-amp, Schematic symbol			
3	3/12	15.02.17	Characteristics of an Op-amp, Ideal op-amp			
4	4/12	17.02.17	Equivalent circuit, Ideal voltage transfer curve, Open loop configuration,			
5	5/12	18.02.17	Differential amplifier, Inverting & non –inverting amplifier, Op-amp with negative feedback			
6	6/12	20.02.17	voltage series feedback amplifier gain, Input resistance, Output resistance,			
7	7/12	21.02.17	Voltage shunt feedback amplifier-gain, Input resistance, Output resistance			
8	8/12	22.02.17	General Linear Applications: D.C. & A.C amplifiers		Assignment No.1	
9	9/12	27.02.17	Peaking amplifier, Summing, Scaling & averaging amplifier,			
10	10/12	28.02.17	Inverting and non-inverting configuration, Differential configuration,			
11	11/12	01.03.17	Instrumentation amplifier			
12	12/12	02.03.17	Problems to discussed and solved			
13	1/12	06.03.17	First order low pass and high Butterworth filters			
14	2/12	08.03.17	second order low pass Butterworth filters			

16	3/12	09.03.17	Higher order Filters			
16	4/12	10.03.17	Band pass filters			
17	5/12	11.03.17	Band reject filters			
18	6/12	13.03.17	All pass filters.			
19	7/12	15.03.17	Problems			
20	8/12	16.03.17	DC Voltage Regulators: Voltage regulator basics		Assignme nt No.2	
21	9/12	17.03.17	Voltage follower regulator			
22	10/12	18.03.17	Problems			
23	11/12	20.03.17	Adjustable output regulator			
24	12/12	22.03.17	LM317 & LM337 Integrated circuit regulators			
25	1/12	23.03.17	Signal generators: Triangular / rectangular wave generator			
26	2/12	24.03.17	Phase shift oscillator			
27	3/12	31.03.17	Wien bridge oscillator			
28	4/12	01.04.17	Oscillator amplitude stabilization			
29	5/12	04.04.17	Signal generator output controls			
30	6/12	05.04.17	Comparators & Converters: Basic comparator,			
31	7/12	06.04.17	Zero crossing detector			
32	8/12	07.04.17	Inverting Schmitt trigger circuit		Assignme nt No.3	

33	9/12	08.04.17	Non-inverting Schmitt trigger circuit			
34	10/12	11.04.17	Voltage to current converter with grounded load			
35	11/12	12.04.17	Current to voltage converter			
36	12/12	13.04.17	frequency to voltage converters			
37	1/12	17.04.17	Signal processing circuits: Precision half wave rectifiers			
38	2/12	18.04.17	Precision full wave rectifiers			
39	3/12	20.04.17	limiting circuits			
40	4/12	21.04.17	Clamping circuits			
41	5/12	22.04.17	Peak detectors			
42	6/12	24.04.17	Sample & hold circuits			
43	7/12	25.04.17	A/D & D/A Converters: Basics			
44	8/12	27.04.17	R-2R D/A Converter,		Assignme nt No.4	
45	9/12	28.04.17	Integrated circuit 8-bit D/A,			
46	10/12	02.05.17	successive approximation ADC			
47	11/12	03.05.17	Linear ramp ADC, Dual slope ADC			
48	12/12	04.05.17	Digital ramp ADC			
49	1/12	11.05.17	Phase Locked Loop (PLL): Basic PLL			
50	2/12	12.05.17	Components			

51	3/12	13.05.17	Performance factors			
52	4/12	15.05.17	Applications of PLL IC 565			
53	5/12	16.05.17	Applications of PLL IC 565			
54	6/12	18.05.17	Timer: Internal architecture of 555 timer			
55	7/12	19.05.17	Mono stable multivibrators			
56	8/12	20.05.17	Astable multivibrators		Assignme nt No.5	
57	9/12	22.05.17	Applications.			
58	10/12	23.05.17	Problems solution			
59	11/12	24.05.17	Problems solution			
60	12/12		Problems solution			

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