Remedial Classes
2022-23

Department of Electrical and Electronics Engineering

GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY
(Autonomous)

Table of Contents

GRIET/PRIN/12A/G/22-23 10th July 2023

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

REMEDIAL CLASSES 2022-23

CIRCULAR

FINISHING SCHOOL

This is to inform you all that Remedial Classes will be held for academically weak students from June to July 2023. List of students and time tables are send to individual departments.

V N Ramadevi

Dean Finishing School

-

10th July 2023

From
Dean,
Finishing school
GRIET.

To
The HOD
EEE
GRIET

Request for faculty and Class rooms to conduct Remedial classes.

Sir/Madam,

This is to inform you that Finishing school of GRIET is conducting Remedial classes for B.Tech II year students to clear their backlogs of Sem-I.

To conduct the classes we request you

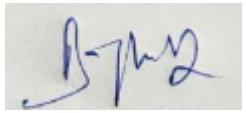
1) Permit us to use 2 online classes from 3.00PM -4.00PM from 12th July 2023 to 21st July 2023.
2) Nominate faculty to teach the following courses:

S.No	YEAR	Course title	No. of Students	Name of the faculty	Signature of the faculty
1	II-I	Electrical Circuit Analysis (GR20A2023)	18	Mr. D Karunakumar	D Karunakumar
2	II-I	Electromagnetic Fields (GR20A2026)	12	Dr T Suresh Kumar	T Suresh Kumar

Thanking you
Yours Sincerely,
Dr V N Ramadevi

Gokaraju Rangaraju Institute of Engineering and Technology
Dept. of Electrical and Electronics Engineering
Finishing School
Remedial Classes Schedule
12th July 2023 to 21th July 2023

S.No	Subject	Year	Name of the Faculty	Session-1	Session-2	Session-3	Session-4
1	Electrical Circuit Analysis (GR20A2023)	II-I	Mr. D Karunakumar	12/07/2023 (3.00 to 4.00) Room No:4401	13/07/2023 (3.00 to 4.00) Room No:4401	14/07/2023 (3.00 to 4.00) Room No:4401	15/07/2023 (3.00 to 4.00) Room No:4401
2	Electromagnetic Fields (GR20A2026)	II-I	Dr T Suresh Kumar	18/07/2023 (3.00 to 4.00) Room No:4401	19/07/2023 (3.00 to 4.00) Room No:4401	20/07/2023 (3.00 to 4.00) Room No:4401	21/07/2023 (3.00 to 4.00) Room No:4401



HOD-EEE

Dean, Finishing School

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY
ELECTRICAL CIRCUIT ANALYSIS

Course Code: GR20A2023 **L/T/P/C :2/1/0/3**
II Year I Semester

Course Objectives:

1. Explain the various properties of Fourier series and Fourier transforms.
2. Simplify the transient state analysis of a circuit.
3. Evaluate the steady state analysis(three-phase) and dot convention of a given circuit.
4. Apply the Laplace Transforms to electrical circuits.
5. Develop the network parameters of the circuits.

Course Outcomes:

1. Apply Fourier Series, network theorems for the analysis of electrical circuits.
2. Develop the transient response of electrical circuits.
3. Analyze three-phase and mutually coupled circuits.
4. Solve electrical circuits using Laplace and Inverse Laplace transform and mark poles and zeros.
5. Simplify network by two port parameters.

UNIT I
FOURIER SERIES AND FOURIER TRANSFORM

Representation of continuous-time periodic signals by Fourier series; Dirichlet's conditions; Properties of Fourier series, Parseval's theorem; Trigonometric and Exponential Fourier series; Complex Fourier spectrum; Fourier transform via Fourier series; Fourier transform of periodic and aperiodic signals; Convergence of Fourier transform; Properties of Fourier transforms, Parseval's theorem; Fourier transforms involving impulse function and Signum function; Introduction to Hilbert Transform.

UNIT II
NETWORK THEOREMS

Maximum Power Transfer theorem, Reciprocity theorem, Millman theorem, Compensation theorem, Telligence Theorem, Concept of duality and dual networks.

Solution of First and Second order networks

Solution of first and second order differential equations for Series and parallel RL, RC, RLC circuits, initial and final conditions in network elements, forced and free response, time constants, steady state and transient state response.

UNIT III
THREE PHASE CIRCUITS AND COUPLED CIRCUITS

Three-phase circuits, star-star, delta-delta analysis of balanced circuits, unbalanced analysis of three phase 3 wire, 4 wire, delta circuits, measurement of power by three and two watt meters, measurement of reactive power by single wattmeter, Mutual coupled circuits, Dot Convention in coupled circuits.

UNIT IV
ELECTRICAL CIRCUIT ANALYSIS USING LAPLACE TRANSFORMS

Review of Laplace Transform, Analysis of electrical circuits using Laplace Transform for standard inputs, convolution integral, Inverse Laplace Transform, transformed network with initial conditions, Transfer function representation, Poles and Zeros.

UNIT V
TWO PORT NETWORKS

Two Port Networks, terminal pairs, relationship of two port variables, impedance, admittance, hybrid and transmission parameters, condition for symmetry and reciprocity, interrelationship between various parameters, interconnections of two port networks (series, parallel and cascade)

Text Books

1. W. H. Hayt and J. E. Kemmerly, "Engineering Circuit Analysis", McGraw Hill Education, 2013.
2. C. K. Alexander and M. N. O. Sadiku, "Fundamentals of Electric Circuits", McGraw Hill Education, 2004.
3. M. E. Van Valkenburg, "Network Analysis", Prentice Hall, 2006.

References

1. Circuit Theory (Analysis and Synthesis) by A.Chakrabarti-Dhanpat Rai & Co.
2. Network Theory by N.C.Jagan and C.Lakshminarayana, BS Publications.
3. K. V. V. Murthy and M. S. Kamath, "Basic Circuit Analysis", Jaico Publishers, 1999.
4. D. Roy Choudhury, "Networks and Systems", New Age International Publications, 1998.

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY
ELECTROMAGNETIC FIELDS

Course Code: GR20A2026 **L/T/P/C: 3/0/0/3**
II Year I Semester

Course Objectives:

1. Apply vector Calculus and different coordinates systems for Electro and Magnetic systems.
2. Understand the knowledge of Electro field theory for Point, Line, Surface Charge.
3. Understand the concept of conductors, dielectrics, inductance, capacitance.
4. Ability to do Calculations of MFI for Line, Surface Conductors with different Shapes.
5. Ability of mathematical representation and analysis of EM waves at media interfaces.

Course Outcomes:

1. Solve the problems in different EM fields using Different Coordinates Systems.
2. Evaluate the Electric Field Density and Intensity for Different Charges.
3. Understand the Electromagnetic Relation using Maxwell Formulae.
4. Analyze circuits using Conductors in Time Varying Fields.
5. Analyze and solve problems of EM wave propagation at media interfaces.

UNIT I
STATIC ELECTRIC FIELD
Coulomb's law- Electric Field Intensity-Electrical Field due to Point charge, Line, Surface and Volume Charge distributions. Gauss Law and its Applications. Absolute Electric potential- Potential difference-Calculation of potential differences for different configurations. Electric Dipole- Electrostatic Energy density.

UNIT II
CONDUCTORS
Dielectrics and Capacitance Current and current density- Ohms Law in Point form- Continuity of current-Boundary conditions of perfect dielectric materials. Permittivity of dielectric materials- Capacitance-Capacitance of a two-wire line- Poisson's equation- Laplace's equation- Solution of Laplace and Poisson's equation- Application of Laplacc's and Poisson's equations.

UNIT III
STATIC MAGNETIC FIELDS- Biot-Savart Law- Ampere Law-Magnetic flux and Magnetic Flux Density- Scalar and Vector Magnetic Potentials. Steady Magnetic Fields produced by current carrying conductors. Magnetic Forces-Materials and Inductance Force on a moving charge-Force on a differential current element- Force between differential current elements- Nature of magnetic materials- Magnetization and Permeability- magnetic boundary conditions- Magnetic Circuits- inductances and mutual inductances.

UNIT IV
TIME VARYING FIELDS and Maxwell's Equations Faraday's law for Electromagnetic induction-Displacement current- Point form of Maxwell's equation- Integral form of Maxwell's equations- Motional Electromotive forces, Boundary Conditions.

UNIT V
WAVE EQUATIONS AND SOLUTIONS, Time-harmonic fields, Plane waves in lossless media, Plane waves in lossy media (low-less dielectrics and good conductors), Group Velocity, Electromagnetic power flow and poynting vector, Normal incidence at a plane conducting boundary, Normal incidence at a plane dielectric boundary.

Text/Reference Books:

1. Matthew N.O.Sadiku, "Principles of Electromagnetics", Oxford University Publication, 2014.
2. W.Hayt, John A.Buck "Engineering Electromagnetics", McGraw Hill Education, 2012.
3. Pramanik, "Electromagnetism-Problems with solution", Prentice Hall India, 2012.
4. G. W. Carter, "The electromagnetic field in its engineering aspects", Longmans, 1954.
5. Pramanik, "Electromagnetism - Theory and applications", PHI Learning Pvt. Ltd, New Delhi, 2009

Gokaraju Rangaraju Institute of Engineering and Technology

Electrical and Electronics Engineering

Remedial Classes-II B.Tech II Sem-2022-23

Remedial Classes- Student List

Sl.No	Roll.No	Subject Code	Subject Name
1	21241A0204	GR20A2023	Electrical Circuit Analysis
2	21241A0209	GR20A2023	Electrical Circuit Analysis
3	21241A0211	GR20A2023	Electrical Circuit Analysis
4	21241A0216	GR20A2023	Electrical Circuit Analysis
5	21241A0223	GR20A2023	Electrical Circuit Analysis
6	21241A0226	GR20A2023	Electrical Circuit Analysis
7	21241A0231	GR20A2023	Electrical Circuit Analysis
8	21241A0232	GR20A2023	Electrical Circuit Analysis
9	21241A0233	GR20A2023	Electrical Circuit Analysis
10	21241A0238	GR20A2023	Electrical Circuit Analysis
11	21241A0241	GR20A2023	Electrical Circuit Analysis
12	21241A0244	GR20A2023	Electrical Circuit Analysis
13	21241A0247	GR20A2023	Electrical Circuit Analysis
14	21241A0251	GR20A2023	Electrical Circuit Analysis
15	21241A0253	GR20A2023	Electrical Circuit Analysis
16	21241A0256	GR20A2023	Electrical Circuit Analysis
17	21241A0258	GR20A2023	Electrical Circuit Analysis
18	21241A0262	GR20A2023	Electrical Circuit Analysis
Sl.No	**Roll.No**	**Subject Code**	**Subject Name**
1	21241A0209	GR20A2026	Electromagnetic Fields
2	21241A0210	GR20A2026	Electromagnetic Fields
3	21241A0211	GR20A2026	Electromagnetic Fields
4	21241A0223	GR20A2026	Electromagnetic Fields
5	21241A0226	GR20A2026	Electromagnetic Fields
6	21241A0231	GR20A2026	Electromagnetic Fields
7	21241A0232	GR20A2026	Electromagnetic Fields
8	21241A0247	GR20A2026	Electromagnetic Fields
9	21241A0253	GR20A2026	Electromagnetic Fields
10	21241A0256	GR20A2026	Electromagnetic Fields
11	21241A0258	GR20A2026	Electromagnetic Fields
12	22245A0201	GR20A2026	Electromagnetic Fields

HOD-EEE

Gokaraju Rangaraju Institute of Engineering and Technology

Dept. of Electrical and Electronics Engineering

Remedial Classes-A.Y=2022-23- Student Attendance List-Room No:4401 Timings: 3.00pm to 4.00pm

Sl.No	Roll.No	Subject Code	Subject Name	12-07-2023	13-07-2023	14-07-2023	15-07-2023
1	21241A0204	GR20A2023	Electrical Circuit Analysis	P	P	A	P
2	21241A0209	GR20A2023	Electrical Circuit Analysis	P	A	A	P
3	21241A0211	GR20A2023	Electrical Circuit Analysis	A	P	P	P
4	21241A0216	GR20A2023	Electrical Circuit Analysis	P	P	A	P
5	21241A0223	GR20A2023	Electrical Circuit Analysis	A	A	P	A
6	21241A0226	GR20A2023	Electrical Circuit Analysis	P	P	A	P
7	21241A0231	GR20A2023	Electrical Circuit Analysis	A	P	A	A
8	21241A0232	GR20A2023	Electrical Circuit Analysis	P	P	P	A
9	21241A0233	GR20A2023	Electrical Circuit Analysis	P	A	A	P
10	21241A0238	GR20A2023	Electrical Circuit Analysis	P	A	P	P
11	21241A0241	GR20A2023	Electrical Circuit Analysis	P	P	A	P
12	21241A0244	GR20A2023	Electrical Circuit Analysis	A	P	P	P
13	21241A0247	GR20A2023	Electrical Circuit Analysis	P	A	P	P
14	21241A0251	GR20A2023	Electrical Circuit Analysis	A	P	P	P
15	21241A0253	GR20A2023	Electrical Circuit Analysis	P	P	A	P
16	21241A0256	GR20A2023	Electrical Circuit Analysis	P	P	A	P
17	21241A0258	GR20A2023	Electrical Circuit Analysis	P	A	P	P
18	21241A0262	GR20A2023	Electrical Circuit Analysis	P	P	P	A
Sl.No	**Roll.No**	**Subject Code**	**Subject Name**	**18-07-2023**	**19-07-2023**	**20-07-2023**	**21-07-2023**
1	21241A0209	GR20A2026	Electromagnetic Fields	A	P	P	A
2	21241A0210	GR20A2026	Electromagnetic Fields	P	P	A	P
3	21241A0211	GR20A2026	Electromagnetic Fields	A	P	A	A
4	21241A0223	GR20A2026	Electromagnetic Fields	P	P	P	P
5	21241A0226	GR20A2026	Electromagnetic Fields	A	A	A	P
6	21241A0231	GR20A2026	Electromagnetic Fields	P	A	P	P
7	21241A0232	GR20A2026	Electromagnetic Fields	P	P	A	A
8	21241A0247	GR20A2026	Electromagnetic Fields	A	P	P	P
9	21241A0253	GR20A2026	Electromagnetic Fields	P	P	A	P
10	21241A0256	GR20A2026	Electromagnetic Fields	A	P	A	A
11	21241A0258	GR20A2026	Electromagnetic Fields	A	A	P	P
12	22245A0201	GR20A2026	Electromagnetic Fields	P	A	P	P

HOD-EEE **Coordinator, Finishing School**

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

FINISHING SCHOOL

REMEDIAL CLASSES (Academic support for students) Student Feed Back

Branch: EEE Year: II Sem: I
Subject: Electromagnetic Fields Faculty Name: Dr T Suresh Kumar

S.No	Item	Feedback
1	Material presented	✓Excellent/Very Good/Good/Average/Below Average
2	Teaching Clarity	✓Excellent/Very Good/Good/Average/Below Average
3	Covering of important topics	Excellent/✓Very Good/Good/Average/Below Average
4	Doubts clarification	Excellent/✓Very Good/Good/Average/Below Average

Suggestions:

Dean Finishing School

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

FINISHING SCHOOL

REMEDIAL CLASSES (Academic support for students) Student Feed Back

Branch: EEE Year: II Sem: II
Subject: Control Systems(CS) Faculty Name: Mr. D Karunakumar

S.No	Item	Feedback
1	Material presented	Excellent/✓Very Good/Good/Average/Below Average
2	Teaching Clarity	Excellent/✓Very Good/Good/Average/Below Average
3	Covering of important topics	Excellent/✓Very Good/Good/Average/Below Average
4	Doubts clarification	✓Excellent/Very Good/Good/Average/Below Average

Suggestions:

Dean Finishing School

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

FINISHING SCHOOL

REMEDIAL CLASSES (Academic support for students) Student Feed Back

Branch: EEE Year: II Sem: II
Subject: Control Systems(CS) Faculty Name: Mr. D Karunakumaer

S.No	Item	Feedback
1	Material presented	Excellent/✓Very Good/Good/Average/Below Average
2	Teaching Clarity	Excellent/✓Very Good/Good/Average/Below Average
3	Covering of important topics	Excellent/✓Very Good/Good/Average/Below Average
4	Doubts clarification	Excellent/✓Very Good/Good/Average/Below Average

Suggestions:

Dean Finishing School

Gokaraju Rangaraju Institute of Engineering and Technology
Electrical and Electronics Engineering
Remedial Classes Report
II B.Tech I Sem

Faculty Report on Subject

Subject: Electrical Circuit Analysis

Unit-1: Discussed about Fourier Series and Fourier Transform & Properties of Fourier Series & Fourier transforms, Parseval's theorem.

Unit-2: Explain about Network Theorems & Solution of First and Second order networks

Unit-3: Discussed about Three Phase Circuits and Coupled Circuits

Unit-4: Explain About Electrical Circuit Analysis Using Laplace Transforms & Inverse Laplace Transform, Transformed Network with Initial Conditions, Transfer Function Representation, Poles and Zero

Unit-5: Discussed about Two Port Networks & Interrelationship between Various Parameters, Interconnections of Two Port Networks

II. Previous question papers

III. Notes or PPTs

Gokaraju Rangaraju Institute of Engineering and Technology
Electrical and Electronics Engineering
Remedial Classes Report
II B.Tech I Sem

Faculty Report on Subject

Subject: Electromagnetic Fields

Unit-1: Coulomb's law- Electric Field Intensity- Electrical Field due to Point charge

Unit-2: Explain about Dielectrics and Capacitance Current and current density- Ohms Law in Point form

Unit-3: Discussed about Biot-Savart Law- Ampere Law-Magnetic flux and Magnetic Flux Density- Scalar and Vector Magnetic Potentials.

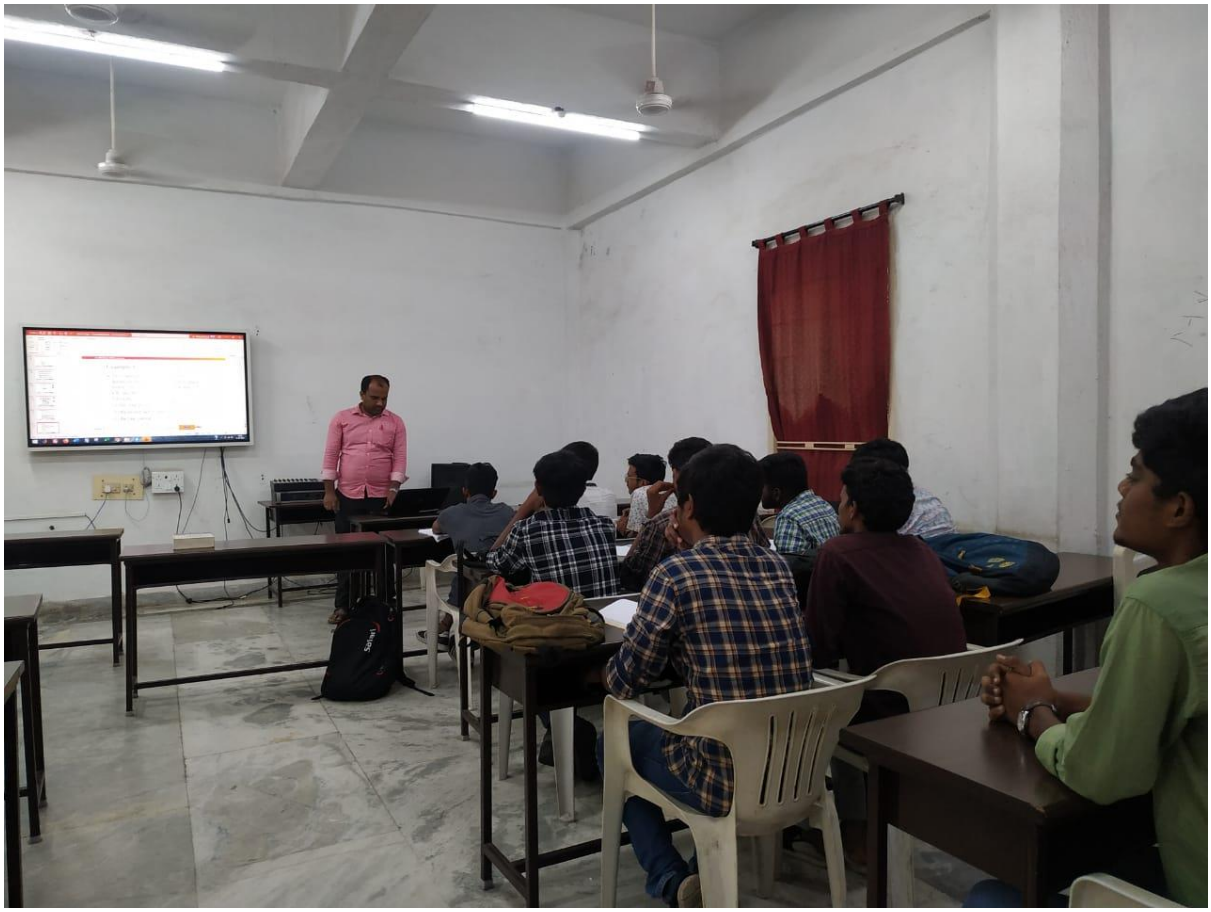
Unit-4: Explain about Time Varying Fields and Maxwell's Equations Faraday's law for Electromagnetic induction Displacement current

Unit-5: Discussed about Wave Equations and Solutions, Time-harmonic fields, Plane waves in lossless media

II. Previous question papers

III. Notes or PPTs


Signals
and
Systems



Report on Remedial Classes

This is to inform you that Finishing school of GRIET is conducting Remedial classes for B.Tech II year students to clear their backlogs.

Details are

1. Remedial classes are conducted in different Subjects to support the Students in clearing their backlogs. As the first step, classes are held for Final year and Marched out batches in three different schedules. Students were informed through SMS. Students shown lot of interest .Faculty gave tips as well as material for the students.80-90% of the students who have attended got benefit and they passed in the exams.

2. The classes are aimed to help the students having a maximum of two or more backlogs in previous academic year so that they will get the degree as per their academic calendar. Students preferred material and few tips as they were busy in Projects. For some subjects they came and attentive.
3. The sessions for II year students are to prevent failure rate and thereby increasing transition rate. The subjects are selected based on I-semester results. To increase attendance for the classes a brief motivation lecture is organized with the key note address by HOD.

   The following shows the courses for which Remedial classes are held and the Transition rate in such course:

S.No	Course	No.of students attended	No.of students passed	Transition rate
1.	Electrical Circuit Analysis	18	12	66.67%
2.	Electromagnetic Fields	12	10	83.33%