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PHOTOS OF LABORATORIES

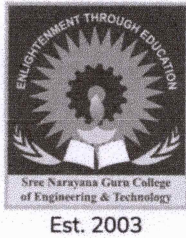


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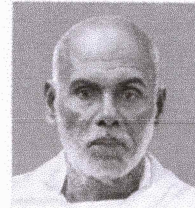


DEPARTMENT OF CIVIL ENGINEERING



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GEO TAGGED PHOTOS OF LABORATORIES OF THE CIVIL ENGINEERING DEPARTMENT

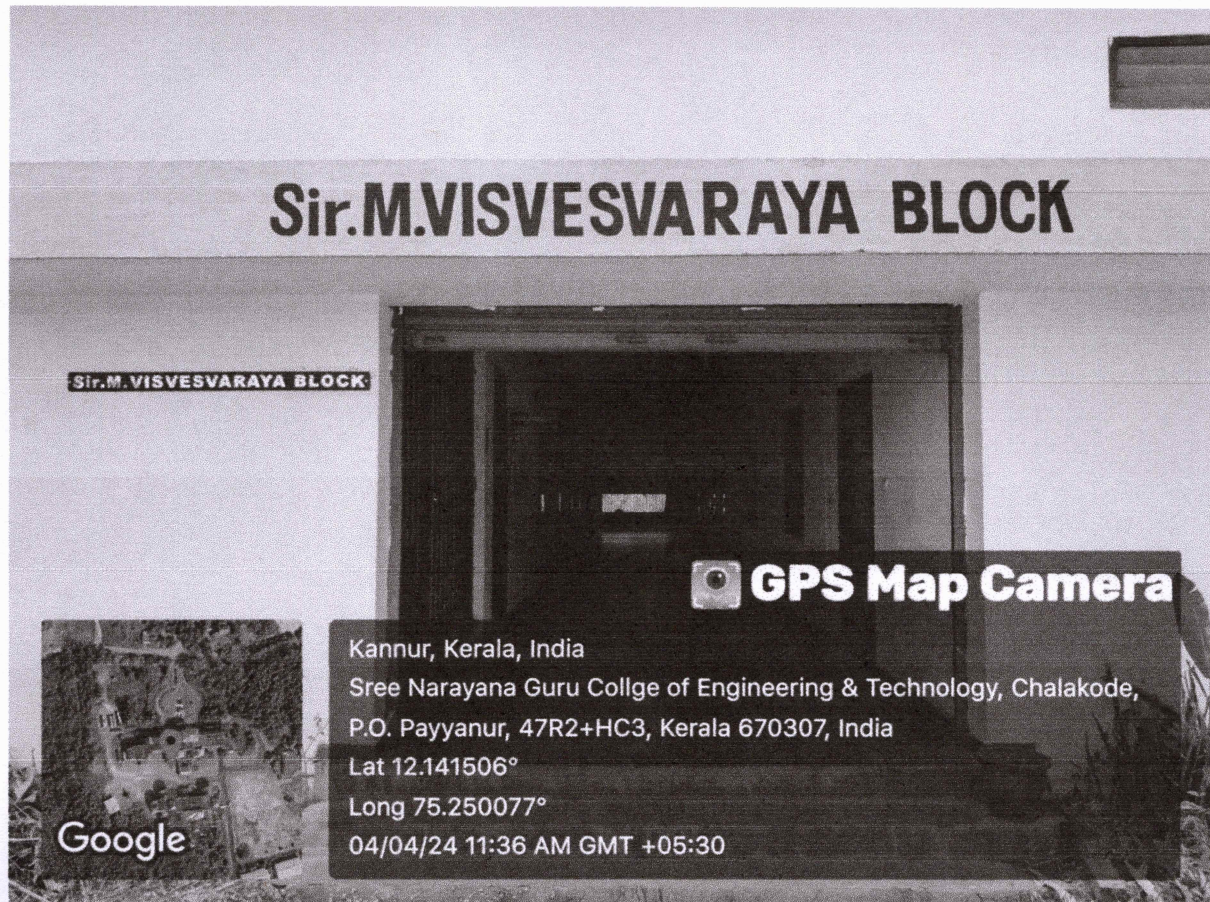


Fig.1 Entrance of M Visweswaraya Block

Sir. M. VISVESVARAYA BLOCK

The M. Visvesvaraya Block is situated adjacent to the Dr. TP Balakrishnan Block. Within this block, one can find a range of civil engineering laboratories, including those dedicated to material testing, geotechnical studies, environmental engineering, and transportation research.

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1. STRENGTH OF MATERIAL & CONCRETE LAB

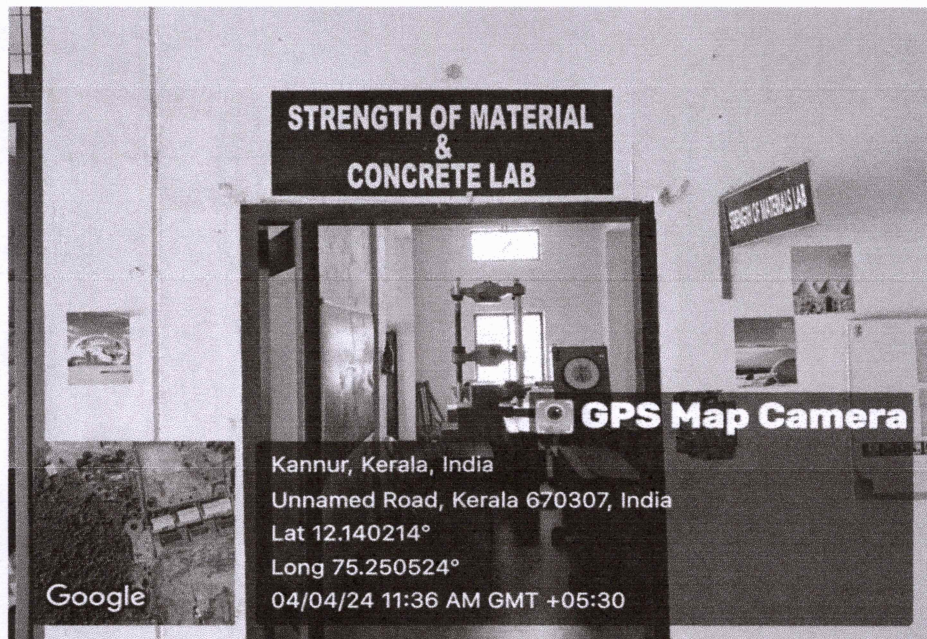


Fig.2 Entrance of Material Testing Lab

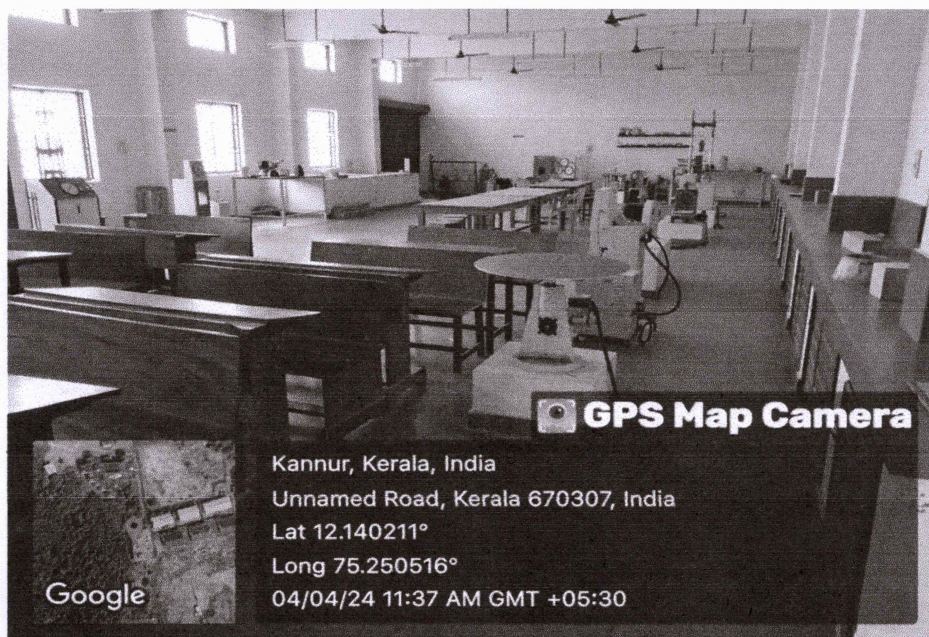


Fig.3 Material Testing Lab

The Strength of Materials and Concrete Lab is a vital space in civil engineering education and research. Here, students and researchers experiment with materials like steel and concrete to understand their mechanical properties. They assess factors like tensile and compressive strength, elasticity, and durability. The Concrete Lab within this facility focuses specifically

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on concrete production, mixture design, and quality control. Through hands-on experimentation, participants gain practical insights into structural components' behavior and explore innovations for more durable and sustainable construction materials.

2. GEOTECHNICAL ENGINEERING LAB

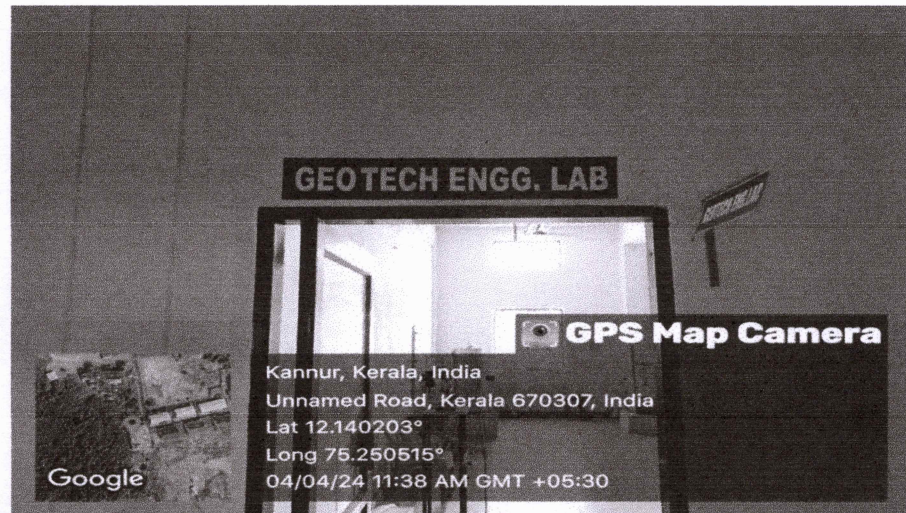


Fig.4 Entrance Material Testing Lab

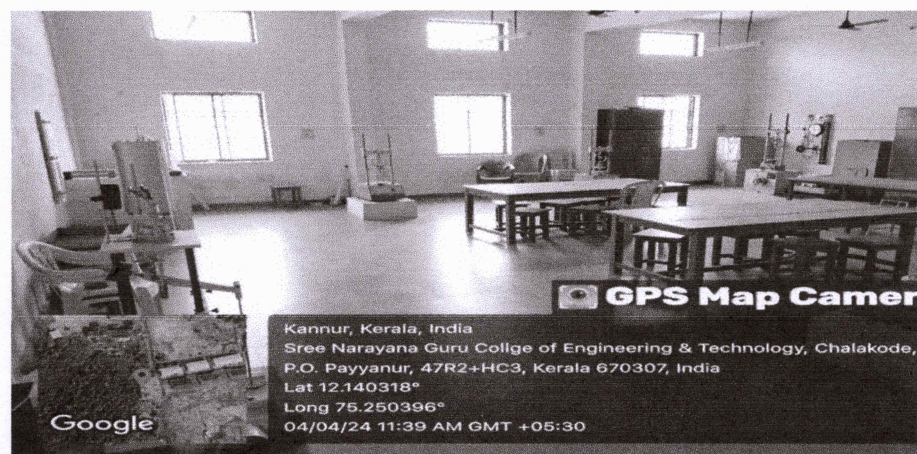


Fig.5 Material Testing Lab

The Geotechnical Engineering Lab is a pivotal space for civil engineering education and research, focusing on the study of soil and rock mechanics. Through hands-on experiments and tests, students and researchers explore the mechanical properties of these materials, aiding in foundation design, slope stability analysis, and underground construction planning. Advanced equipment facilitates simulations of soil behavior under various conditions, fostering a deeper understanding and enabling innovative engineering solutions. Overall, the lab plays a vital role in shaping safer and more sustainable infrastructure projects.

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3. TRANSPORTATION LAB

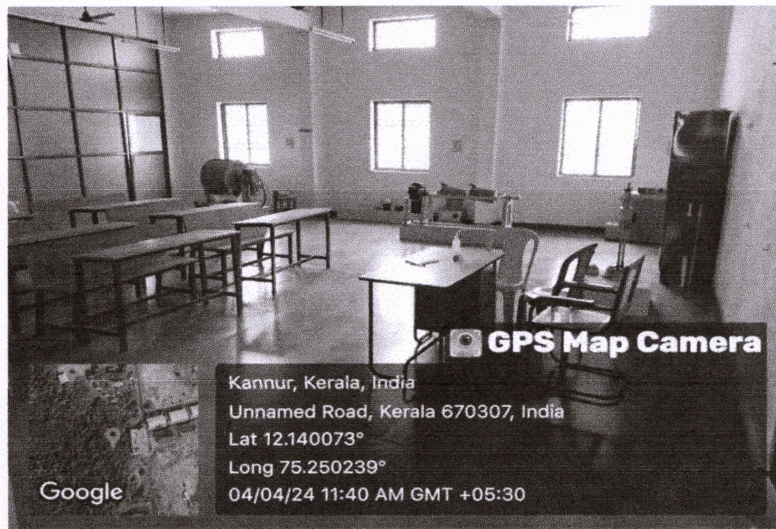


Fig.6 Transportation Lab

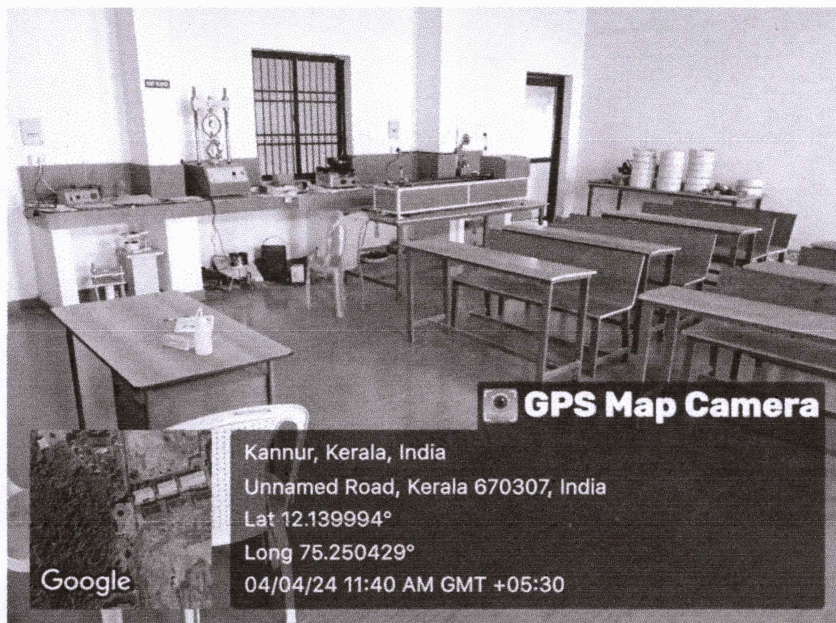


Fig.7 Transportation Lab

The Transportation Lab is pivotal in civil engineering, focusing on traffic analysis, pavement design, and transportation planning. Through experiments and simulations, it explores traffic behavior and optimizes transportation networks. Additionally, it researches sustainable solutions for improved mobility and reduced environmental impact. Overall, it advances transportation engineering for safer, more efficient systems

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4. ENVIRONMENTAL ENGINEERING LAB

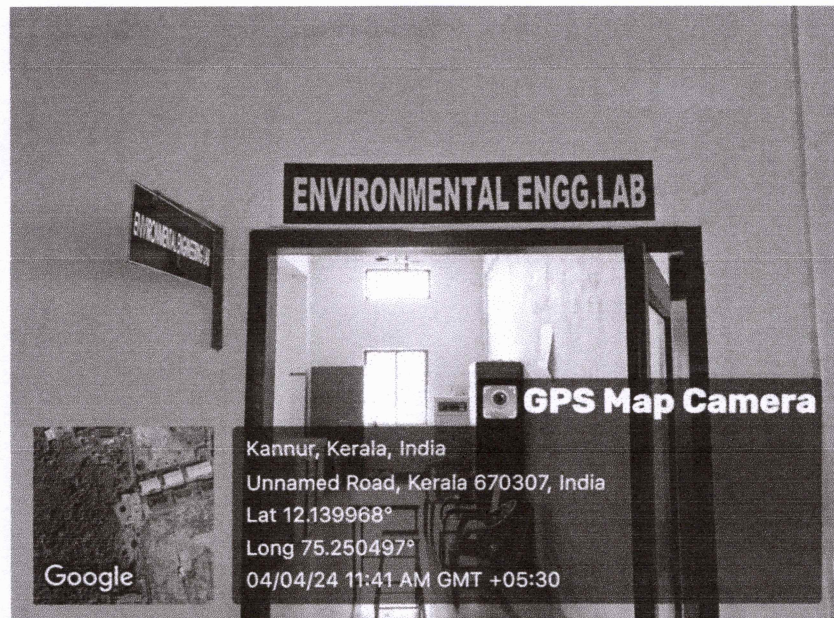


Fig.8 Entrance of Enviornmental Lab

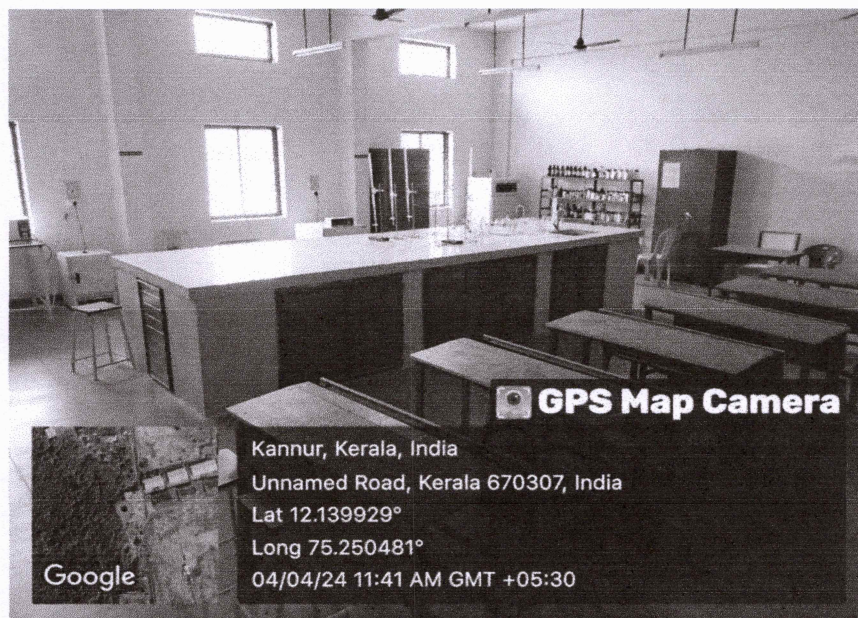


Fig.9 Environmental Lab

The Environmental Engineering Lab is pivotal in civil engineering, focusing on water treatment, air quality, and waste management. Through hands-on experiments and advanced analysis, it explores pollution characteristics and develops sustainable solutions. The lab employs cutting-edge equipment to research technologies for environmental conservation and public health improvement. Overall, it serves as a hub for innovation in addressing pressing environmental challenges.

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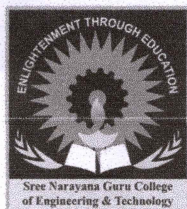


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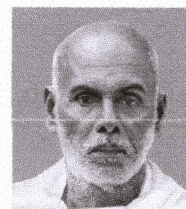
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



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GEO TAGGED PHOTOS OF LABORATORIES OF THE COMPUTER SCIENCE AND ENGINEERING DEPARTMENT

1. NETWORKING LAB

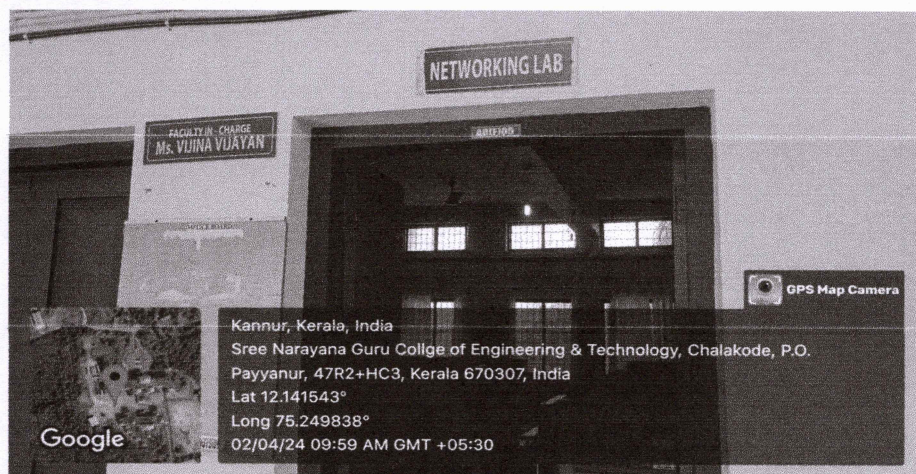


Fig.1 Neworking Lab

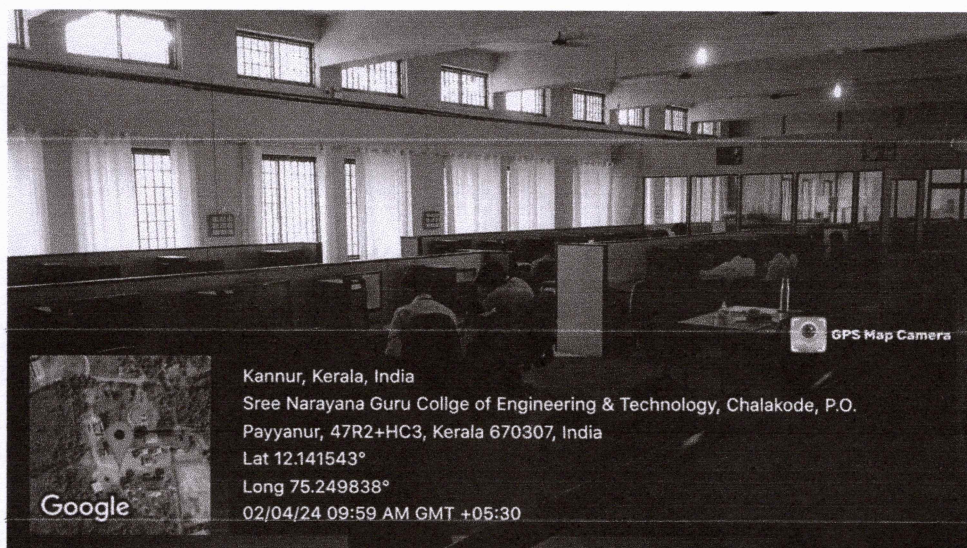
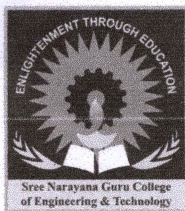


Fig.2 Networking Lab

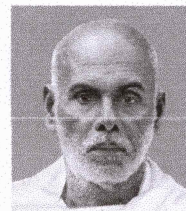
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A networking lab is a hands-on facility designed for practical learning in computer networking. Equipped with routers, switches, and simulation tools, it provides a real-world environment for students and professionals to gain practical experience in configuring networks, implementing security measures, and troubleshooting, enhancing their skills in this dynamic field.

2. PROGRAMMING LAB

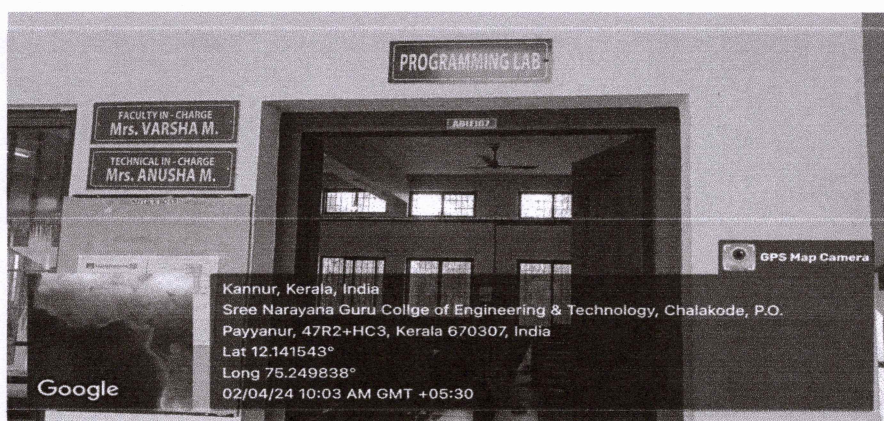


Fig.3 Programming Lab

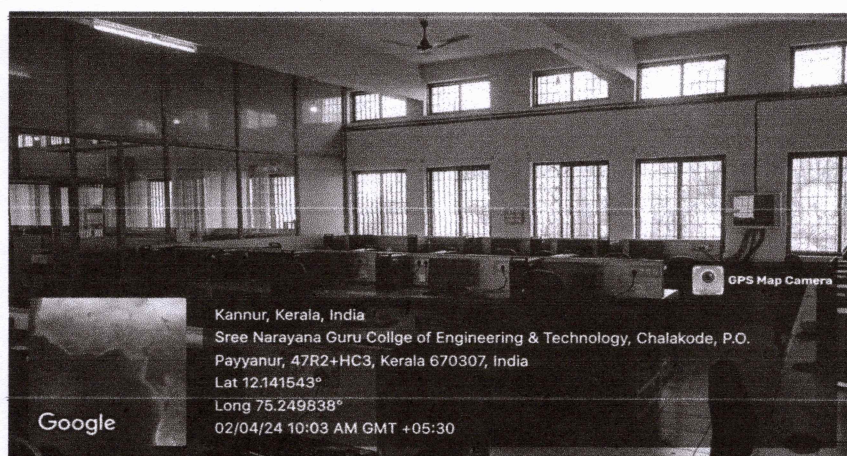
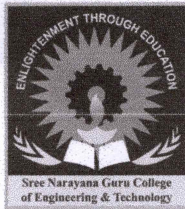


Fig.4 Programming Lab

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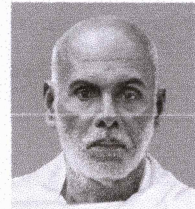
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The programming lab offers a dynamic environment for hands-on learning, fostering essential coding skills. The aim of this lab is to provide hands-on experience to the learners on various object oriented concepts in Java Programming. This course helps the learners to enhance the capability to design and implement various Java applications for real world problems.

3. HARDWARE LAB



Fig.5 Hardware lab

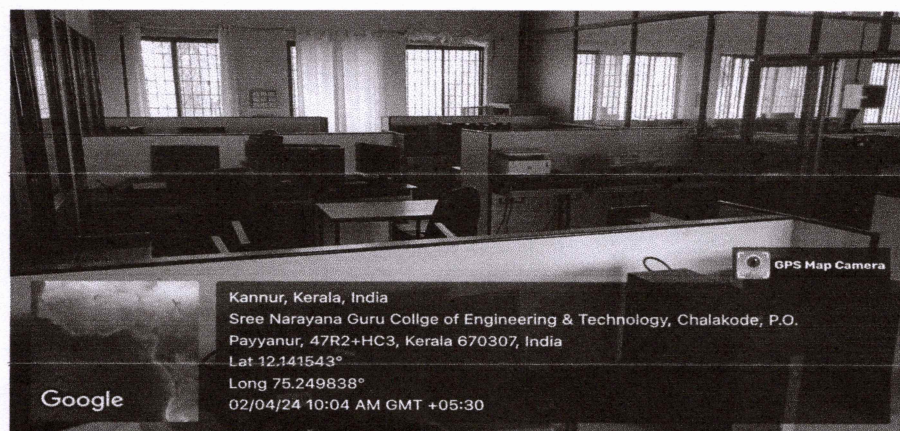
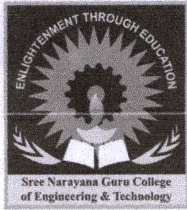


Fig.6 Hardware lab

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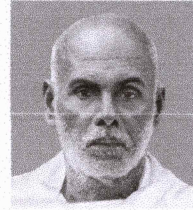
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A hardware lab is a specialized space for hands-on exploration of computer hardware components. This lab is used to conduct assembly language programming on 8086 and 8051 trainer kit. It helps the learners to practice fundamentals of interfacing/programming various peripheral devices (such as stepper motor, Analog to Digital Converter) with microprocessor /microcontroller.

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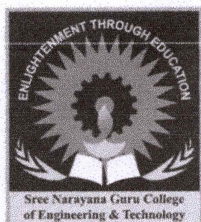


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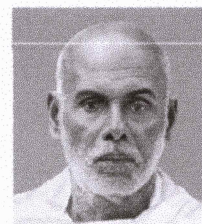
DEPARTMENT OF ELECTRONICS AND COMMUNICATIONS ENGINEERING



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GEOTAGGED PHOTOS OF ELECTRONICS & COMMUNICATION ENGINEERING LABORATORIES

1. ELECTRONICS ENGINEERING WORKSHOP & ANALOG ELECTRONICS LAB

Electronics Engineering Workshop provides the study and testing of various Electronic Components and Instruments required for analysis of Electronic Circuits. Instruments include CRO, Function Generator, Multimeter, Power supply etc. The lab also provides experience in implementation of analog circuits using discrete electronic components.

The Analog Circuits and Simulation Lab helps to understand the working of various Analog circuits. The lab also facilitates in designing and implementing Electronic circuits. The lab also enables to analyze and interpret the characteristics of various components and devices.

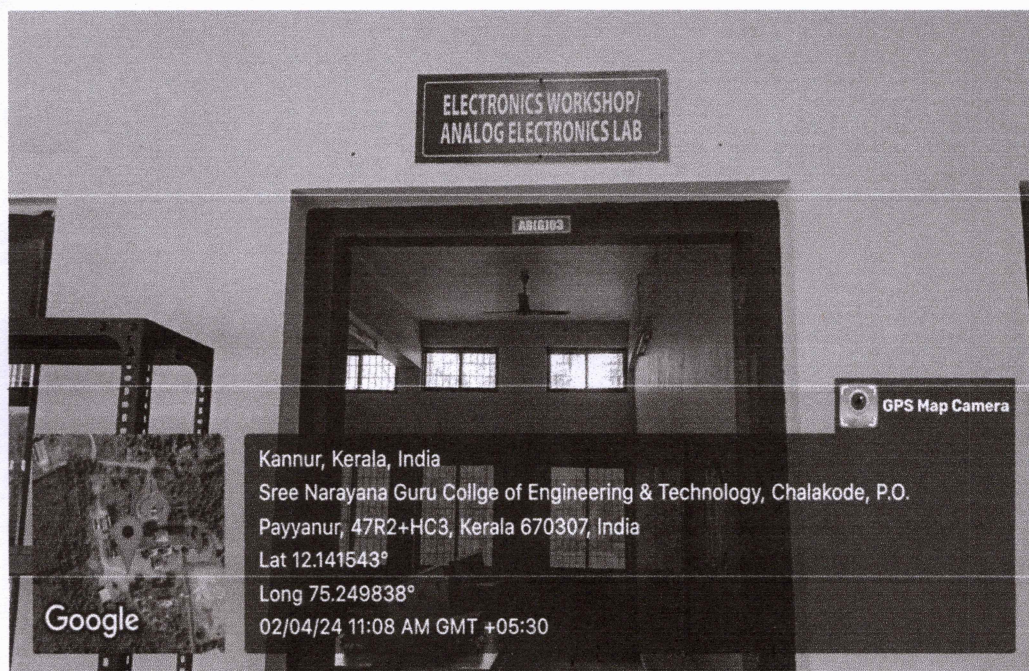


Fig.1 Entrance of Electronics workshop & Analog Electronics Lab

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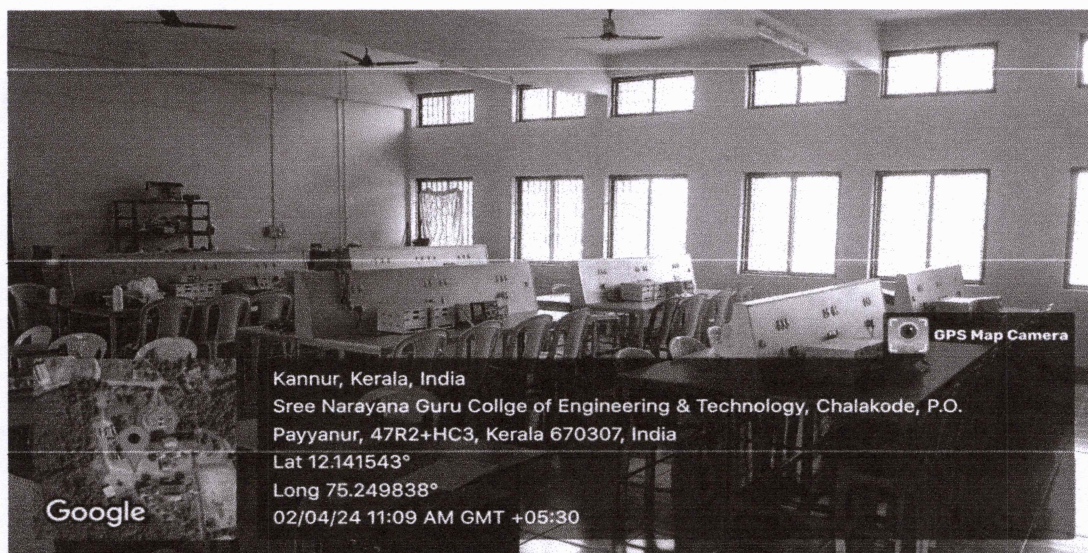


Fig.1 Electronics workshop & Analog Electronics Lab

2. SCIENTIFIC COMPUTING LABORATORY & DIGITAL SIGNAL PROCESSING LAB

The Scientific Computing lab is a technical computing environment for high-performance numeric computation and visualization using MATLAB. The course will utilize the MATLAB environment to provide students with a working knowledge of computer-based problem-solving methods relevant to science and engineering, including programming and numerical analysis techniques.

Digital Signal Processing lab helps to develop skills to use modern engineering tools such as Matlab. The lab facilitates the design and simulation of digital filters, and also analysis and interpretation of data. The lab provides ability to do projects in the area of Signal processing such as filter design, data compression techniques etc.



Fig.3 Entrance of DSP Lab & Scientific Computing Lab

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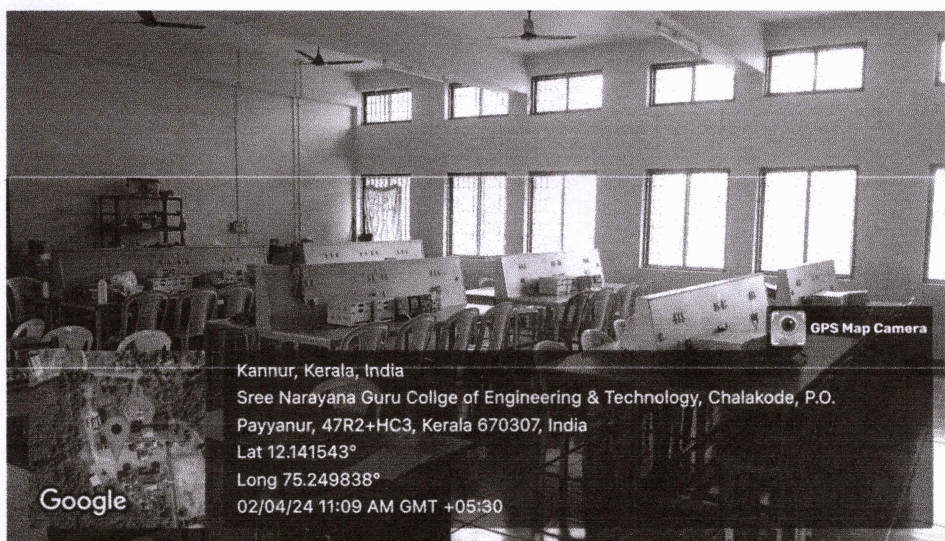


Fig.3 DSP Lab & Scientific Computing Lab

3. ANALOG INTEGRATED CIRCUITS AND SIMULATION LABORATORY



Fig.3 Entrance of AIC Lab & Analog Circuits and Simulation Lab

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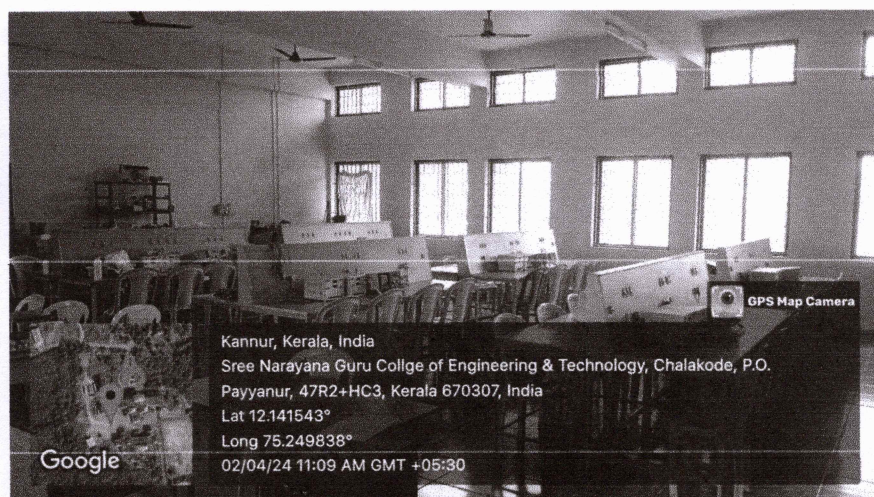


Fig.3 AIC Lab & Analog Circuits and Simulation Lab

Analog Circuits Lab enables to design and demonstrate functioning of various analog circuits. The lab provides the students with a knowledge of variety of practical circuits using Op-amp. Various applications of Op-amp can be studied and analyzed.

4. LOGIC DESIGN LABORATORY



Fig.4 Entrance of Logic System LAB/Digital Lab

Logic circuit design lab provides basic knowledge about the working of various Digital Logic gates and circuits. Digital circuits can be implemented and outputs can be

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verified. The lab also enables to design various digital circuits such as Flipflops, counters, multiplexers, demultiplexers, etc.

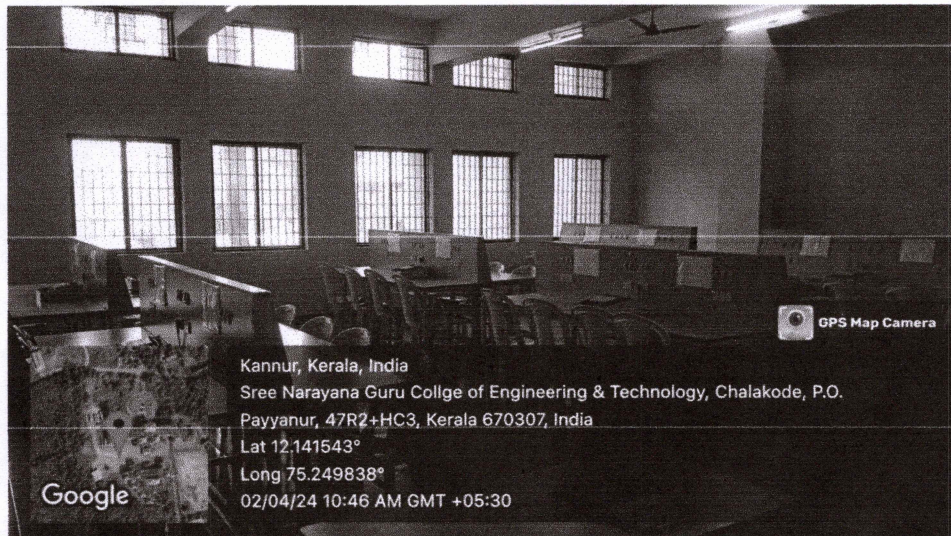


Fig.5 Logic System LAB/Digital Lab

5. COMMUNICATION SYSTEMS LAB/COMMUNICATION LAB

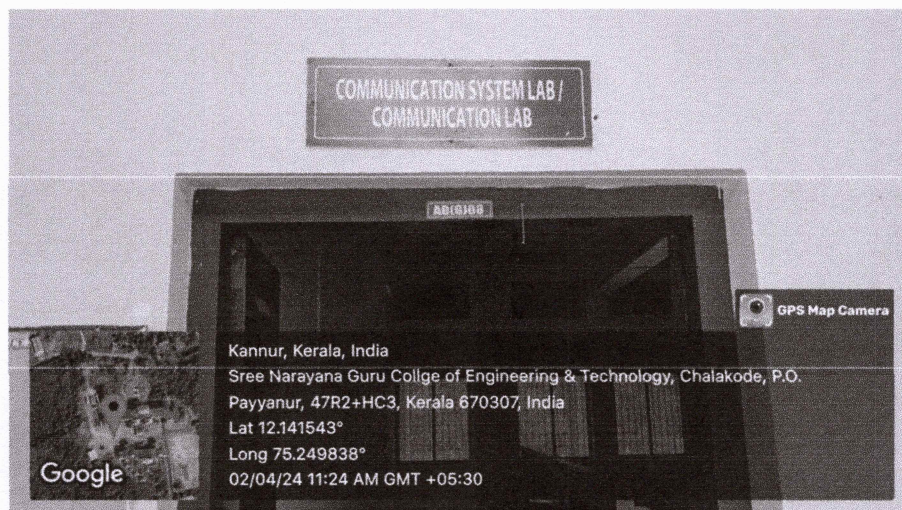


Fig.6 Entrance of Communication systems Lab/Communication Lab

Communication lab helps to understand the basic concepts of circuits used in communication systems. The lab provides experience on design, testing and analysis of electronic circuits used in Communication Engineering. The lab also helps to study the Analog and Digital Communication techniques performed on signals.

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6. MICROCONTROLLER LABORATORY

The Microprocessor lab provides the understanding of fundamental programming concepts of Microprocessor and ability to perform various arithmetic and logical operations. The Microcontroller lab enables to learn the programming concepts of microcontrollers. The lab facilitates the interfacing of various peripheral devices with Microprocessor and Microcontroller. The lab provides ability to design a microcontroller based system with the help of the interfacing devices. In this lab programming skills can be enhanced and this can be used to develop more powerful codes for solving problems.

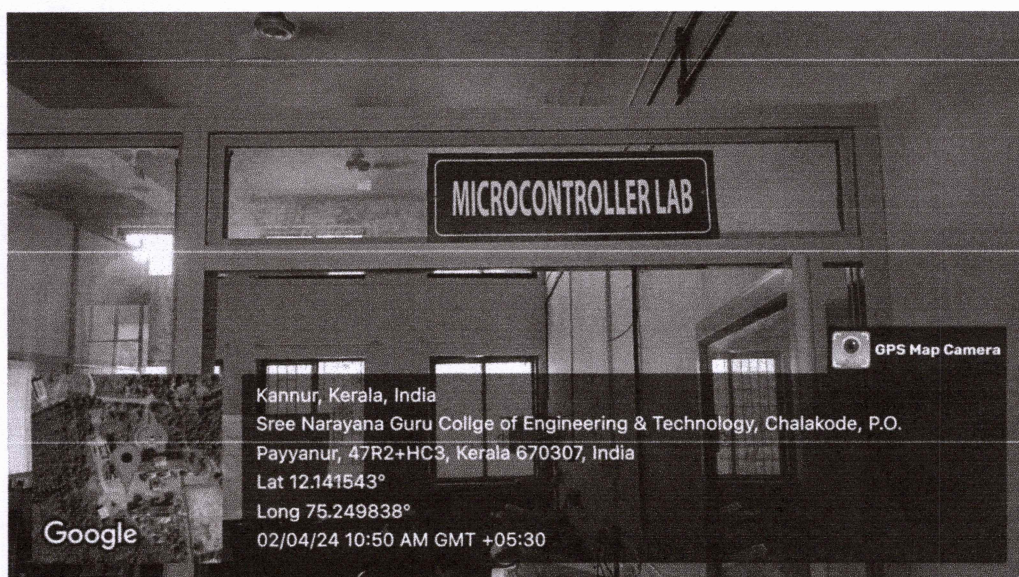


Fig.7 Entrance of Microcontroller Lab

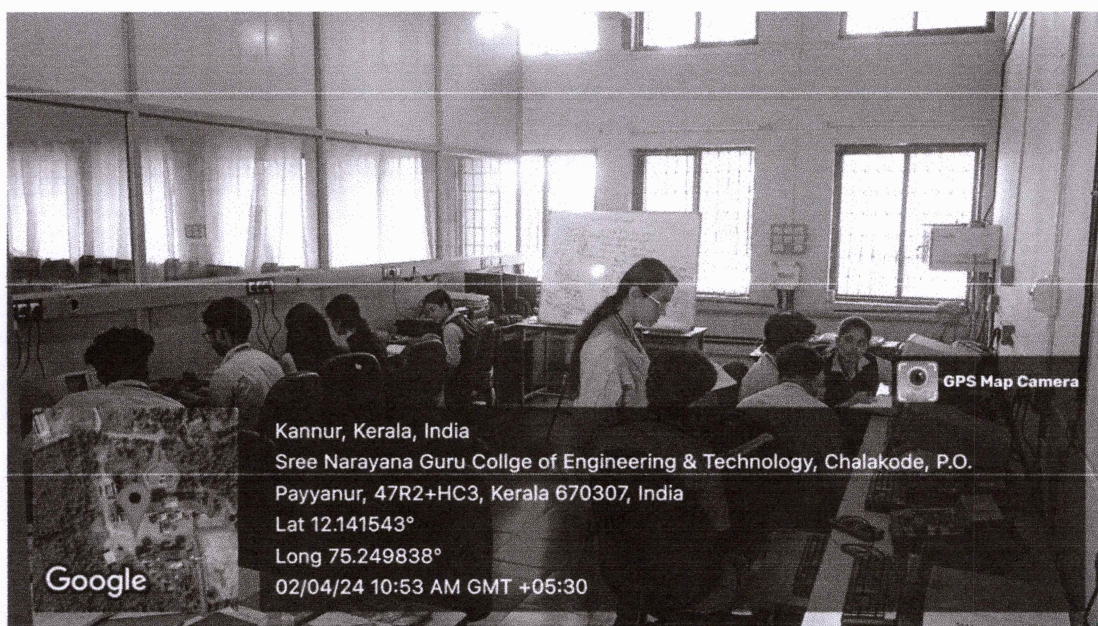


Fig.8 Microcontroller Lab

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7. ELECTROMAGNETICS LAB

Electromagnetics Lab provides the understanding of the basics of Microwave and Optical Engineering. This Lab also helps in identifying the various types of bench set up for measuring Microwave parameters such as frequency, impedance, power etc. Also characteristics of various Microwave and Optical components can be verified.

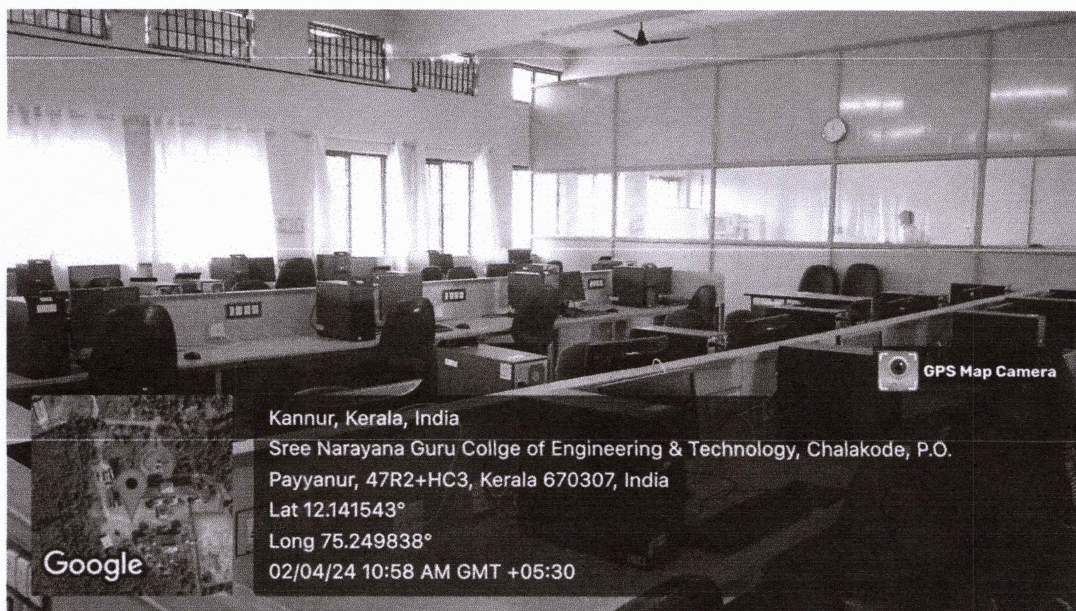


Fig.9 Electromagnetics Lab

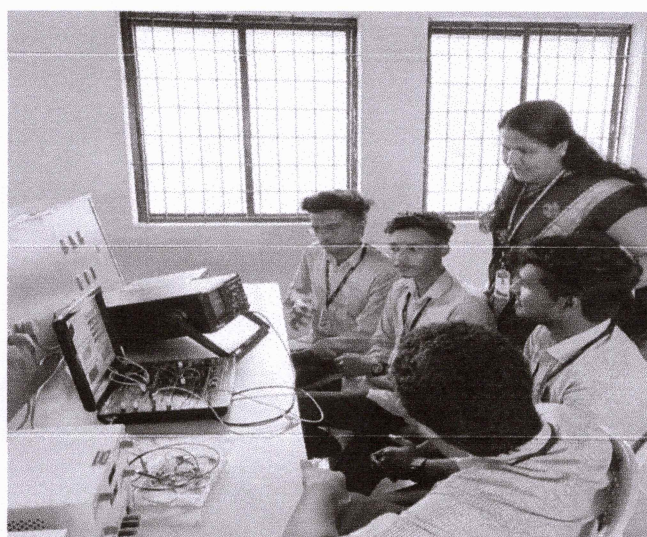


Fig.10 Electromagnetics Lab

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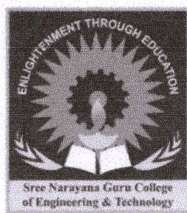


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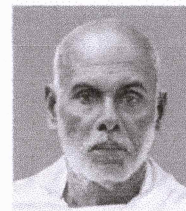
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GEOTAGGED PHOTOS OF ELECTRICAL & ELECTRONICS ENGINEERING LABORATORIES

1. MICROPROCESSOR AND MICRO CONTROLLER & POWER SYSTEMS LAB

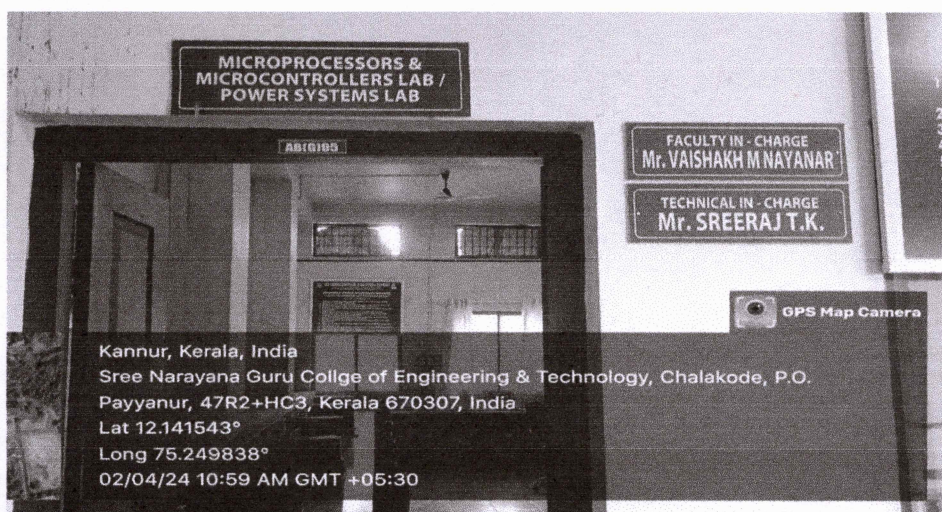


Fig 1. Entrance of MPMC Lab & Power Systems Lab

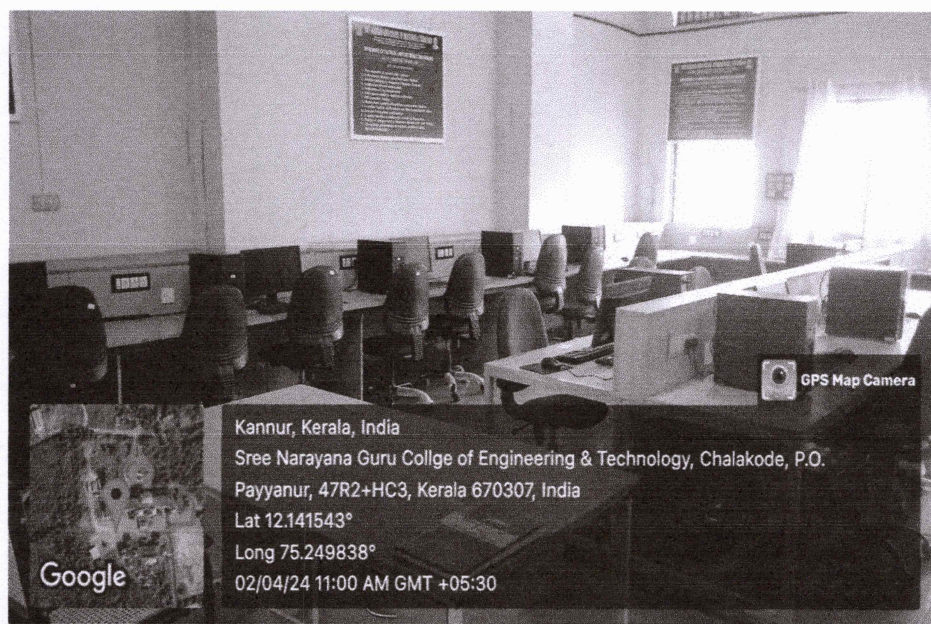


Fig 2. MPMC Lab & Power Systems Lab

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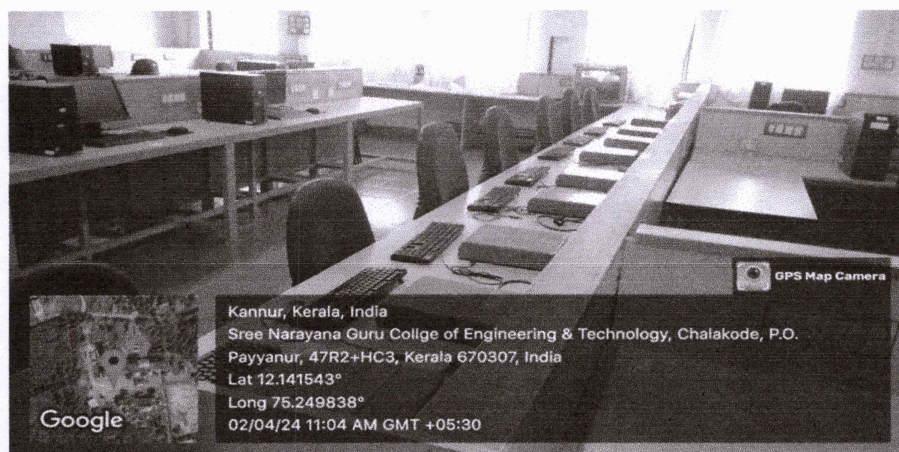


Fig 2. MPMC Lab

Power systems Lab integrates both virtual simulations and hardware experiments to provide a comprehensive learning experience. Participants utilize simulation software to analyze power systems behavior and optimize performance virtually. Additionally, they engage in hands-on hardware experiments, such as Relay testing , power factor correction , earth tester etc.. This combined approach enhances understanding and practical skills, preparing individuals for careers in power engineering, renewable energy, and grid management.

The Microprocessor and Microcontroller Lab provides a dynamic learning environment where participants engage in hands-on activities to design, program, and interface microprocessors and microcontrollers. Through these experiences, they develop proficiency in coding, hardware interfacing, and troubleshooting, essential for careers in embedded systems, robotics, and electronics.

2. POWER ELECTRONICS LAB

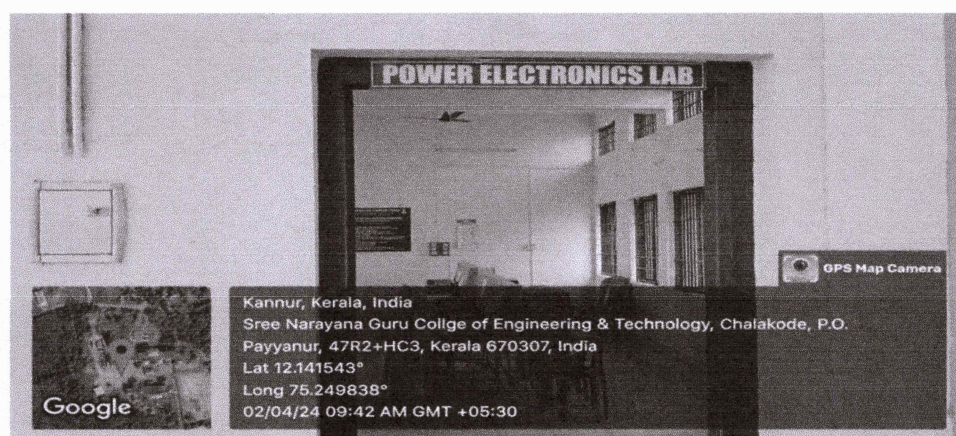


Fig 3 Entrance of Power Electronics Lab

Power Electronics lab introduces the student to measurement and simulation of important operating characteristics of power electronic circuits and power semiconductor devices This lab is also impart practical knowledge for the design and setup of different power electronic converters and its application for motor control.

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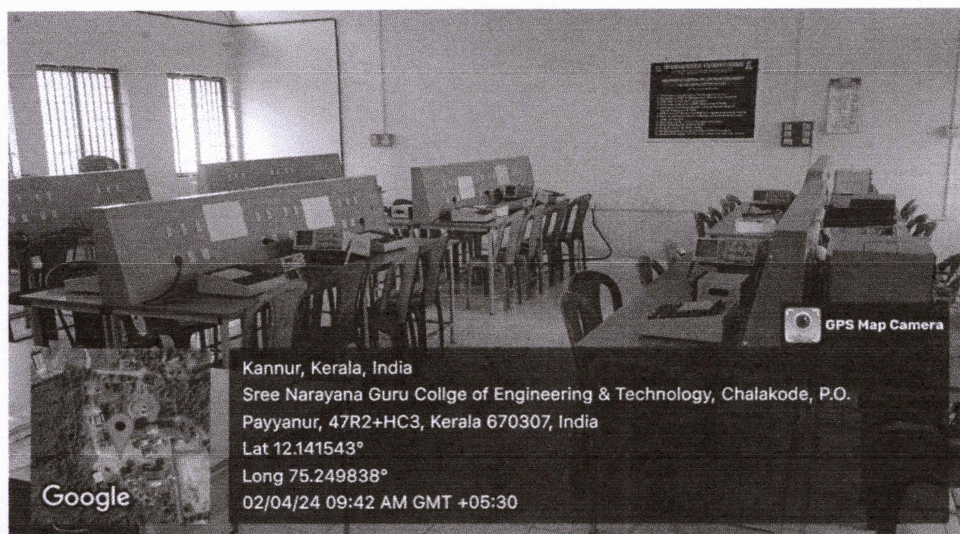


Fig 4 Power Electronics Lab

Power Electronics lab introduces the student to measurement and simulation of important operating characteristics of power electronic circuits and power semiconductor devices. This lab is also impart practical knowledge for the design and setup of different power electronic converters and its application for motor control.

3. ELECTRICAL WORKSHOP

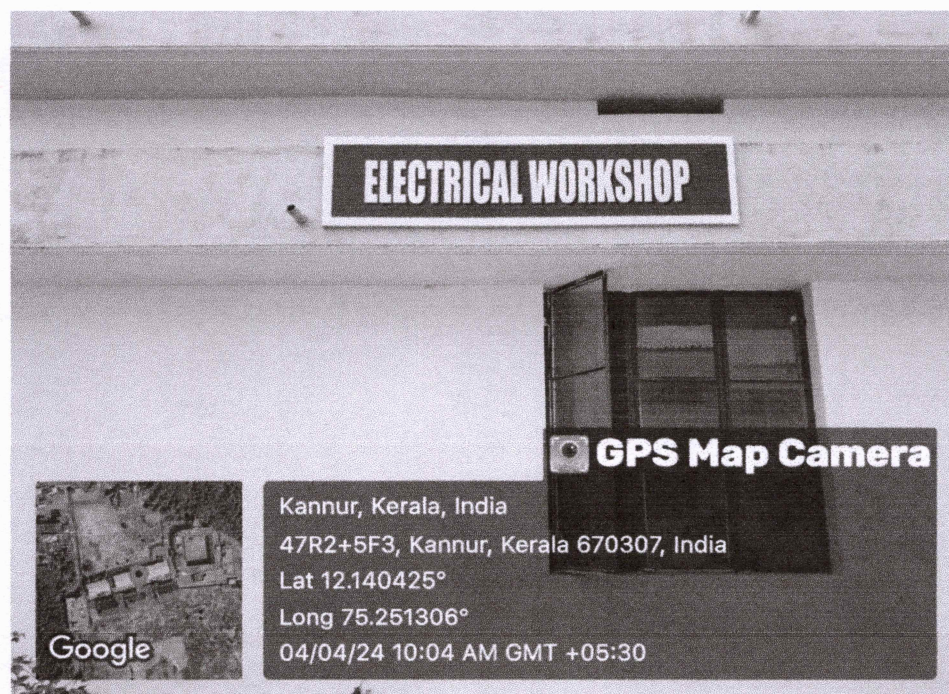


Fig.5 Entrance of Electrical Workshop

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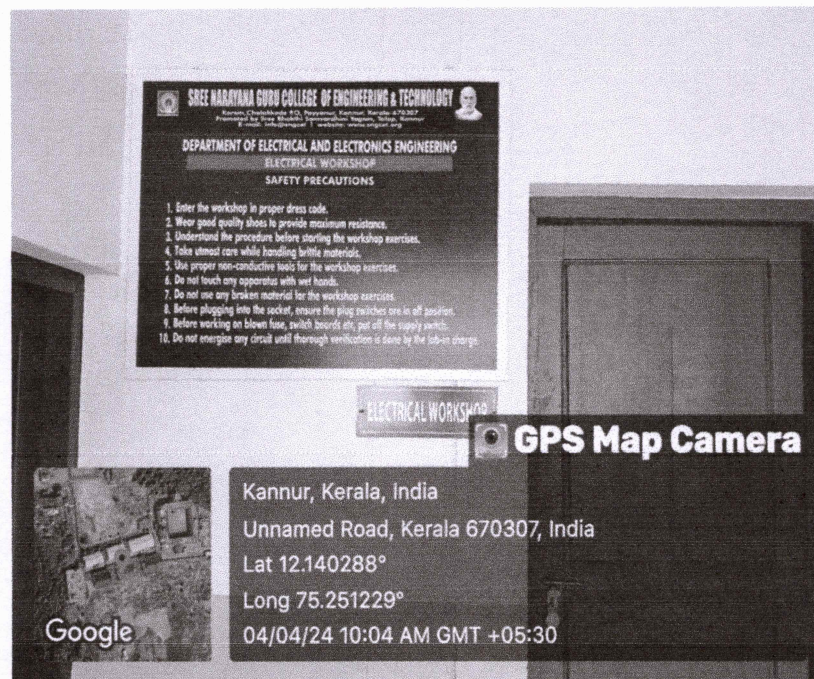


Fig.6 Safety Precautions displayed in Electrical Workshop

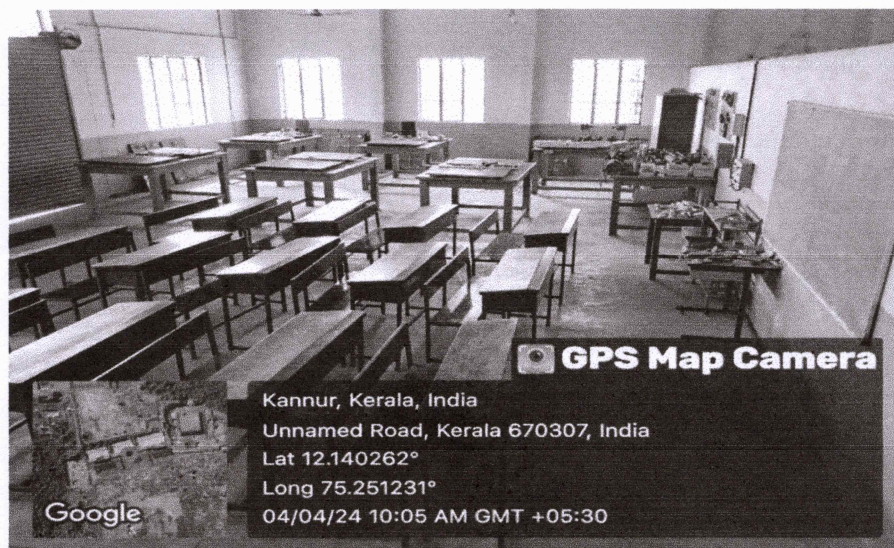


Fig.7 Electrical Workshop

The Electrical Workshop offers a comprehensive learning experience encompassing theory, practical skills, safety protocols, tool familiarity, and industry relevance. Students engage in hands-on activities to reinforce concepts, understand electrical hazards, and utilize various tools. The workshop equips individuals with essential skills for careers in electrical engineering and related fields.

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4. CIRCUITS AND MEASUREMENT LAB

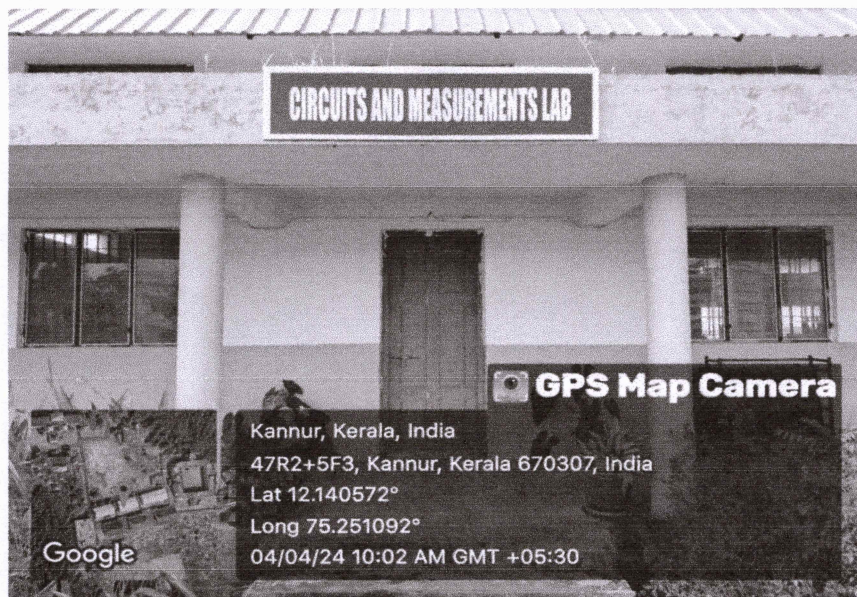


Fig.8 Entrance of Circuits & Measurements Lab

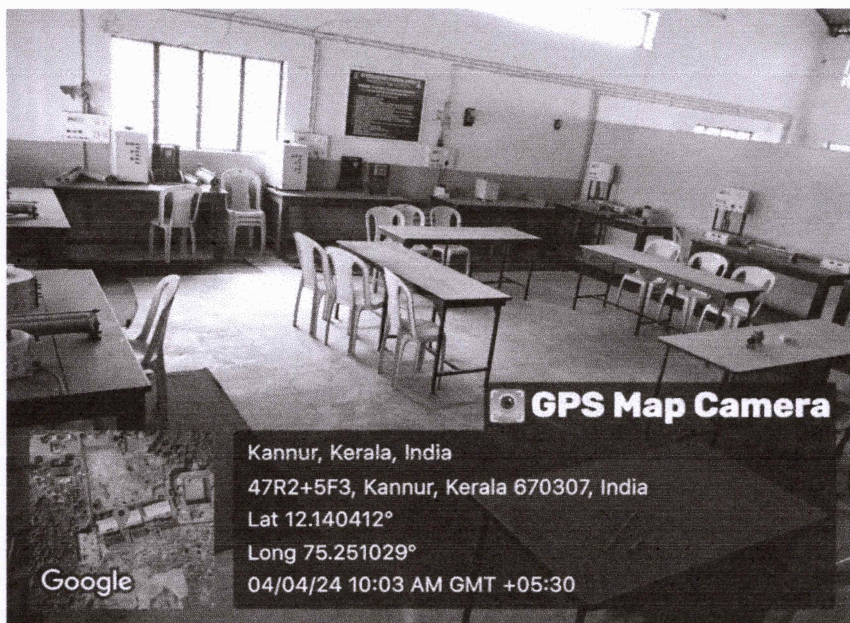


Fig.9 Interior of Circuits & Measurements Lab

The Circuits and Measurement Lab provides an interactive setting for exploring fundamental circuit principles and measurement techniques. Participants engage in hands-on activities to design, construct, and analyze circuits using various components and instruments. Through experiments and simulations, they develop proficiency in circuit analysis, measurement methodologies, and troubleshooting skills.

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5. ELECTRICAL MACHINES LAB I & II



Fig.10 Entrance of Electrical Machines Lab I & II



Fig. 11 Electrical Machines Lab I & II

This laboratory consists of electrical machinery required to conduct experiments on DC and AC Machine for 4th and 5th semesters. This laboratory is well equipped with machine from renowned manufacturer like Kirloskar, BHEL, L&T, etc.

The Electrical Machines Lab offers a practical learning environment for studying various types of electrical machines. Participants engage in hands-on activities to understand the principles of operation, construction, and performance characteristics of motors, generators, and transformers.

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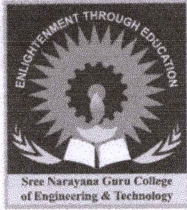


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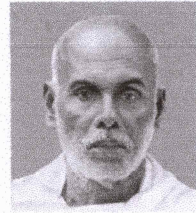
DEPARTMENT OF MECHANICAL ENGINEERING



Est. 2003

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GEO TAGGED PHOTOS OF LABORATORIES OF DEPARTMENT OF MECHANICAL ENGINEERING

1. MACHINE TOOLS LAB

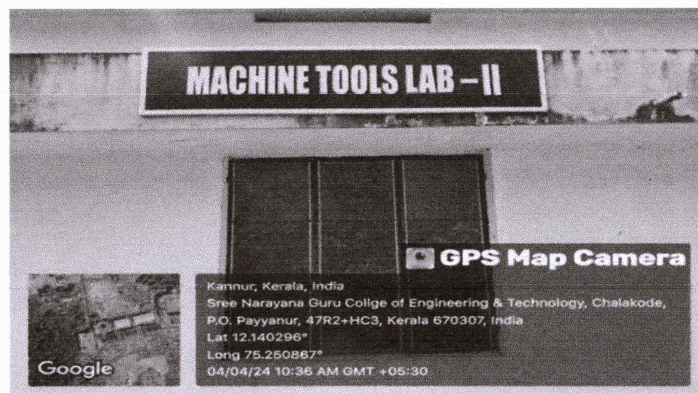


Fig.1 Entrance of Machine tool Lab

Drives and controls are responsible to provide and regulate the motions of the machine tool components. Machine Tools Laboratory is aimed at providing an introduction to the Know-how of common processes used in industries for manufacturing parts by removal of material in a controlled manner. Auxiliary methods for machining to desired accuracy is covered. Evidently, acquaintance with the machine is desirable and the laboratory sessions will provide adequate opportunity for this.

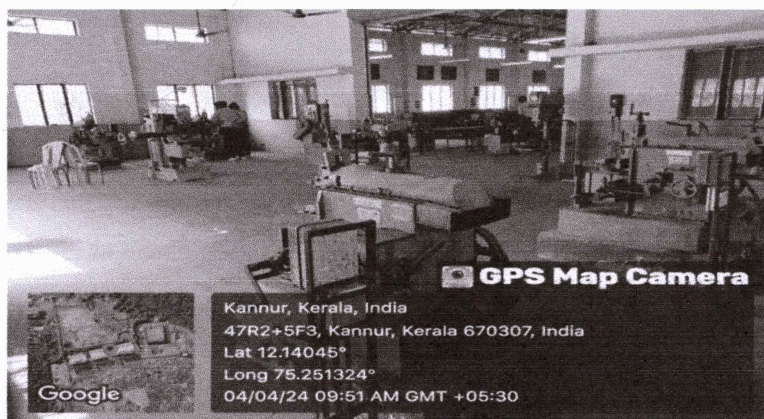


Fig.2 Machine tool Lab

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2. FLUID MECHANICS& HYDRAULIC MACHINERY LAB

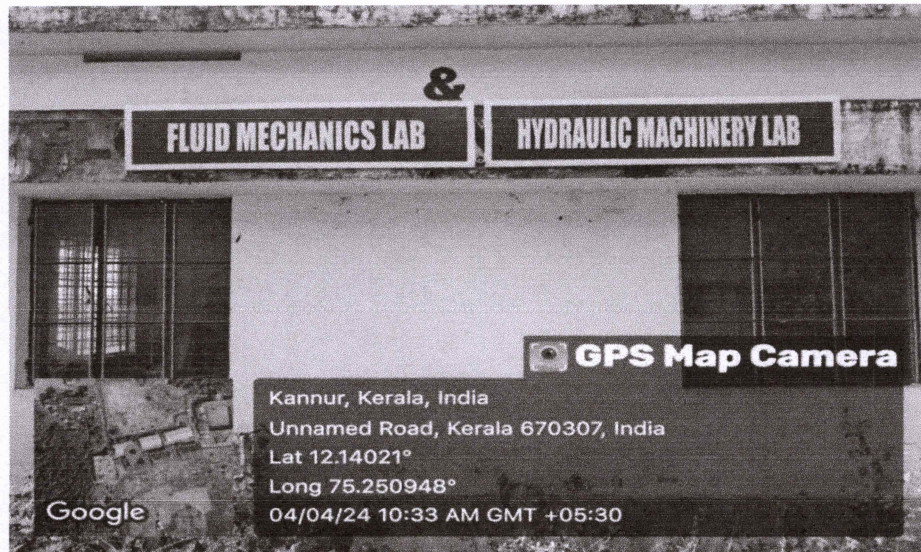


Fig.3 Entrance of FM& HM Lab

The main objectives of this lab are to demonstrate the applications of theories of basic fluid mechanics and hydraulic machines and to provide a more intuitive and physical understanding of the theory.

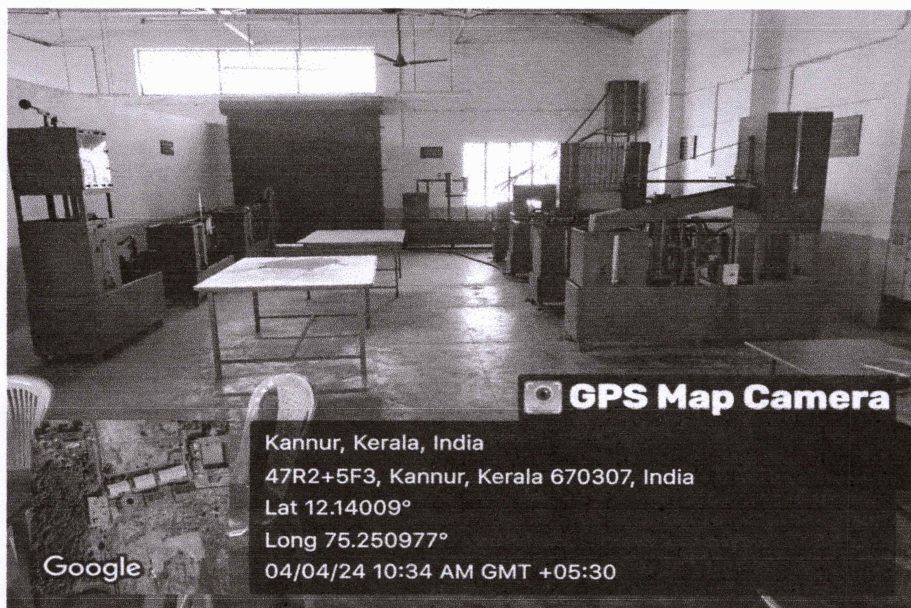


Fig.4 :FM& HM Lab

A handwritten signature in blue ink, reading "Leena".

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3. BASIC MECHANICAL WORKSHOP



Fig.5 Entrance of basic mechanical workshop

The Workshop is designed to enable the student to familiarize various tools, measuring devices, practices and different methods of manufacturing processes employed in industry for fabricating components. Students will be introduced to a team working environment where they develop the necessary skills for planning, preparing and executing an engineering project.

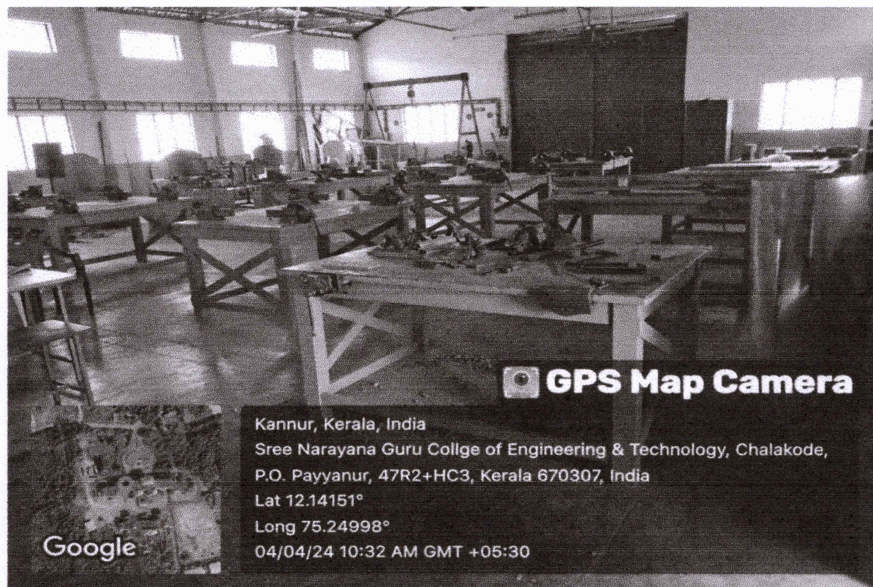


Fig.6 Basic mechanical workshop

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4. THERMAL ENGINEERING LAB -I



Fig.7 Entrance of Thermal Engineering Lab I

In this laboratory, students will have the opportunity to study the working principle of IC engines (both SI and CI engines), performance and characteristics in terms of heat balancing, economical speed variations, air fuel ratio influence on the engine to reinforce classroom theory by having the student perform required tests, analyze subsequent data, and present the results in a professionally prepared report.

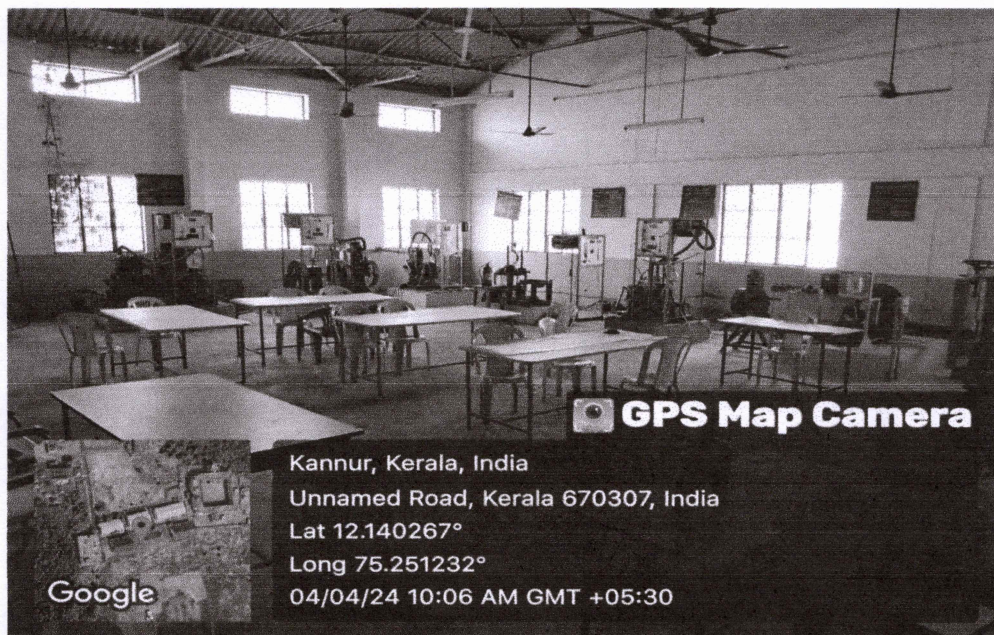


Fig.8 Thermal Engineering Lab I

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5. THERMAL ENGINEERING LAB-II

Thermal Engineering Laboratory-II trains the students with the principles and operation of thermal Engineering equipment. The different modes of heat transfer like Conduction, Convection and Radiation phenomenon are studied with the help of the experiments and equipment available in the laboratory which are used in real-time engineering applications.

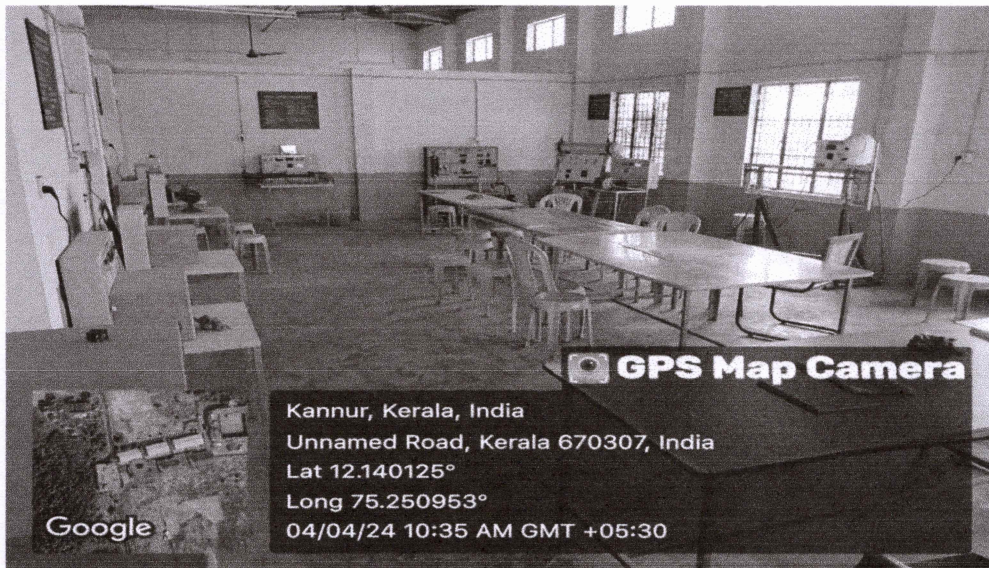


Fig.9 Thermal Engineering Lab II

6. MATERIAL TESTING LAB

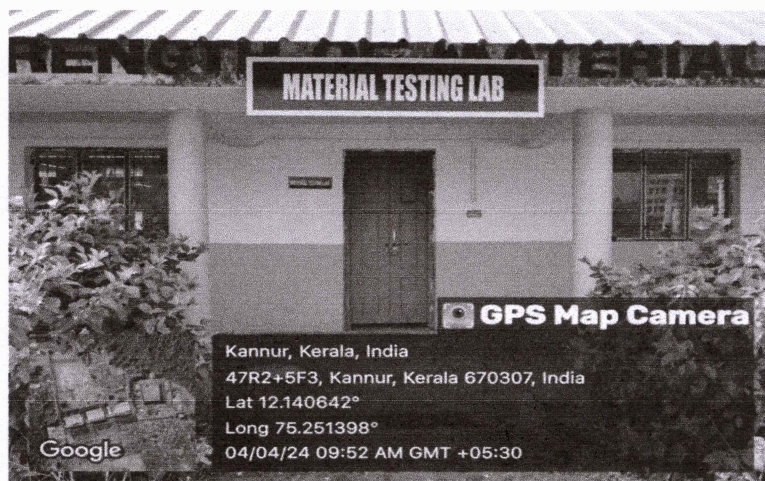


Fig.10 Entrance of Thermal Engineering Lab II

The Material Testing Laboratory course is designed for determine and measure the characteristics of materials, such as hardness, Tension, compression, impact, shearing. This lab introduces the students with the theory and methods for conducting experimental work in the laboratory to make them capable of selecting materials for different requirements in the field of Engineering.

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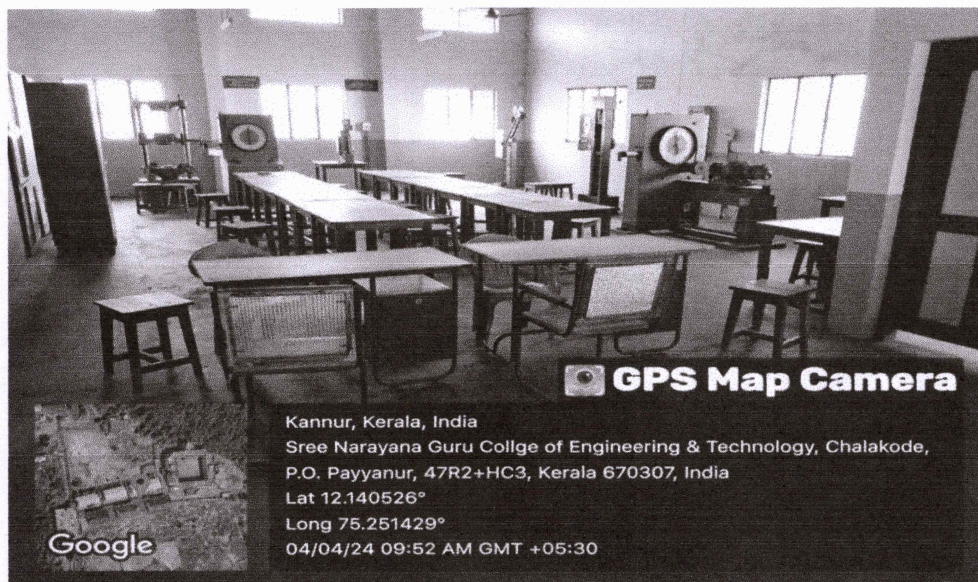


Fig.11: Material testing Lab

7. CNC MACHINE LAB

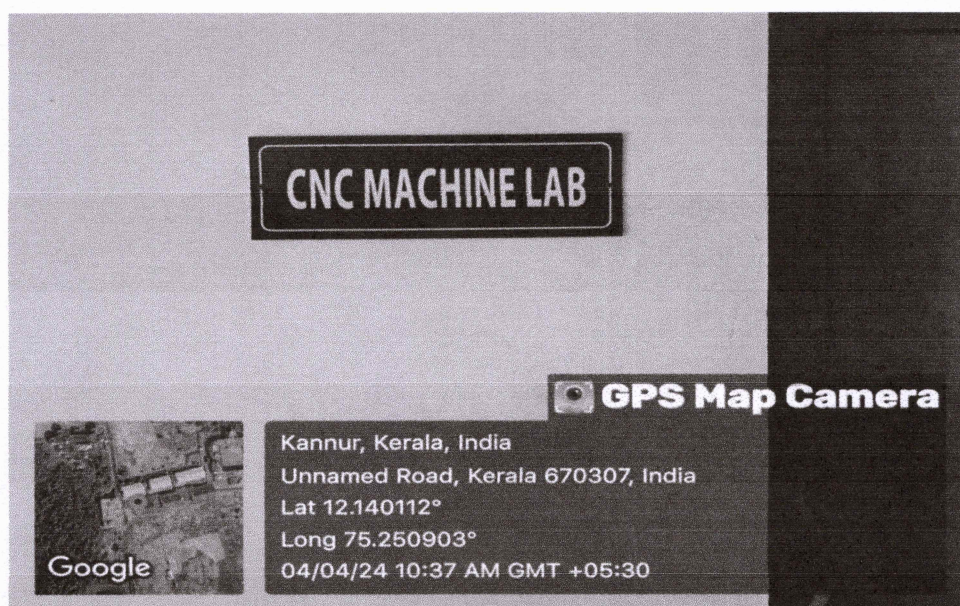


Fig.12 Entrance of CNC Lab

CNC stands for computer numerical control. It is a machine controlled by a computer. Its external appearance is similar to that of a NC machine. Tape or Computer Keyboard or Tutor Keyboard is used as input media for CNC machines. Here we are using bench type CNC equipment.

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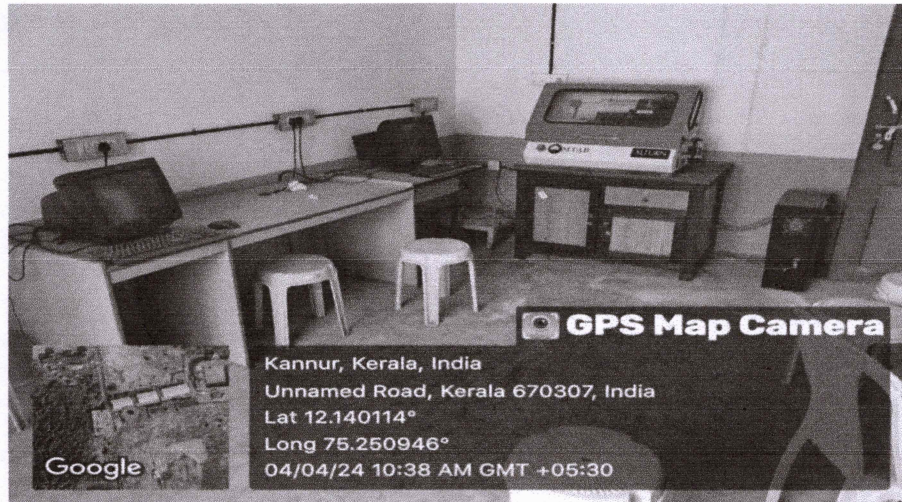


Fig.13 CNC Lab

8. MECHANICAL ENGINEERING LAB

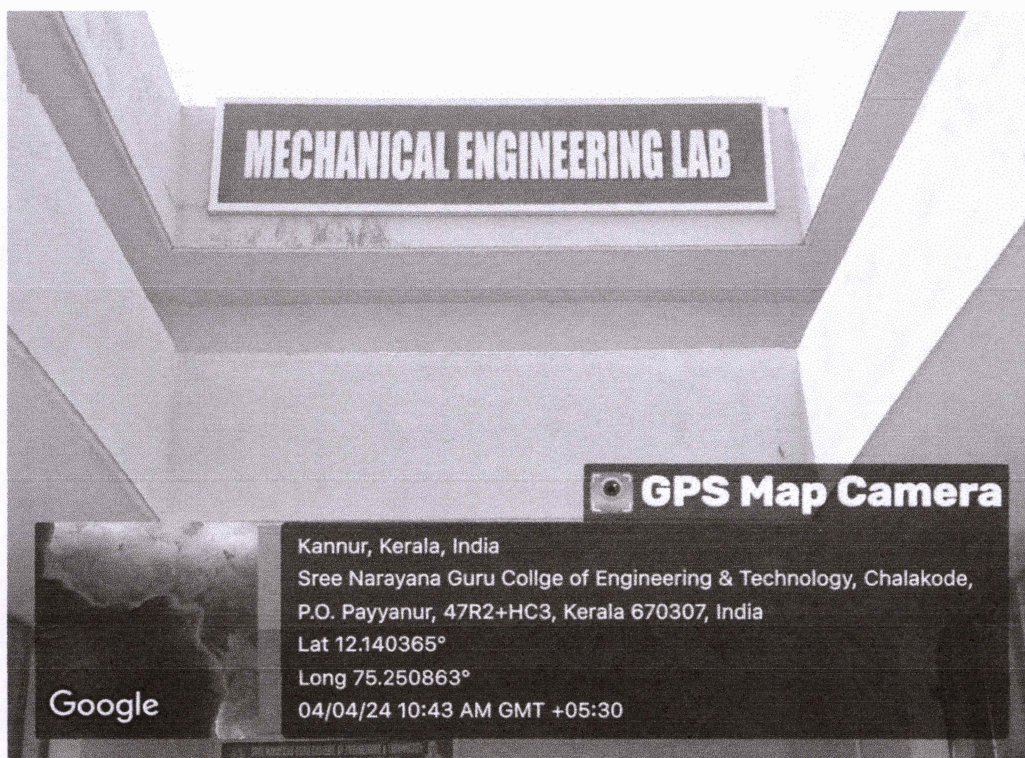


Fig.14 Entrance of Mechanical Engineering Lab

The lab is intended to enable the students to get an exposure to equipment and exercises related to machine dynamics, cutting forces in milling machine, basics of pneumatic and hydraulic devices, basic concepts of stepper motors, basic ideas of data acquisition systems and automation.

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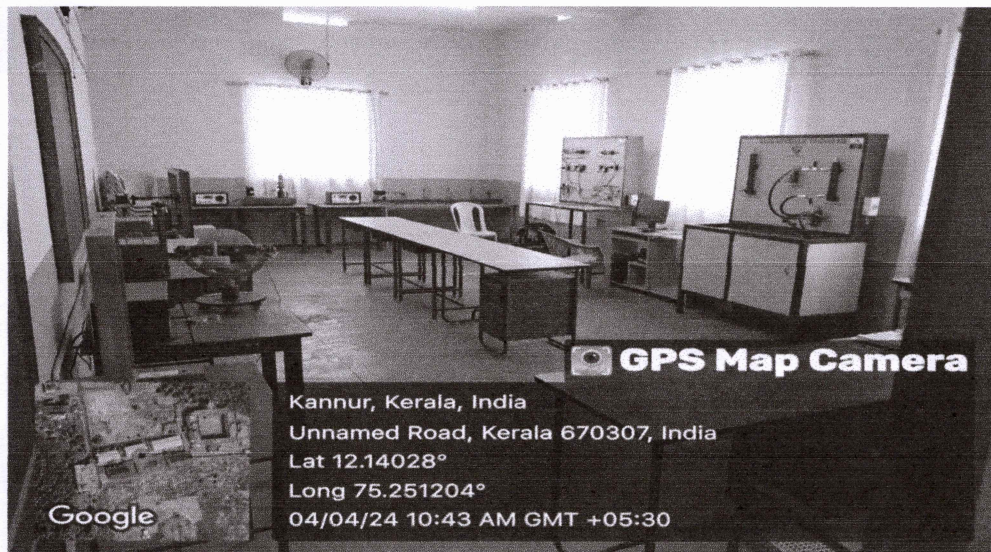


Fig.15 Mechanical Engineering Lab

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