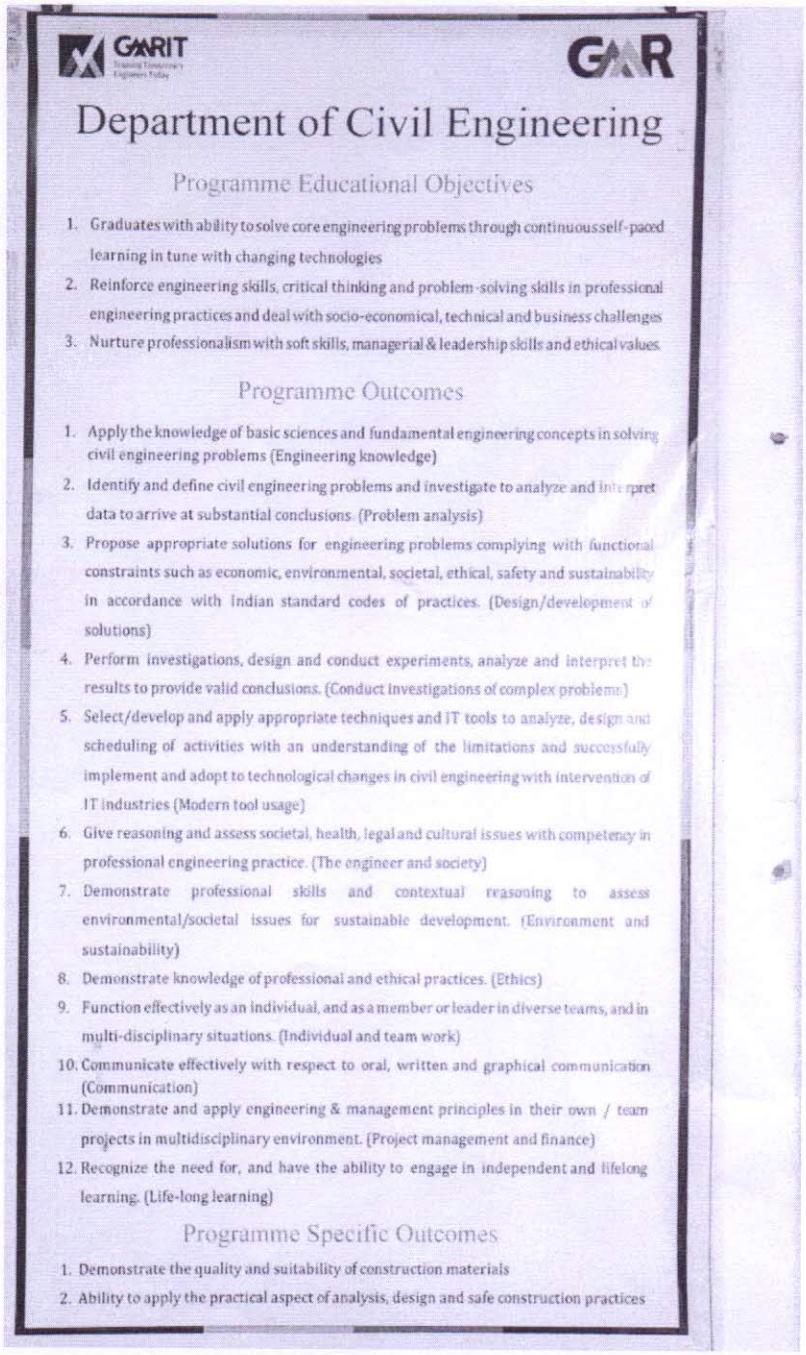
GMR Institute of Technology
An Autonomous Institute Affiliated to JNTU-GV Vizianagaram
All UG Courses are accredited by **NBA**
Institute Accredited by **NAAC** with "**A**" grade (3rd cycle)
Ranked 188th in NIRF-2022

GMRIT Training Tomorrow's Engineers Today
GMR Nagar,RAJAM-532 127
Vizianagaram (Dist.)
Andhra Pradesh
T +91 (8941) 251 592/251 593/ 252 989
F +91 (8941) 251 591
W www.gmrit.edu.in

Additional Information

2.6.1. Teachers and students are aware of the stated Programme and course outcomes of the Programmes offered by the institution. **Dissemination of POS and COs**

GMR Institute of Technology
Department of Civil Engineering(Display of CO and PO)



GMRIT

GMR

Department of Civil Engineering

Programme Educational Objectives

1. Graduates with ability to solve core engineering problems through continuous self-paced learning in tune with changing technologies
2. Reinforce engineering skills, critical thinking and problem-solving skills in professional engineering practices and deal with socio-economical, technical and business challenges
3. Nurture professionalism with soft skills, managerial & leadership skills and ethical values.

Programme Outcomes

1. Apply the knowledge of basic sciences and fundamental engineering concepts in solving civil engineering problems (Engineering knowledge)
2. Identify and define civil engineering problems and investigate to analyze and interpret data to arrive at substantial conclusions. (Problem analysis)
3. Propose appropriate solutions for engineering problems complying with functional constraints such as economic, environmental, societal, ethical, safety and sustainability in accordance with Indian standard codes of practices. (Design/development of solutions)
4. Perform investigations, design and conduct experiments, analyze and interpret the results to provide valid conclusions. (Conduct investigations of complex problems)
5. Select/develop and apply appropriate techniques and IT tools to analyze, design and scheduling of activities with an understanding of the limitations and successfully implement and adopt to technological changes in civil engineering with intervention of IT industries (Modern tool usage)
6. Give reasoning and assess societal, health, legal and cultural issues with competency in professional engineering practice. (The engineer and society)
7. Demonstrate professional skills and contextual reasoning to assess environmental/societal issues for sustainable development. (Environment and sustainability)
8. Demonstrate knowledge of professional and ethical practices. (Ethics)
9. Function effectively as an individual, and as a member or leader in diverse teams, and in multi-disciplinary situations. (Individual and team work)
10. Communicate effectively with respect to oral, written and graphical communication (Communication)
11. Demonstrate and apply engineering & management principles in their own / team projects in multidisciplinary environment. (Project management and finance)
12. Recognize the need for, and have the ability to engage in independent and lifelong learning. (Life-long learning)

Programme Specific Outcomes

1. Demonstrate the quality and suitability of construction materials
2. Ability to apply the practical aspect of analysis, design and safe construction practices

Signature of HoD

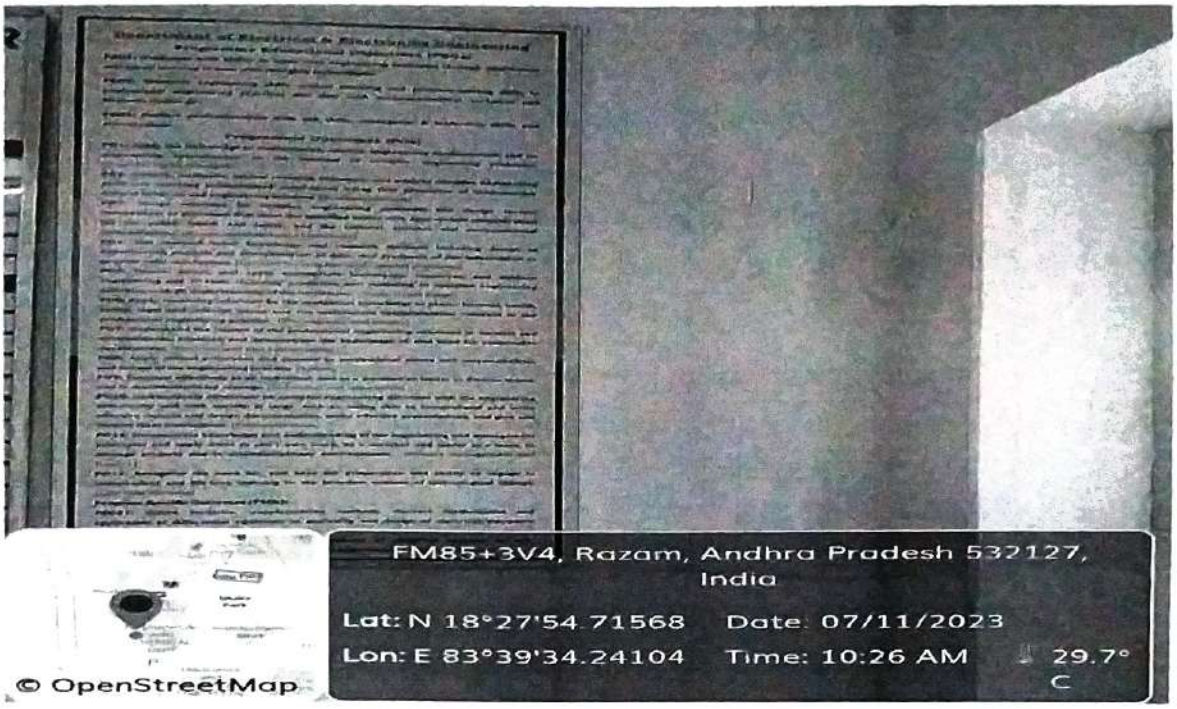
GMR Institute of Technology

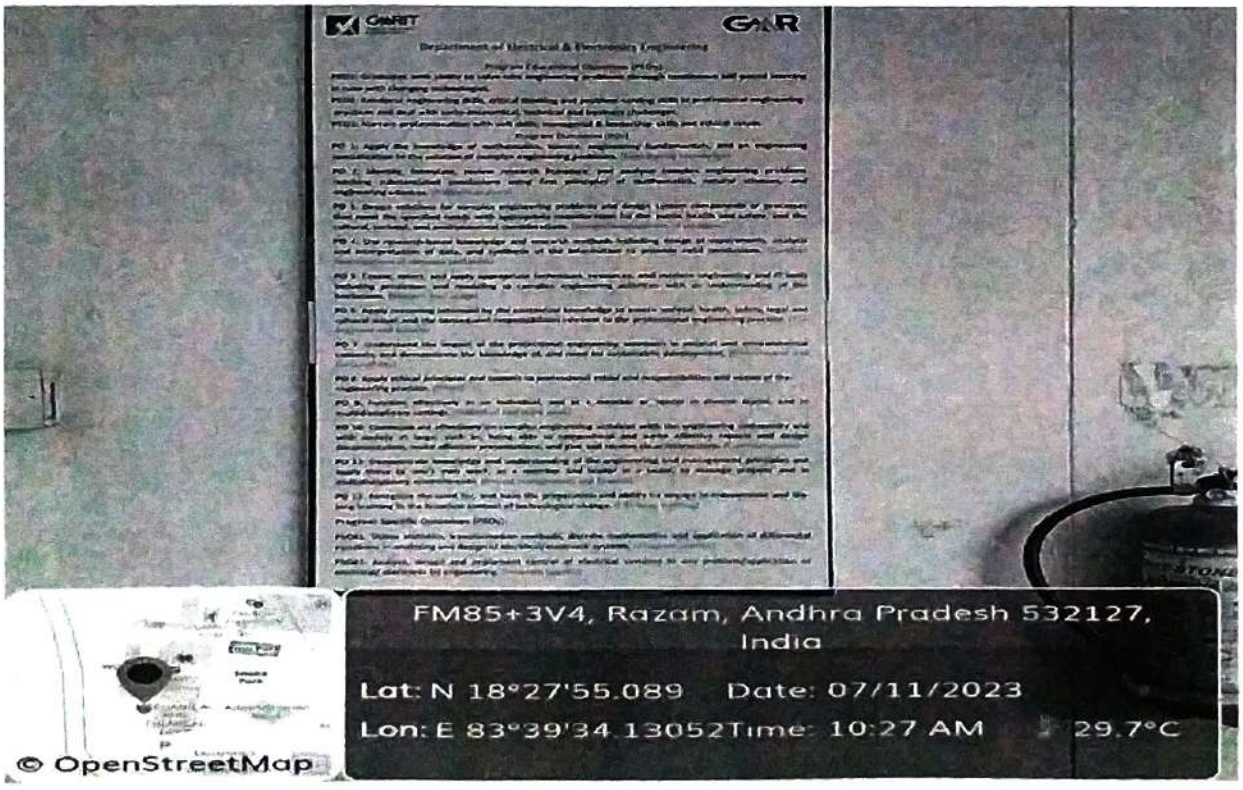
An Autonomous Institute Affiliated to JNTUK, Kakinada

GMRIT Training Tomorrow's Engineers Today

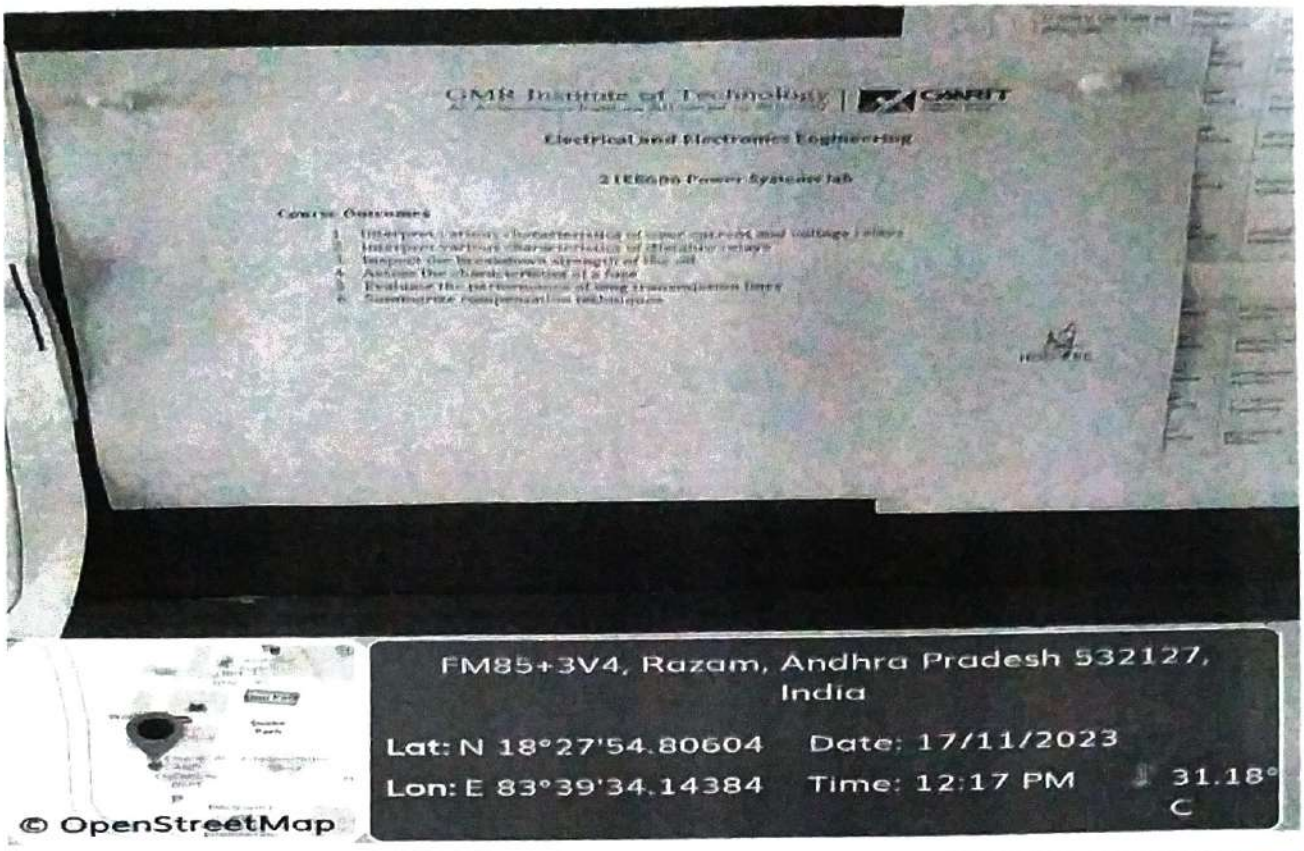
Department of Electrical and Electronics Engineering

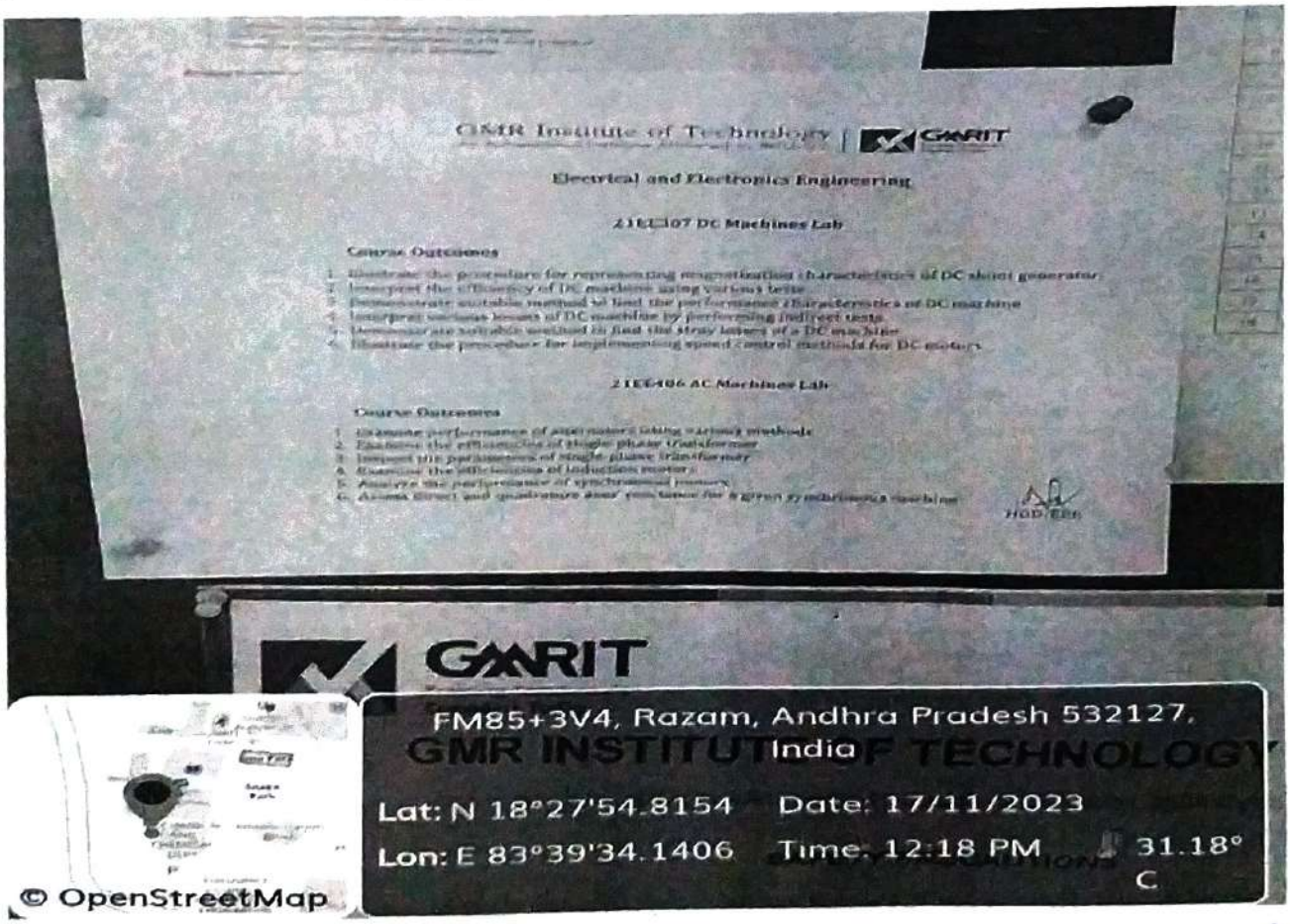
Geo tagged Photos of POs and Cos are displaced in the department:





HOD-EEE


GMR Institute of Technology | GMRIT
Electrical and Electronics Engineering
21EE606 Power Systems lab
Course Outcomes
FM85+3V4, Razam, Andhra Pradesh 532127, India
Lat: N 18°27'54.80604
Lon: E 83°39'34.14384
Date: 17/11/2023
Time: 12:17 PM
31.18° C
© OpenStreetMap


GMR Institute of Technology | GMRIT
Electrical and Electronics Engineering
21EE307 DC Machines Lab
Course Outcomes
1. Illustrate the procedure for representing magnetization characteristics of DC shunt generator.
2. Interpret the efficiency of DC machine using various tests.
3. Demonstrate suitable method to find the performance characteristics of DC machine
4. Interpret various losses of DC machine by performing indirect tests.
5. Demonstrate suitable method to find the stray losses of a DC machine
6. Illustrate the procedure for implementing speed control methods for DC motors.
21EE406 AC Machines Lab
Course Outcomes
1. Evaluate performance of asynchronous motor using various methods
2. Examine the efficiencies of single phase transformer
3. Interpret the performances of single phase transformer
4. Examine the efficiencies of induction motors
5. Analyze the performance of synchronous motors
6. Assess direct and quadrature axes synchronous for a given synchronous machine
HOD-EEE
GMRIT
GMR INSTITUTE OF TECHNOLOGY
FM85+3V4, Razam, Andhra Pradesh 532127, India
Lat: N 18°27'54.8154
Lon: E 83°39'34.1406
Date: 17/11/2023
Time: 12:18 PM
31.18° C
© OpenStreetMap

HOD-EEE

6 Do not wear metal ornaments

7 Do not divert your attention while working on the experiment.

8 Do not touch any terminal without ensuring it is dead.

GMR Institute of Technology | GMRIT

Electrical and Electronics Engineering

21EE160 Electrical Circuits and Simulation Lab

Course Outcomes

1. Apply various network theorems for analyzing both AC and DC circuits
2. Assess the time response of series RL and RC circuits
3. Determine coefficient of coupling for the given single-phase transformer
4. Evaluate various two port network parameters and an electrical circuit
5. Asses the active/ reactive power for the given 3-ph star /delta connected loads
6. Analyse filters and circuits using simulation for various network reduction techniques

21EE407 Measurements and Instrumentation Lab

Course Outcomes

1. Demonstrate suitable methods for measuring R, L and C parameters
2. Interpret the dielectric strength of a given field
3. Demonstrate suitable method for calibration of meters
4. Summarize the procedure for measurement of various electrical parameters using sensors and transducers
5. Demonstrate the procedure for measurement of various non-electrical parameters using sensors and transducers
6. Interpret the characteristics of various sensors

HOD-EEE

© OpenStreetMap

FM85+3V4, Razam, Andhra Pradesh 532127, India

Lat: N 18°27'54.8154 Date: 17/11/2023

Lon: E 83°39'34.1406 Time: 12:21 PM 31.18° C

GMR Institute of Technology | GMRIT

Electrical and Electronics Engineering

21EE507 Power Electronics and Drives Lab

Course Outcomes

1. Demonstrate the characteristics of semiconductor switching devices
2. Analyze the various firing schemes applied to SCR
3. Inspect the forced commutation methods used in Choppers
4. Demonstrate the performance of various types of power electronic converters with R and RL loads
5. Demonstrate the performance of AC-DC / DC-DC converters fed DC drives
6. Show the performance of DC-AC converter fed induction motor drive

HOD-EEE

© OpenStreetMap

FM85+3V4, Razam, Andhra Pradesh 532127, India

Lat: N 18°27'54.8154 Date: 17/11/2023

Lon: E 83°39'34.1406 Time: 12:23 PM 31.18°C

HOD-EEE

GMR Institute of Technology

An Autonomous Institute Affiliated to JNTUK, Kakinada

GMRIT

GMR Institute of Technology
Department of Mechanical Engineering

Program Educational Objectives (PEOs)

Graduates in Mechanical Engineering a few years after graduation, would:

I. Graduates demonstrating ability to solve core engineering problems through continuous self-paced learning in tune with changing technologies **(PEO1)**

II. Graduates applying their engineering skills, critical thinking and problem solving skills in professional engineering practice and deal with socio-economical, technical and business challenges **(PEO2)**

III. Graduates imbibed with ethical values possessing effective communication skills, managerial skills, teamwork & leadership qualities **(PEO3)**

Program Outcomes (POs)

Engineering Graduates will be able to:

PO 1: **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO 2: **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO 3: **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO 4: **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO 5: **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO 6: **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO 7: **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO 8: **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9: **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10: **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

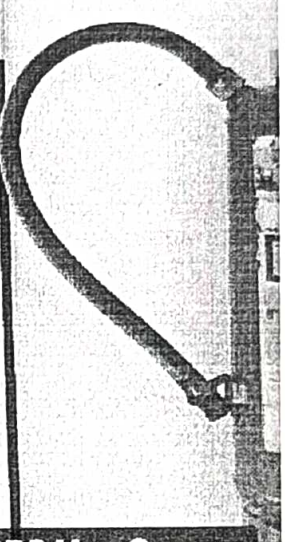
PO 11: **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12: **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSOs)

PSO 1: Demonstrate the knowledge and application of Geometric modeling, design, Analysis and Simulation of mechanical engineering systems.

PSO 2: Ability to apply the advanced concepts of thermal and manufacturing engineering in solving industry problems.



Signature of the HoD

GMR Institute of Technology

GMR Institute of Technology
Department of Mechanical Engineering

Program Educational Objectives (PEOs)

Graduates in Mechanical Engineering a few years after graduation would

I. Graduates demonstrating ability to solve real engineering problems through continuous self paced learning in pace with changing technologies **(PEO1)**

II. Graduates applying their engineering skills, critical thinking and problem solving skills in professional engineering practices and deal with socio economical, technical and business challenges **(PEO2)**

III. Graduates imbibed with ethical values possessing effective communication skills, managerial skills teamwork & leadership qualities **(PEO3)**

Program Outcomes (POs)

Engineering Graduates will be able to:

PO 1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO 2: Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO 3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO 4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO 5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO 6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO 7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO 11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSOs)

PSO 1: Demonstrate the knowledge and application of Geometric modeling, design, Analysis and Simulation of mechanical engineering systems.

PSO 2: Ability to apply the advanced concepts of thermal and manufacturing engineering in solving industry problems.

Institute

Fluid

1. Deter
2. Deter
3. Evalu pipes
4. Dete
5. Veri
6. Illus a pi regi
7. Det
8. Eva Pu
9. Ev
10. De co
11. De co
12. D c

GPS Map Camera
Razam, Andhra Pradesh, India
FM95+2M6, Razam, Andhra Pradesh 532127, India
Lat 18.464761°
Long 83.659505°
27/11/23 11:11 AM GMT +05:30

Google

B.Tech 3rd Semester (21ME307)

Signature of the HoD

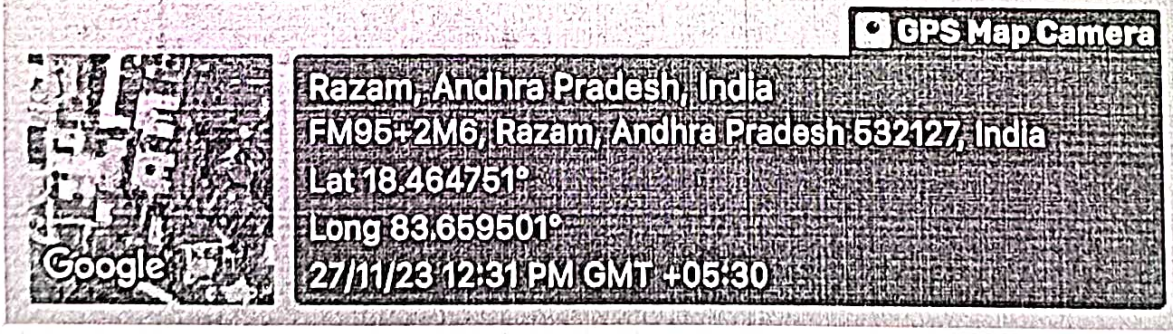
GMR Institute of Technology

Metal Cutting and Machine Tools Lab (20ME507)

B.Tech 5th Semester

Course Outcomes

1. Build simple features by performing basic turning operations on lathe.
2. Develop simple features by performing basic operations on shaper and planer.
3. Create features by making use of grooving, boring and reaming.
4. Demonstrate the features by making use of milling machine.
5. Conducting for simple features by performing basic operations on thread cutting and knurling,
6. Build the basic features by making use of Cylindrical Grinder and Surface.



Signature of the HoD

GMR Institute of Technology

An Autonomous Institute Affiliated to JNTU, Kakinada

GMRIT Training Tomorrow's Engineers Today

Accredited by NBA, NAAC with 'A' Grade & ISO 9001:2015 Certified Institution

Department of Electronics and Communication Engineering

Program Educational Objectives

PEO 1: Excel in their technical and professional careers with the spirit of learning to learn, think and live by acquiring solid foundation in Science and Engineering.

PEO 2: Contemplate real life problems, design and develop novel products that are technically sound, economically feasible and socially acceptable.

PEO 3: Embrace ethical attitude and exhibit effective skills in communication, management, teamwork and leadership qualities.

Program Outcomes

ngineering graduate will be able to

O 1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

O 2: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

O 3: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

O 4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

O 5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

O 6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

O 7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

O 8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

O 9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO 11: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PSO 1: Apply the knowledge of technological evolutions, model / character the devices and design the integrated as to build analog and digital systems.

PSO 2: Understand and apply the fundamentals of communication and signal processing to develop systems wrapped with industry standard protocols and standards.

Course Outcomes

1. Implement sampling theorem
2. Assess analog modulation & demodulation techniques
3. Demonstrate the pulse modulation techniques
4. Implement different Baseband modulation techniques
5. Implement different Digital modulation techniques
6. Contrast the design issues in a digital communication system

COs-POs Mapping

COs	PO1	PO2	PO4	PO14
1	2	2	3	3
2	2	2	3	3
3	2	2	3	3
4	2	2	3	3
5	2	2	3	3
6	2	2	3	3

3-Strongly linked | 2-Moderately linked| 1-Weakly linked

List of Experiments

Minimum twelve experiments to be conducted

(a)Any six experiments from the following

1. Verification of Sampling Theorem
2. Amplitude Modulation & Demodulation
3. AM-DSB SC -Modulation & Demodulation
4. Design of envelope Detector
5. Frequency Modulation & Demodulation
6. Pulse Amplitude Modulation–Modulation& Demodulation
7. PWM, PPM -Modulation & Demodulation
8. Phase Locked loop(PLL)

(b)Any six experiments from the following

9. Verify the operation of Time Division Multiplexing
10. Verification of Delta Modulator
11. Generation and Detection of pulse code modulation
12. Generation and Detection of Differential Pulse Code Modulation
13. Generation and Detection of ASK
14. Generation and Detection of PSK
15. Generation and Detection of of FSK

List of Augumented Experiments*

1. Design of AM receiver
2. Mobile Phone Detector
3. FM Transmitter
4. FM Receiver
5. HAM Radio Receiver

Reading Material(s)

1. Simon Haykin , Digital communications, John Wiley, 4th Edition, 2013
2. H Taub and D Schilling, Principles of Communication Systems, TMH, 4th Edition, 2017
3 John G. proakis, Masoundsalehi, Gerhard bakh ,Contempary communication system using MATLAB &Simulink,Thomson India publishers, 2007

* ... in addition to the regular experiments

HEAD
DEPARTMENT OF E...
B.M.S. INSTITUTE OF TECHNOLOGY

GMR Institute of Technology

An Autonomous Institute Affiliated to JNTU, Kakinada

GMRIT Training Tomorrow's Engineers Today

Accredited by NBA, NAAC with 'A' Grade & ISO 9001:2015 Certified Institution

Department of Electronics and Communication Engineering

Program Educational Objectives

- Embrace technical and professional skills with the spirit of learning, critical thinking while acquiring the fundamentals in science and technology.
- Contemplate real life problems, design and develop novel products that are technically viable, economically feasible and socially acceptable.
- Encompass ethical values, exhibit soft skills in management & teamwork acquiring leadership qualities.

Program Outcomes

Engineering graduate will be able to

PO 1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems (Engineering knowledge)

PO 2: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences (Problem analysis)

PO 3: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. (Design/development of solutions)

PO 4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions (Conduct investigations of complex problems)

PO 5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations (Modern tool usage)

PO 6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice (The engineer and society)

PO 7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. (Environment and sustainability)

PO 8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice (Ethics)

PO 9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. (Individual and team work)

PO 10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions (Communication)

PO 11: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments (Project management and finance)

PO 12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change (Life-long learning)

Program Specific Outcomes

PSO 1: Apply the knowledge of technological evolutions, model / characterize devices and design the integrated circuits to build analog and digital systems. (Engineering Specialization)

PSO 2: Understand and apply the fundamentals of communication and signal processing to develop systems wrapped with industry standard protocols and standards. (Engineering Specialization)

GMR Institute of Technology
An Autonomous Institute Affiliated to JNTUK, Kakinada

GMRIT
Training Tomorrow's Engineers Today

GMR Nagar, Rajam-532 127
Srikakulam (Dist.)
Andhra Pradesh
CIN [illegible]
T +91 (8941) 251 592/251 593/ 252 989
F +91 (8941) 251 591
W www.gmrit.org

PO 9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.(Individual and team work)

PO 10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.(Communication)

PO 11: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.(Project management and finance)

PO 12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.(Life-long learning)

Program Specific Outcomes

PSO 1: Apply the knowledge of technological evolutions, model / characterize devices and design the integrated circuits to build analog and digital systems. (Program Specific)

PSO 2: Understand and apply the fundamentals of communication and signal processing to develop systems wrapped with industry standard protocols and standards. (Program Specific)

GMR Institute of Technology

An Autonomous Institute Affiliated to JNTU, Kakinada

GMRIT Training Tomorrow's Engineers Today

Accredited by NBA, NAAC with 'A' Grade & ISO 9001:2015 Certified Institution

Department of Electronics and Communication Engineering

Program Educational Objectives

PEO 1: Excel in their technical and professional careers with the spirit of learning to learn, think and live by acquiring solid foundation in Science and Engineering.

PEO 2: Contemplate real life problems, design and develop novel products that are technically sound, economically feasible and socially acceptable.

PEO 3: Embrace ethical attitude and exhibit effective skills in communication, management, teamwork and leadership qualities.

Program Outcomes

Engineering graduate will be able to

PO 1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO 2: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO 3: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO 4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO 5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO 6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO 7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO 8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO 11: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PSO 1: Apply the knowledge of technological evolutions, model / character the devices and design the integrated as to build analog and digital systems

PSO 2: Understand and apply the fundamentals of communication and signal processing to develop systems wrapped with industry standard protocols and standards.

GMR Institute of Technology

An Autonomous Institute Affiliated to JNTU, Kakinada

GMRIT Training Tomorrow's Engineers Today

Accredited by NBA, NAAC with 'A' Grade & ISO 9001:2015 Certified Institution

Department of Electronics and Communication Engineering

Program Educational Objectives

PEO 1: Excel in their technical and professional careers with the spirit of learning to learn, think and live by acquiring solid foundation in Science and Engineering.

PEO 2: Contemplate real life problems, design and develop novel products that are technically sound, economically feasible and socially acceptable.

PEO 3: Embrace ethical attitude and exhibit effective skills in communication, management, teamwork and leadership qualities.

Program Outcomes

Engineering graduate will be able to

PO 1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO 2: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO 3: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO 4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO 5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO 6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO 7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO 8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO 11: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PSO 1: Apply the knowledge of technological evolutions, model / character the devices and design the integrated as to build analog and digital systems.

PSO 2: Understand and apply the fundamentals of communication and signal processing to develop systems wrapped with industry standard protocols and standards.

21EC306 Electronic Devices and Circuits Lab

00315

Course Outcomes

1. Assess the characteristics of semiconductor devices
2. Find the load and line regulation of rectifiers
3. Implement D.C. Regulated power supply
4. Assess the characteristics of BJT and FET
5. Construct the characteristics of CE and CS amplifiers
6. Assess the frequency response of CE and CS amplifiers

COs - POs Mapping

COs	PO1	PO2	PO3	PO4
1	3	2	2	3
2	3	2	2	3
3	3	2	2	3
4	3	2	2	3
5	3	2	2	3
6	3	2	2	3

3-Strongly linked| 2- Moderately linked| 1 - Weakly linked

List of Experiments
Perform any twelve Experiments

1. PN Junction diode characteristics
2. Zener diode characteristics
3. Full wave center tapped rectifier with and without filter.
4. Bridge type Full wave rectifier
5. Design of Zener regulator.
6. Characteristics of SCR
7. Characteristics of UJT
8. Transistor CE characteristics (Input and Output)
9. Transistor CB characteristics (Input and Output)
10. JFET characteristics
11. Characteristics of CE Amplifier
12. Characteristics of CS Amplifier
13. Frequency response of CE amplifier
14. Frequency response of CS amplifier

List of Augmented Experiments*

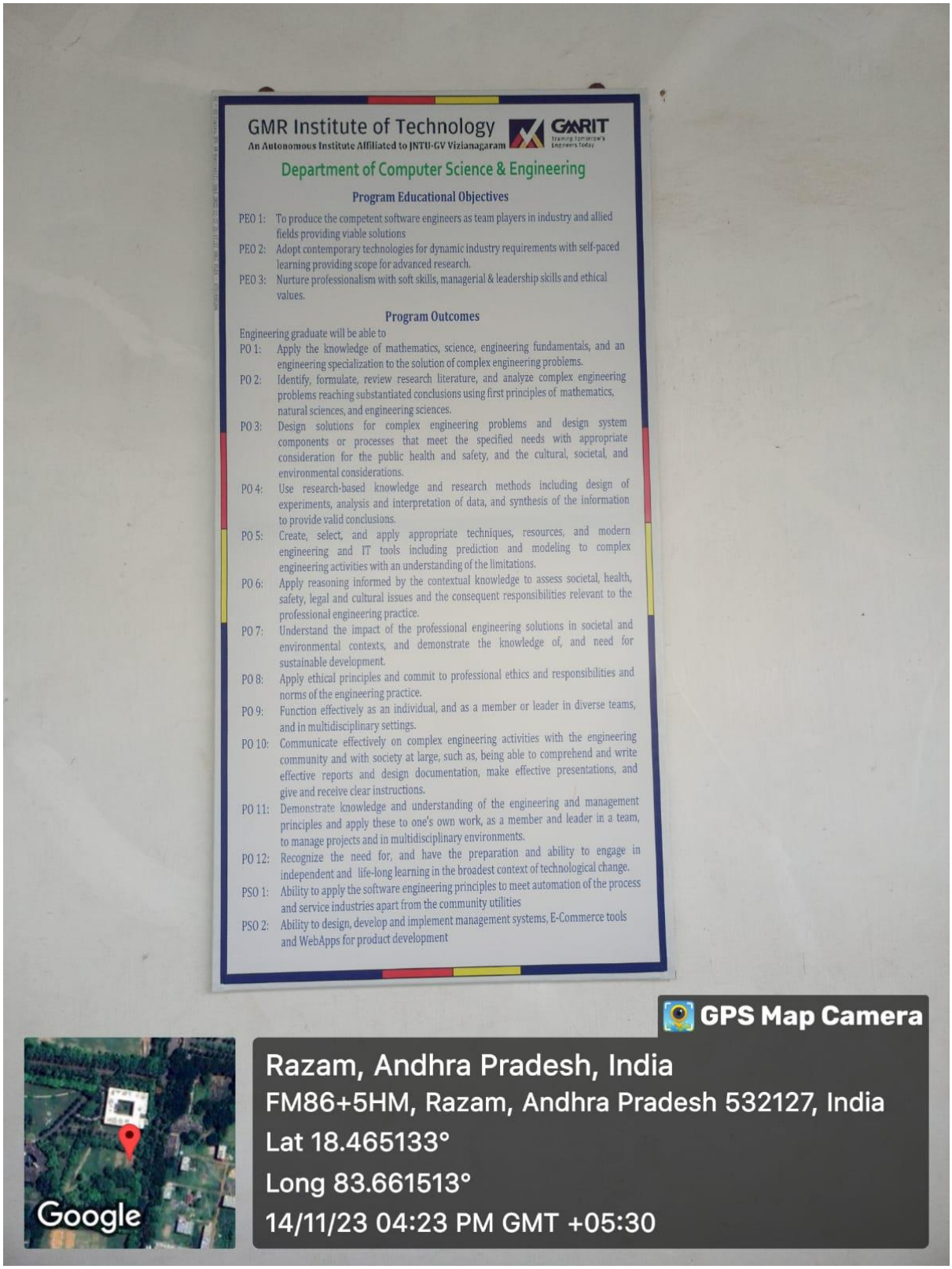
1. Design of Regulated DC Power Supply
2. Applications based on FET
3. Applications based on BJT
4. Applications based on SCR
5. Burglar Alarm

Reading Material (s)

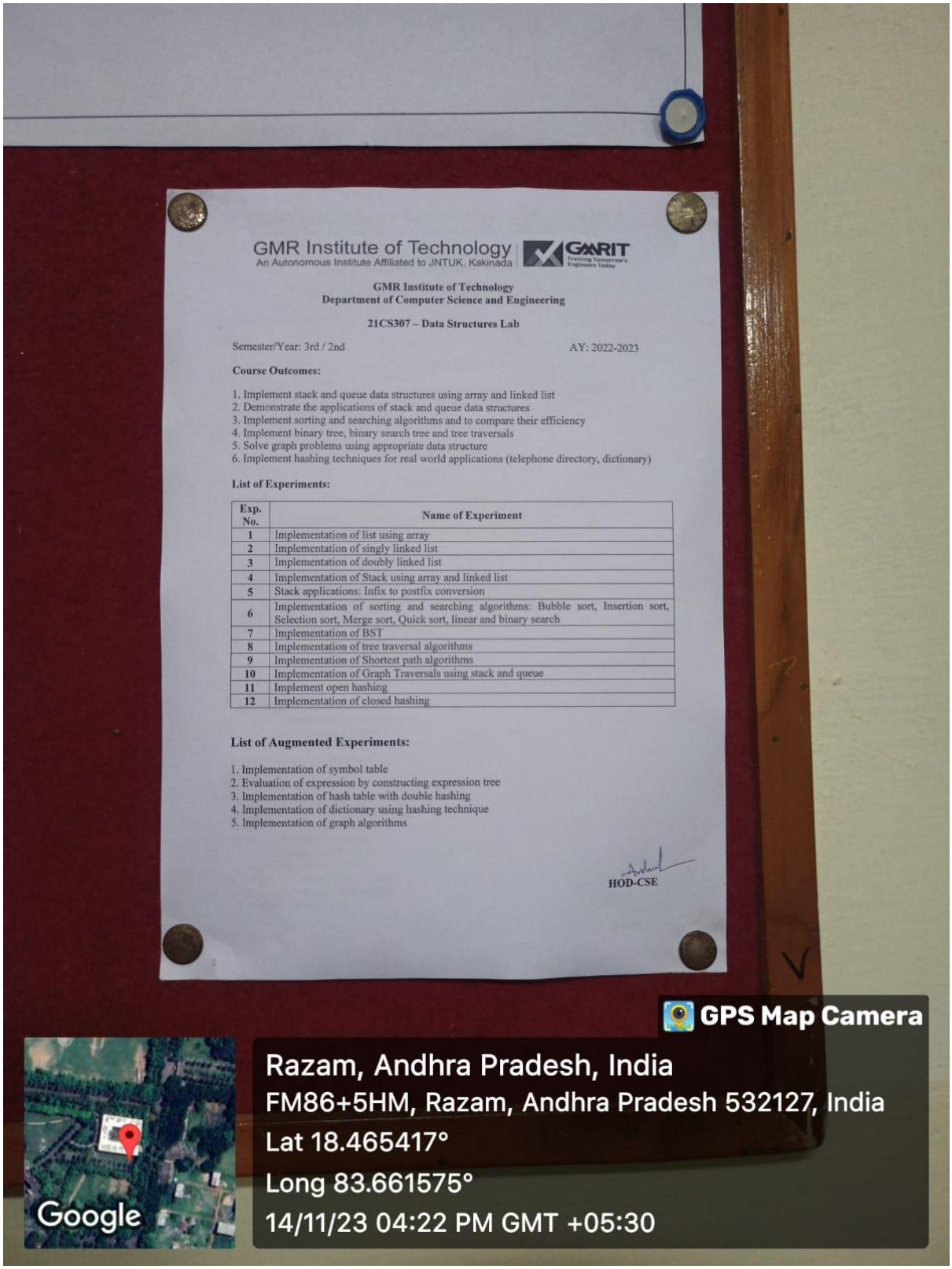
1. N.N.Bhargava, D.C.kulshreshtha S.C.Gupta, Basic electronics and linear circuits Tata MC Graw Hill com-pany Ltd., New Delhi, 2nd Edition, 2003.
2. R.L. Boylestad and Louis Nashelsky, Electronic Devices and Circuits, Pearson/Prentice Hall, 9th Edition, 2006.

* Students shall opt any one of the Augmented experiment in addition to the regular experiments

CSE Department – PO is displayed on the board in the second-floor corridor



CSE Department – Lab COs are displayed on the lab notice board



GMR Institute of Technology
An Autonomous Institute Affiliated to JNTUK, Kakinada

GARIT Training Tomorrow's Engineers Today

GMR Institute of Technology
Department of Computer Science and Engineering

21CS307 – Data Structures Lab

Semester/Year: 3rd / 2nd AY: 2022-2023

Course Outcomes:

1. Implement stack and queue data structures using array and linked list
2. Demonstrate the applications of stack and queue data structures
3. Implement sorting and searching algorithms and to compare their efficiency
4. Implement binary tree, binary search tree and tree traversals
5. Solve graph problems using appropriate data structure
6. Implement hashing techniques for real world applications (telephone directory, dictionary)

List of Experiments:

Exp. No.	Name of Experiment
1	Implementation of list using array
2	Implementation of singly linked list
3	Implementation of doubly linked list
4	Implementation of Stack using array and linked list
5	Stack applications: Infix to postfix conversion
6	Implementation of sorting and searching algorithms: Bubble sort, Insertion sort, Selection sort, Merge sort, Quick sort, linear and binary search
7	Implementation of BST
8	Implementation of tree traversal algorithms
9	Implementation of Shortest path algorithms
10	Implementation of Graph Traversals using stack and queue
11	Implement open hashing
12	Implementation of closed hashing

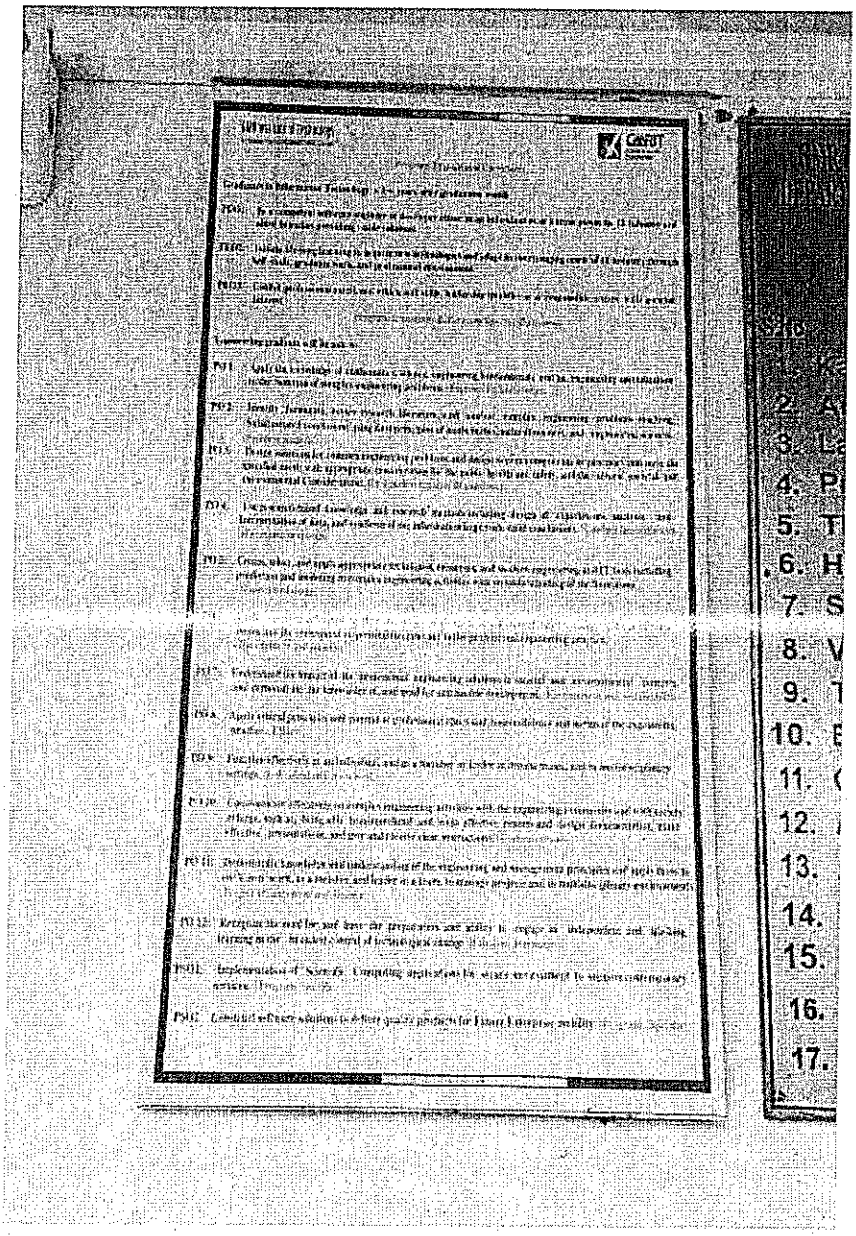
List of Augmented Experiments:

1. Implementation of symbol table
2. Evaluation of expression by constructing expression tree
3. Implementation of hash table with double hashing
4. Implementation of dictionary using hashing technique
5. Implementation of graph algorithms

HOD-CSE

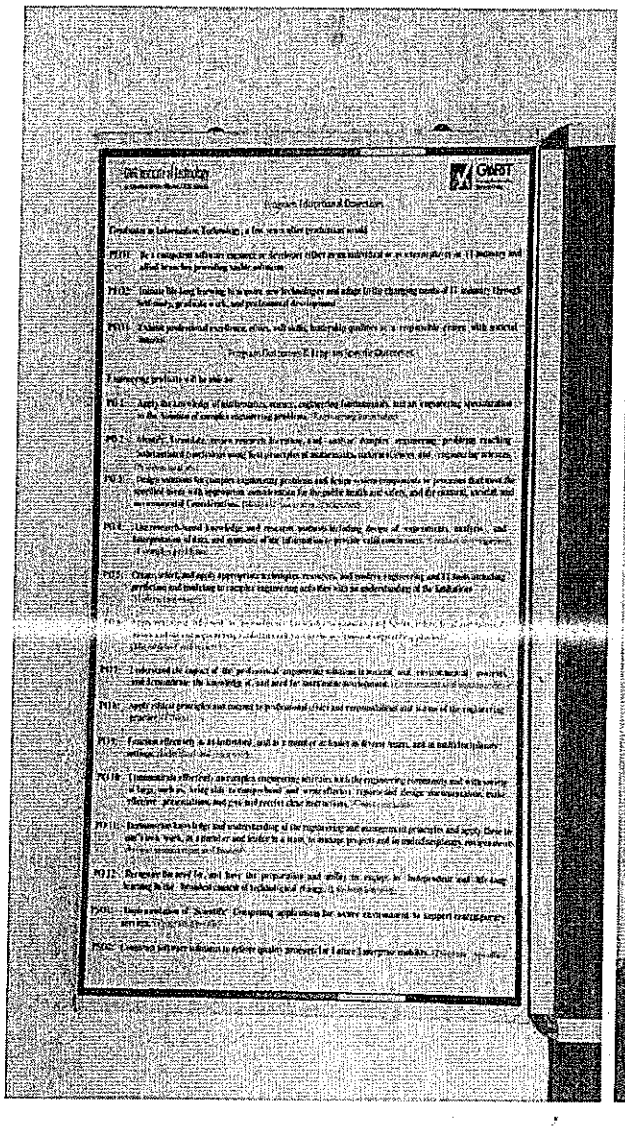
GPS Map Camera
Razam, Andhra Pradesh, India
FM86+5HM, Razam, Andhra Pradesh 532127, India
Lat 18.465417°
Long 83.661575°
14/11/23 04:22 PM GMT +05:30
Google

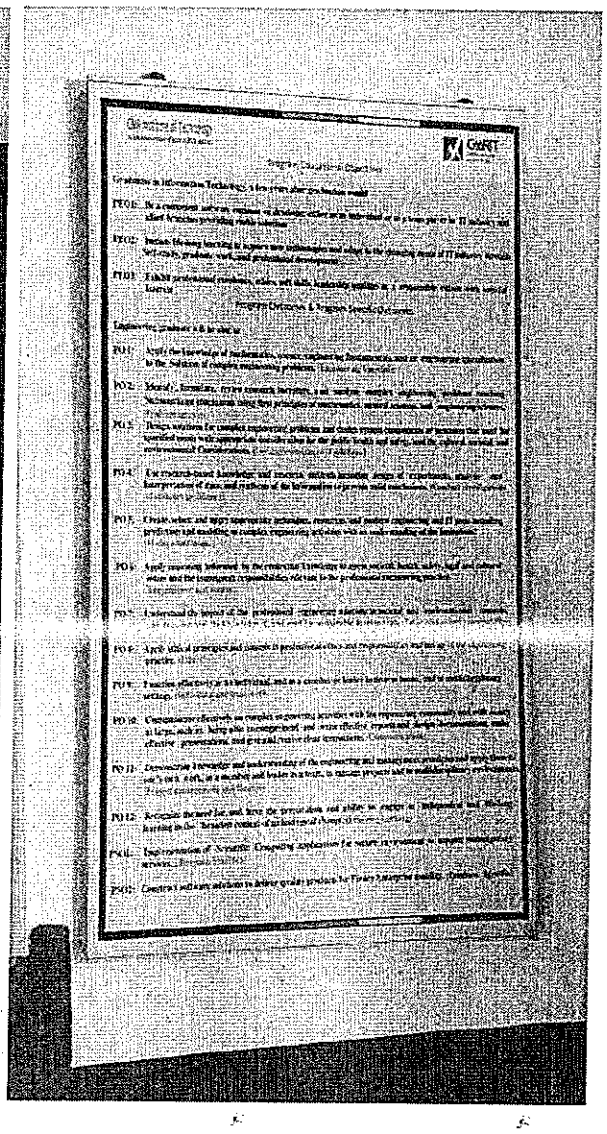
Photographs where the POs and COs are displaced in your department



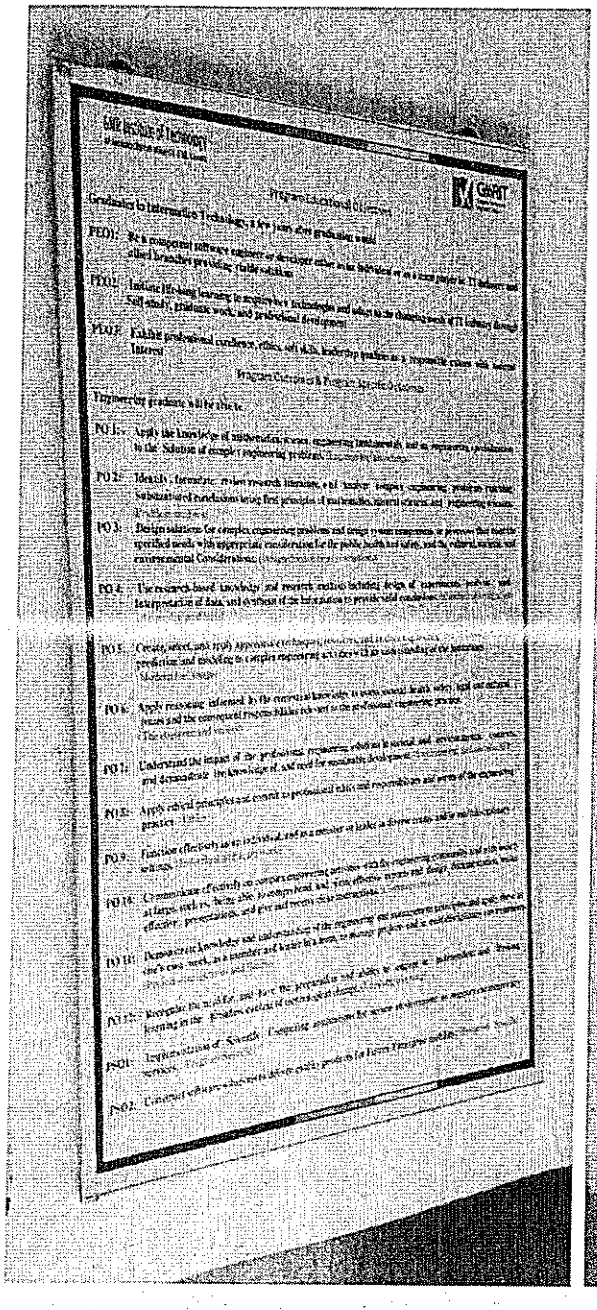
Department Corridor (2nd Floor)

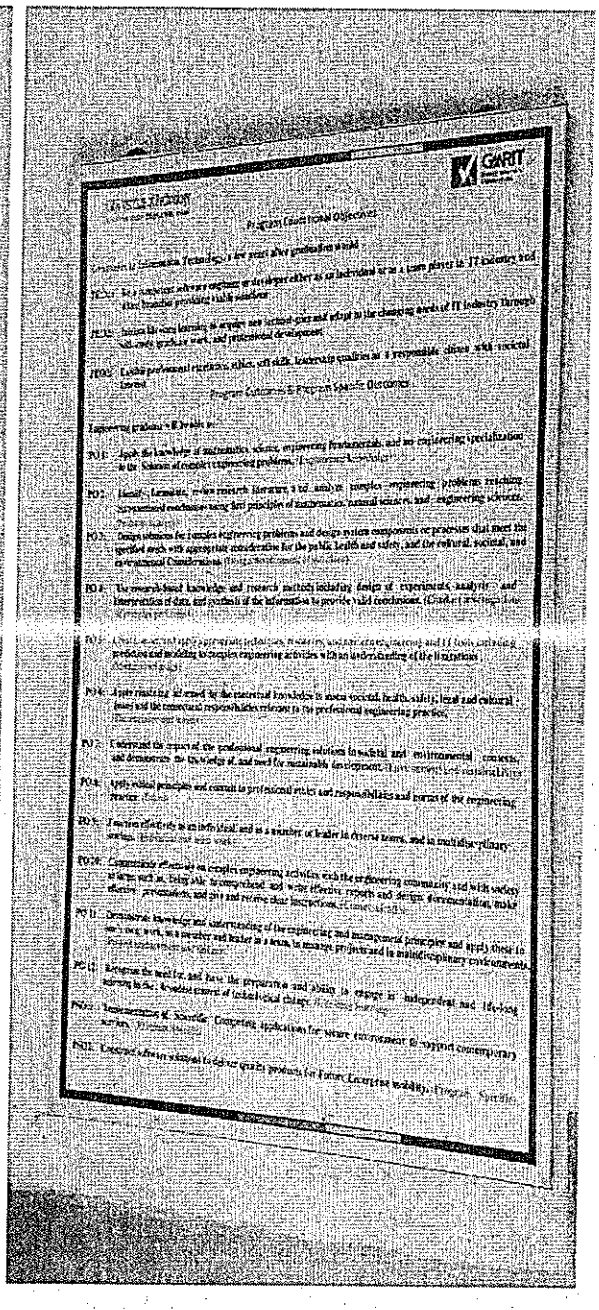
2nd Floor Class Rooms



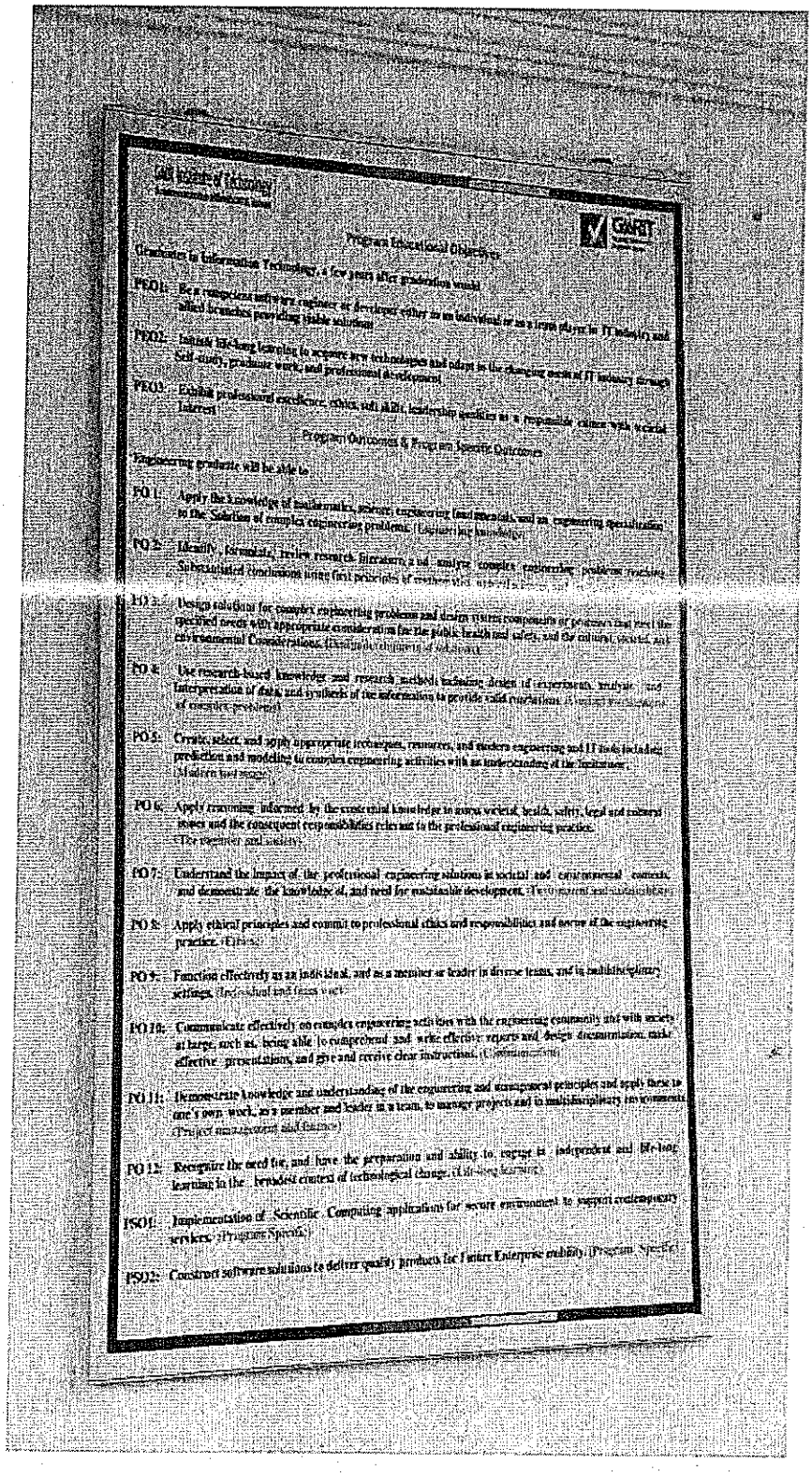


First Floor Class Rooms





Ground Floor LABS



Program Educational Objectives

Graduates in Information Technology, a few years after graduation would

PEO1: Be a competent software engineer or developer either as an individual or as a team player in IT industry and allied industries providing viable solutions

PEO2: Initiate life-long learning to acquire new techniques and adapt to the changing needs of IT industry through Self-study, graduate work, and professional development

PEO3: Exhibit professional excellence, ethics, soft skills, leadership qualities as a responsible citizen with societal interest

Program Outcomes & Program Specific Outcomes

Engineering graduate will be able to:

PO 1: Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the Solution of complex engineering problems. (Engineering knowledge)

PO 2: Identify, formulate, review research literature, and analyze complex engineering problems reaching Substantiated conclusions using first principles of mathematics and engineering sciences. (Problem analysis)

PO 3: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental Considerations. (Design/development of solutions)

PO 4: Use research-based knowledge and research methods including design of experiments, analysis and Interpretation of data, and synthesis of the information to provide valid conclusions. (Conduct investigations of complex problems)

PO 5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. (Modern tool usage)

PO 6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. (The engineer and society)

PO 7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. (Environment and sustainability)

PO 8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. (Ethics)

PO 9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. (Individual and team work)

PO 10: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. (Communication)

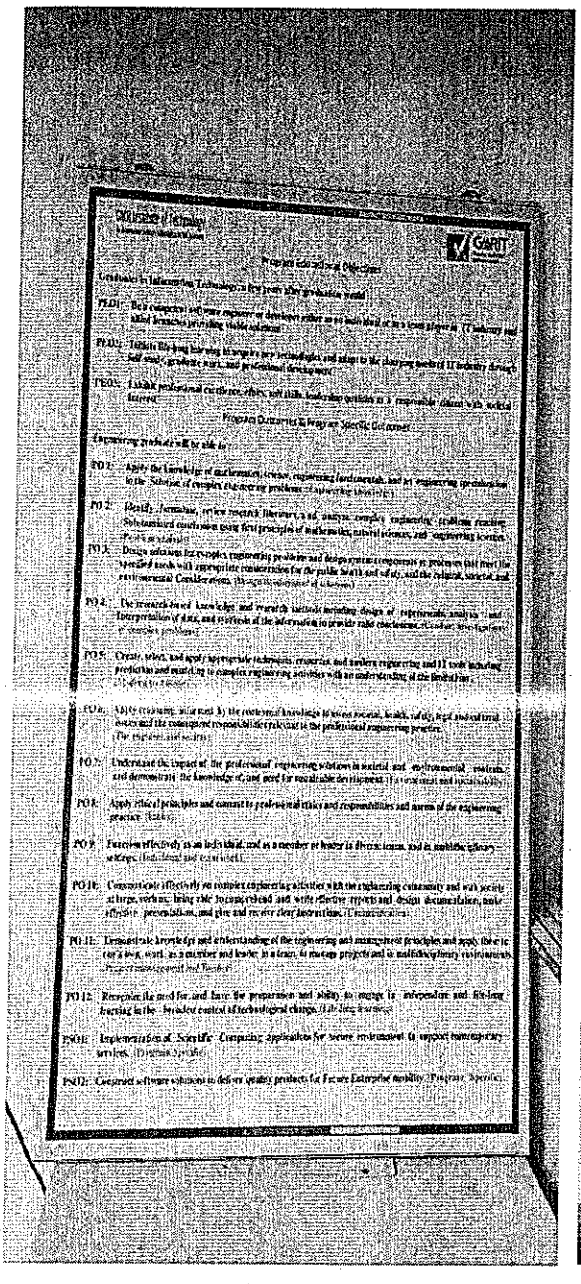
PO 11: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. (Project management and finance)

PO 12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. (Life-long learning)

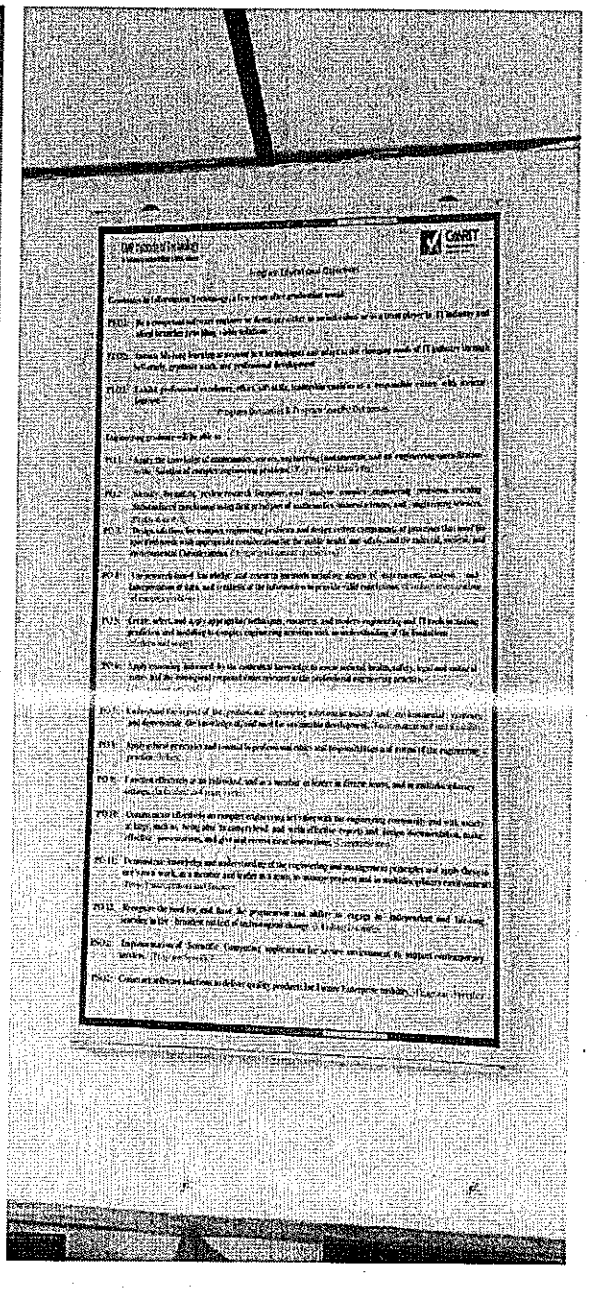
PSO1: Implementation of Scientific Computing applications for server environment to support contemporary services. (Program Specific)

PSO2: Construct software solutions to deliver quality products for Future Enterprise entities. (Program Specific)

I- LAB



NT Lab



UNIX Lab