VALLIAMMAI ENGINEERING COLLEGE

SRM

SRM Valliammai Engineering College

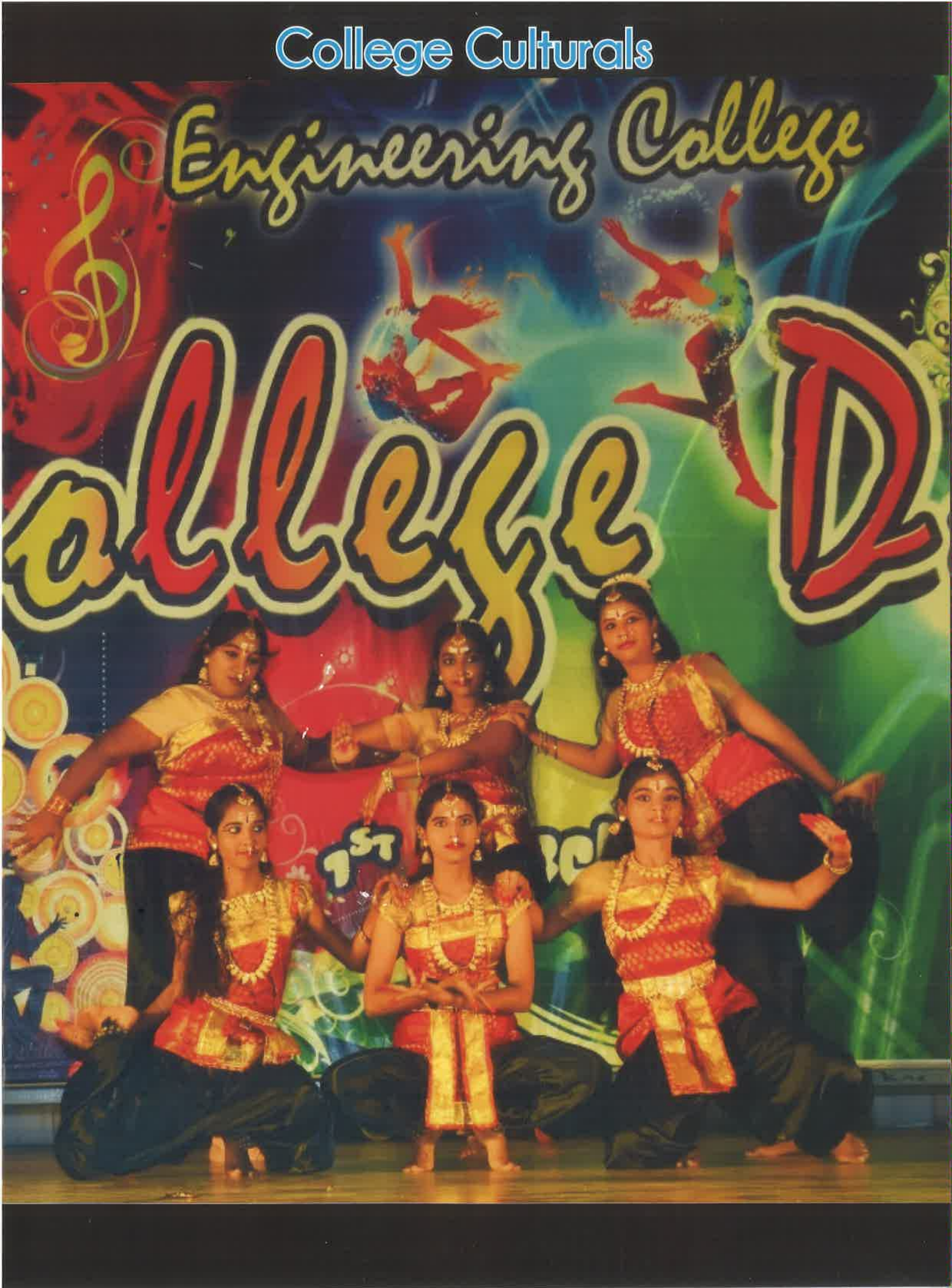
[An Autonomous Institution]

Approved by AICTE, Accredited by NBA, "A" Grade Accreditation by NAAC,
ISO 9001 : 2015 Certified and Affiliated to Anna University

ENGINEERING | TECHNOLOGY | MANAGEMENT

NSS Activity

College Culturals



Agriculture Engineering

Vision

To produce world class professionals who are equipped to meet the demands of global outfit, have analytical abilities and entrepreneurship for making career of self employment and as contributors to Livelihood and Food / Nutritional Security.

Mission

- To ensure effective teaching learning process to provide in-depth knowledge of principles and its application pertaining to Agricultural Engineering.
- To import practical knowledge to students about the conventional and technology based agricultural systems.
- To provide engineering and technology expertise in the field of agriculture for the state and nation.

Agriculture Engineering

Academic

Under Graduate

The Department of Agriculture Engineering commenced from the academic year 2019-20 with a vision to mould our students as strong professional engineers to build our nation.

The Department is established to develop professionals with the knowledge of modern farming and irrigation.

To meet the social needs with respect to agriculture, irrigation, farm mechanization, soil and water conservation and water resource system.

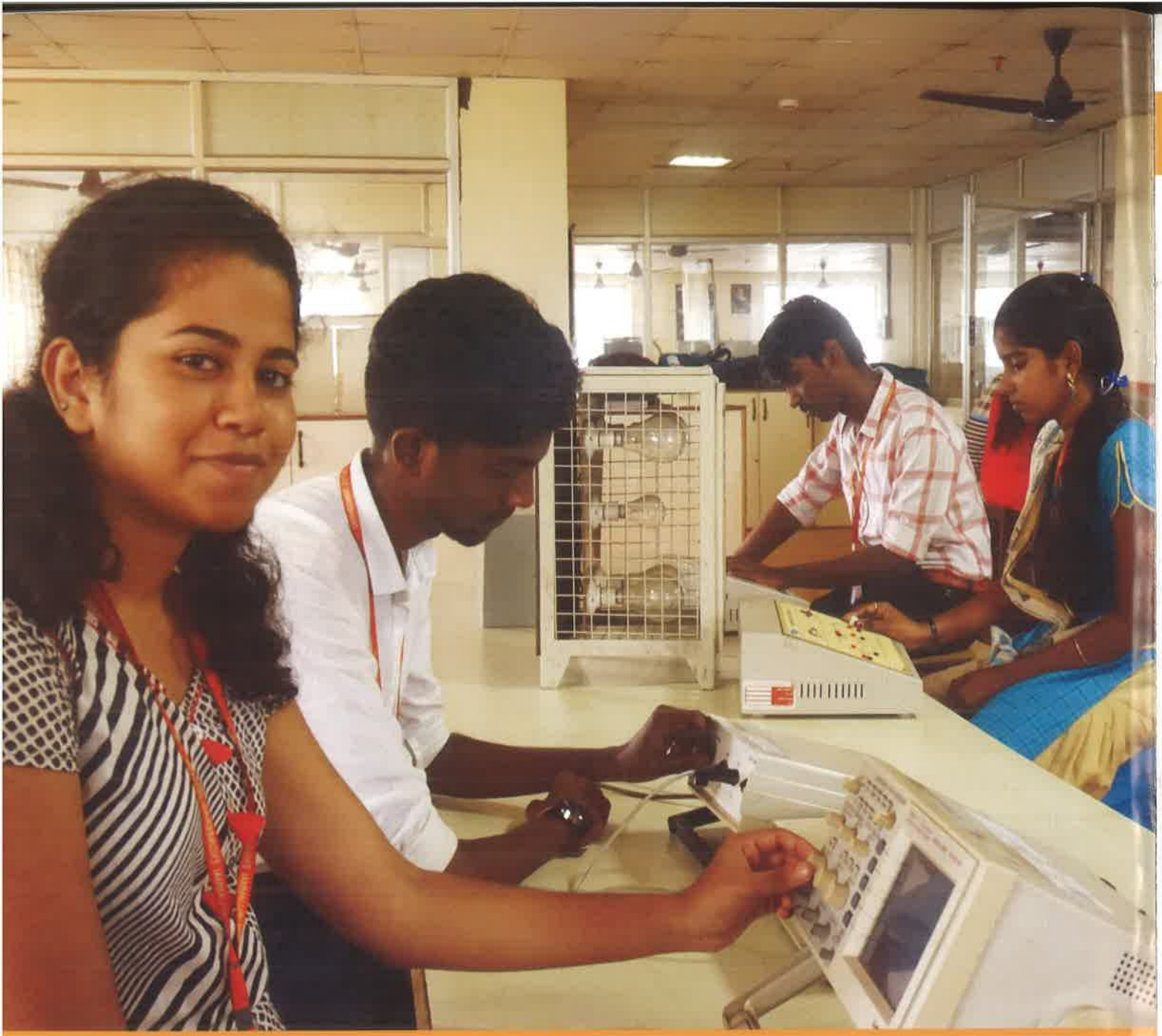
Research & Career Opportunities

To promote research and training on sustainable development of Agriculture productivity, cost reduction on farming and optimum use of water resources.

To provide consultancy in agriculture, to disseminate the tech innovation to produce through integrated extension activities.

Programme Offered

B.E. - Agriculture Engineering



Medical Electronics

Vision

To develop an excellent progressive quality education, translational research through inventive collaborations as per industry requirements to improve the healthcare and well-being of humankind.

Mission

- Acquaint students with the current technology to provide consultations and technical support to hospitals, healthcare and service sectors.
- To educate students with the fundamental knowledge, interdisciplinary problem solving skills and confidence required to excel in medical electronics through progressive learning.
- To propagate creativity, responsibility, commitment and leadership qualities and exhibit professional ethics and values.

Medical Electronics

Academic

Under Graduate

Medical Electronics course gives a way over engineering with medical science by laying deep knowledge in electronics. It focuses on physiological functions of human body and integrates it with engineering principles to apply different techniques, skills, tools to solve clinical and healthcare problems for the patient needs like prostheses, medical information systems, artificial organs, instrumentation, care delivery systems and health management.

At the end of the course, students will have the ability to identify and design devices or system for medical purposes and understand the ethical and professional responsibility for engineering practice.

Research

The demands on high-quality and low-cost healthcare and medical diagnose/treatment have been rapidly increased due to the aging society. Medical Electronics becomes an exciting research frontier of future electronics industry where intelligent instrument/clinical devices which treat obstinate neurological disorders or chronic diseases, advanced biometric devices/systems, artificial organs, etc. are developed with heterogeneous integration of technologies. Medical Electronics is an area that bridges engineering, biology, and medicine disciplines and has great opportunities for industry and new science findings.

Career

Medical Electronics engineers are responsible for producing products and procedures to get to the bottom of medical problems. They work on medical electronics projects, designing, creating, and evaluating systems and products such as medical equipment, artificial organs, instruments used during surgery and information systems.

The Indian healthcare industry and the medical device market is estimated and growing at 20% per annum. Thus, with the rapid pace of growth comes the ever increasing demand for highly skilled and well trained Medical Electronics engineering work force.

Programme Offered

B.E. - Medical Electronics

Cyber Security

Vision

To be a globally recognized National Cyber Security Specialist Centre in research and development of technical solutions for Cyber Security and privacy which will protect our nation and citizens from cyber related threats.

Mission

- To create and sustain a safer cyberspace to address contemporary and future cyber security and privacy challenges faced by Government, Industries and individuals.

Cyber Security

Academic

Under Graduate

This course enables us to understand the goals of cyber security, evaluate security trends, recognize best practices, to identify IT security issues and threats. As the platform for cyber security experts continue to rise, many organizations and businesses are seeking professionals with the skills and knowledge to protect them from present and potential threats. This course emphasizes on networking security concepts, ethical hacking, computer forensics, Intrusion detection and incident response, Ethics in cyber security, Digital forensics and Information systems security. Further, it empowers to begin a career building secure systems, protecting information assets and managing organizational risks. This course will equip us to master the foundational goals of cyber security. Students will apply current technical tools and methodologies to solve security problems.

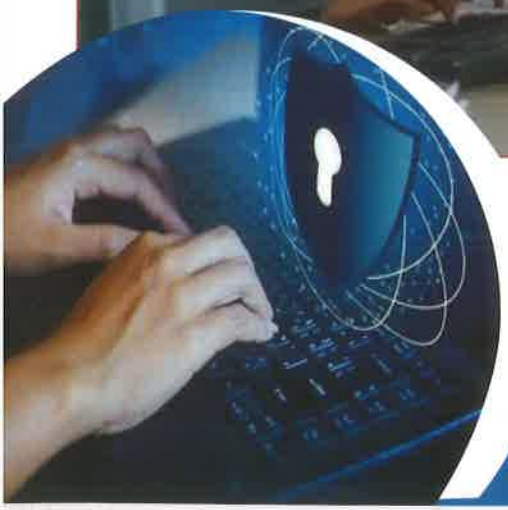
Research

Research domain includes, Network Traffic Analysis, Mobile Protection, Privacy and Identity Management, Pervasive Spectrum Sharing, Mapping the Internet Backbone, Malware Analysis, Cold boot attacks, Sound and precise analysis and crypto-war.

Careers

Cyber security graduates are well prepared to launch careers in a wide variety of roles, including:

- Information Technology and Applications (Apps) security Manager / Analyst / Administrator.
- Architect / Programmer / Engineer / Forensics analysts / Investigator.
- Ethical Hacker / Penetration Analyst.
- Information Technology Auditor



Programme Offered

B.E - Cyber Security

Artificial Intelligence & Data Science

Vision

To be a globally recognized entity for Intelligence and data science research, solution provider in order to meet the growing demands of the industry..

Mission

- To facilitate Artificial Intelligence and Data Science engineers to equip themselves to face the challenges in the future in order to address the growing demands and services.

Artificial Intelligence & Data Science

Academic

Under Graduate

Artificial Intelligence and Data Science is an advanced technology to add knowledge with innovations while incorporating Machine learning, deep learning and Artificial Intelligence. Data science is required to be proficient in order to understand various patterns in data with a deep learning curve. This course provides an overview of Artificial Intelligence & Data Science concepts and workflow, Machine learning, deep learning and involves pre-processing, analysis, visualization and prediction. Laboratory training is provided on data flow, graphics structure, algorithm customization, Predictive Analysis, Visual Personal Assistance, Expressive Architecture, Fast and Effective GPU support, Data Ingestions, virtual process automation and workflow automation. This course will enable the students to build intelligent machines, software, applications with a cuttingedge combination of machine learning, analytics and visualization technologies.

Post Graduate

Data science is the current reigning technology that has conquered industries around the world. The course will provide the learners to master the critical skills such as mathematical modelling, machine learning, artificial intelligence, product development and scripting languages. Data science leads to computation method system of principles for extracting the knowledge of various data. Highly integrated laboratories allow learners to apply concepts to simulate the real-world situations for big data systems real time processing, data visualization, deep learning and various packages within python for data processing, machine learning, and data visualization and web scraping. This programme is designed to provide world class Data Scientist, Data architect, Data Engineer, Data Science Engineer and Machine Learning engineer.

Research

Artificial Intelligence enables the study of implementing knowledge with various sets of data. Further, this results oneself to specialize and advance research at the interfaces of data and AI helps to gain practical knowledge in all possible domains.

Career

A career in artificial intelligence can be realized within a variety of settings, including private companies, public organizations, education, arts, health care facilities, government agencies and the Defence. Some positions may require security clearance prior to hiring depending on the sensitivity of information employees may be expected to handle. Examples of specific jobs held by AI professional include:

- Software analysts and developers
- Computer scientists and computer engineers
- Algorithms specialists
- Research scientists and engineering consultants.
- Intelligence engineers and maintenance technicians pertaining to different engineering domains
- Design, manufacturing and electrical engineers

Programmes Offered

B.Tech. - Artificial Intelligence & Data Science

M.Tech. - Data Science

Civil Engineering

Vision

To produce competent and quality engineers by imparting knowledge, excellence and global perspectives in Civil Engineering to our students and to make them ethically strong professional engineers to build our nation.

Mission

- To produce outstanding graduates with high technical knowledge to serve the nation.
- To impart value based education.
- To provide solution to the challenges in the field of Civil Engineering.

Civil Engineering

Academic

Under Graduate

This course has been designed to educate the students on various aspects of Civil Engineering such as

- Planning and Designing of buildings, Infra Structures, etc.,
- Environmental issues and their solutions like Solid Waste Management, Water Treatment.
- Earthquake hazards and their solutions in the construction field, etc.

This course helps the students to learn the trends and techniques of the construction field, inculcate innovative thinking, designing architectural as well as strong, durable and reliable structures.

Post Graduate

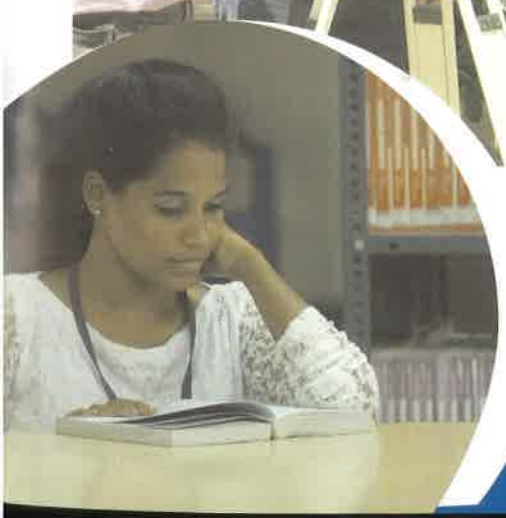
Structural engineering is mainly a sub-division of civil engineering where structural engineers are trained to understand, predict, and calculate the stability, strength and rigidity of built structures for buildings and non-building structures, to develop designs and integrate their designs with that of other designers, and to supervise the construction of projects on site. Structural engineers are responsible for making creative and efficient use of funds, structural elements and materials to achieve these goals.

Research

The students are initiated to do research projects on various major aspects of Civil Engineering such as Structural Designing, Environmental Engineering, Construction Engineering, Geo-Technical Engineering, Transportation Engineering, etc.

Career

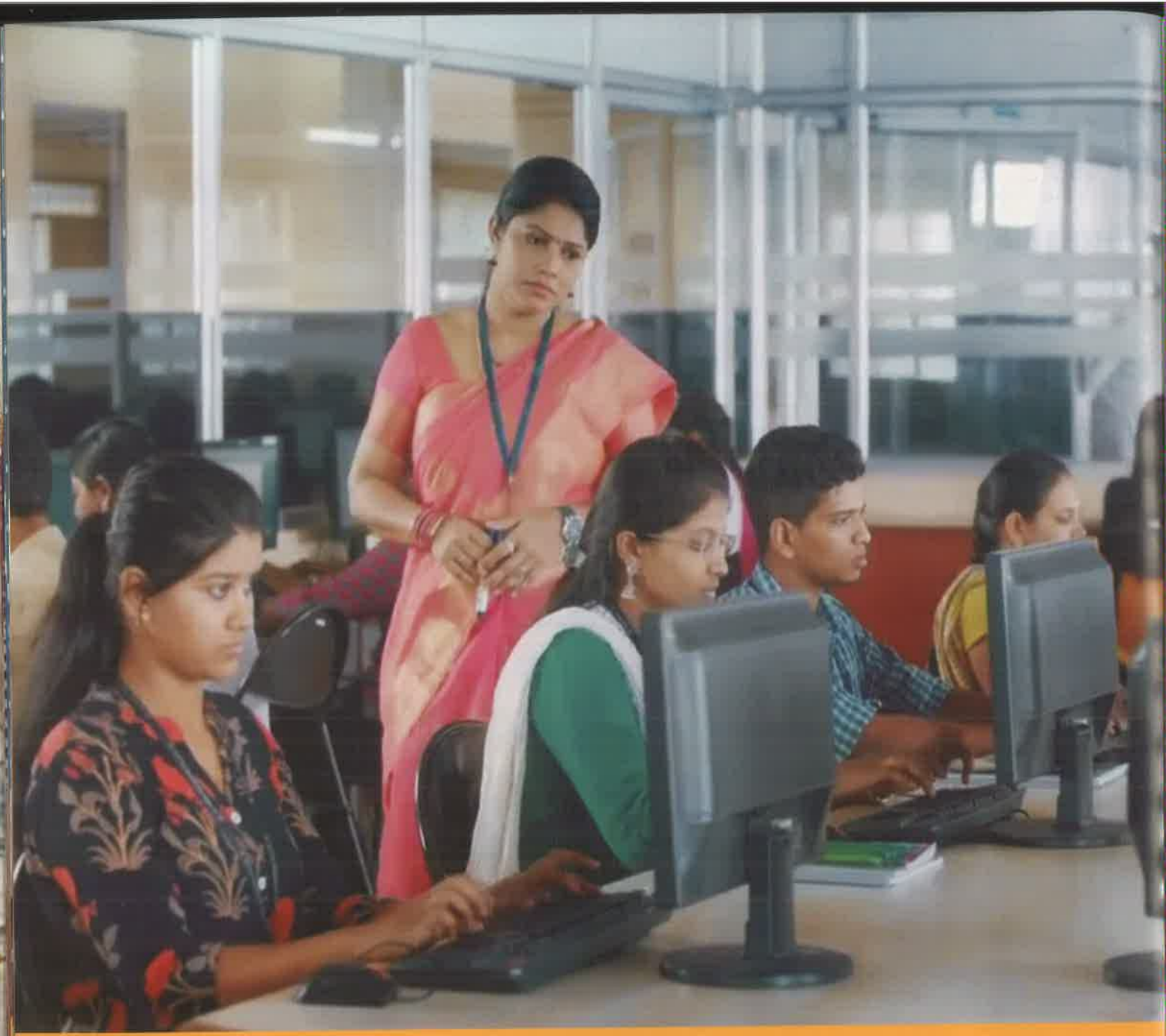
There are a lot of opportunities for the students studied under this discipline of Engineering. They have Job opportunities in the construction field all over the world. They have a wide scope of job opportunities in government sectors like PWD, TWAD Board, Highway Department, Rural Development, etc. Students can also become Entrepreneurs and can be successful in the competitive world.



Programmes Offered

B.E. - Civil Engineering

M.E. - Structural Engineering



Computer Science & Engineering

Vision

To devise captivating, fascinating and unique practices of teaching that discover the trained talents and inherent competences of young minds to evolve as human professional Computer Science Engineers.

Mission

- To provide students with challenging ventures, contributing to the betterment of their seldom to compete with international talents.
- To act as a motivational hub to exhibit their practical knowledge with the latest technological updates and research publications.
- To render ample knowledge to exhibit their ubiquitous talents for social prosperity and promote industry-institute harmony to upgrade the standards for international reputation.

Computer Science & Engineering

Academic

Under Graduate

The course starts with fundamental computer programming which helps to understand the concepts of Object Oriented and Internet Programming. The course emphasizes on design principles and development of System Software for Operating Systems and Database Management Systems. Hands on training is provided on Mobile Application Development, Computer Graphics and Cloud Computing. The skills of the students are shaped by giving awareness in Cyber Forensics, Cryptography and Network Security. The course provides a platform to implement computer based systems using Artificial Intelligence, Machine Learning and Distributed Computing.

Post Graduate

The course is designed to provide an in depth knowledge in computer software and network systems through Multi-Core Architecture, Advanced Database and Operating Systems. This course serves as a learning environment to apply the principles and techniques of software project management to ensure software quality .The recent trends in the fields of Cloud Computing, Social Network Analysis, Sensor Techniques and Internet of Things (IoT) are exhibited to the students practically with well-equipped laboratories.

Research

The department is facilitated with Globus tool kit, Open Nebula, VMWare, Hadoop and NS3 Simulator to target the latest trend in various research areas. Research domain includes Internet of Things (IoT), Big Data Analytics, Cloud Computing, Grid Computing, Data Mining, Machine Learning, Distributed Systems, Wireless Sensor Networks, Software Engineering and Artificial Intelligence. Android Application Development Lab has been established with Android Studio Developer Tool to give exposure to the students in various GUI android apps design.

Career

Computer Science engineering prepares students to choose their careers in academia, industry, research, government and private organizations.

The Computer Science engineers have wide options to work in IT companies in departments such as design, development, assembly, manufacture and maintenance. Working as web developer, and E-commerce specialist with telecommunications companies, automotive companies, aerospace companies can be a lucrative career option as well.

Programmes Offered

B.E. - Computer Science & Engineering

M.E. - Computer Science & Engineering

Doctoral: **Ph.D.**

Electrical & Electronics Engineering

Academic

Under Graduate

EEE deals with the study and real world application of electricity, electronics and electromagnetism.

Electrical engineers are responsible for the generation, transfer and conversion of electrical power. Electronic engineers study the behaviour and effects of electrons and use this knowledge to design electronic circuits, devices, equipment and systems.

Electrical & Electronics Engineering (EEE), deals with the engineering problems, opportunities and the needs of electrical, electronics, computer, telecommunication systems and related industries. This branch provides students with a wide range of fundamental knowledge in core disciplines such as communications, control systems, signal processing, micro-processors, micro-electronics, power generation and electrical machines.

Post Graduate

Power engineering, also called power systems engineering is a subfield of energy engineering and electrical engineering that deals with the generation, transmission, distribution and utilization of electric power and the electrical devices connected to such systems including generators, motors and transformers. Power Engineers are responsible for load flow analysis, economic load dispatch and price rescheduling of power market.

Research

Research area includes Power Systems, High Voltage Engineering, Control Systems and Biomedical Instrumentation. The R&D lab has various software packages like MATLAB, PSCAD, EUROSTAG, MIPOWER, etc., which helps the PG and Research scholars for extensive research in the field of Power Systems Engineering.

Careers

A EEE student can enter into the job market of Power Industries, Computer Engineering, Electronics & Communication Engineering, Instrumentation Engineering, Control Engineering, Robotics, VHDL, VLSI, etc.

Other than conventional Electrical Engineering jobs like power generation, distribution, transmission, manufacturing and utilization sectors. Electrical engineers are well positioned to address a variety of the crucial engineering issues faced by the society today.

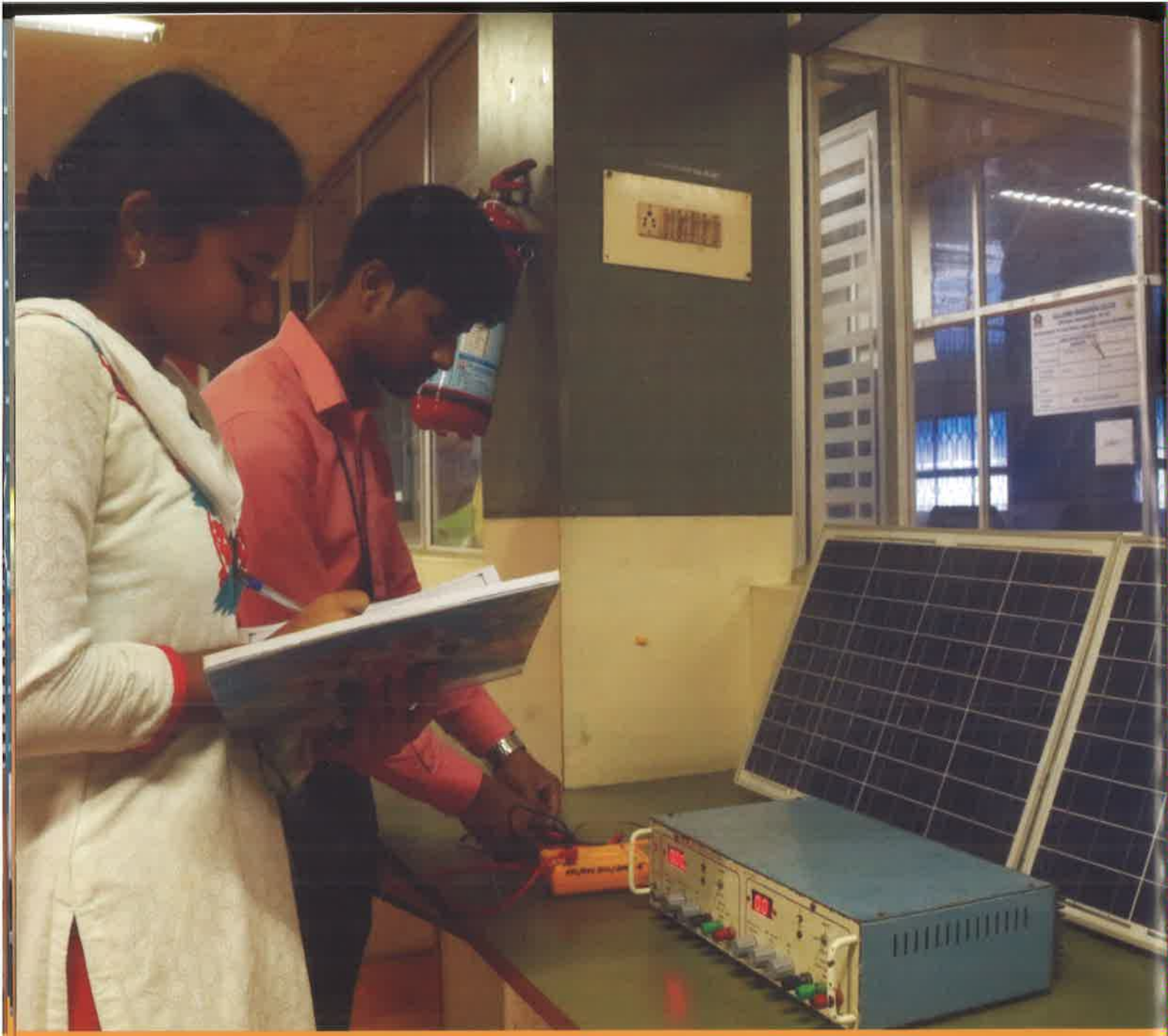
There are also many other career options to students with a EEE degree including those within the power and automotive industries as well as telecoms and other communications, circuit designs, information technology and renewable energy sources.

Programmes Offered

B.E. - Electrical & Electronics Engineering

M.E. - Power Systems Engineering

Doctoral: **Ph.D.**



Electrical & Electronics Engineering

Vision

To accomplish and maintain international eminence and to contribute to become a model institution for higher learning through development of highly competent and dynamic Electrical and Electronics Engineers while remaining sensitive to ethical, societal and environmental issues.

Mission

- To mould Electrical and Electronics Engineers and Entrepreneurs of international excellence as global leaders capable of contributing towards technological innovations, economic growth and environmental safety.
- To transform the Department into the centre of excellence in the domain of Electrical and Electronics engineering by promoting research and development, consultancy work and industry- institute interaction activities.

Electronics & Communication Engineering

Vision

To excel in the field of electronics and communication engineering and to develop highly competent technocrats with global intellectual qualities.

Mission

- To educate the students with the state of art technologies to compete internationally, able to produce creative solutions to the society`s needs, conscious to the universal moral values, adherent to the professional ethical code.
- To encourage the students for professional and software development career.
- To equip the students with strong foundations to enable them for continuing education and research.

Electronics & Communication Engineering

Academic

Under Graduate

The UG course begins with the study of Electronic Devices and Circuits which can be applied to learn about the Electronic Circuits and Linear Integrated Circuits. The course on Communication Theory lays the foundation for the subjects such as Digital Communication, Optical Communication, Wireless Communication and Wireless Networks. The propagation of Electromagnetic waves in Wireless Communications are supported by the Electromagnetic Fields, Antenna and Wave Propagation, RF and Microwave Engineering Courses. The course leads to a complete shape by applying the above concepts with VLSI and Embedded Technology..

Post Graduate

The course is designed in such a way that the students are exposed to theoretical concepts complemented by related practical experiments in Advanced Communication Techniques, Radiation Systems and Electromagnetic Interference and Compatibility. The recent advancement in the communication areas are learned through Ultra Wide band Communication, Advanced Satellite Communication and Network Management. The Master of Engineering programme offered in Communication Systems creates a center of excellence for imparting technical expertise of the highest order and to provide career focused programme to produce globally competent professionals.

Research

Every Research Scholar works closely with a dedicated Supervisor on a challenging research problem, which results in a dissertation. The major research areas are RF and Microwave Engineering, Optical Communication, Antenna Design, Wireless Communication Networks, VLSI, Signal and Image Processing.

Career

Upon completion of the degree, students will be prepared for careers in industries that manufacture and apply electronic equipment for Communication, Signal Processing, Solar Power Plants, VLSI and Embedded Systems, Robotics, and various other automation industries.

The Major industries which offer jobs for electronics engineers are BSNL, Texas Instruments, Intel, AMD, CISCO, IBM, Samsung Electronics, Sony, Toshiba, Philips Semiconductors, Nokia, HP, LG Electronics, Bharat Electronics Limited (BEL), Electronics Corporation of India Limited (ECIL), National Thermal Power Corporation (NTPC), Wipro, HCL, ISRO and SYNTEL.

Programmes Offered

B.E. - Electronics & Communication Engineering

M.E. - Communication Systems

Doctoral: **Ph.D.**

Electronics & Instrumentation Engineering

Vision

Continue to provide outstanding graduate education in Electronics and Instrumentation engineering with graduate programs driven by excellence in research, and to develop new ideas and technologies for various engineering systems.

Mission

- To provide high quality technical education and training at under graduate level in response to the changing needs of industries and society through a flexible and innovative learning process enabling them to work as professionals in industries and other organizations related to electrical, electronics and instrumentation technology with a high degree of integrity, social concern, ethical standards and rich Indian culture.

Electronics & Instrumentation Engineering

Academic

Under Graduate

The curriculum is Outcome Based Education. The structure of the programme includes the basic foundation courses like Mathematics, Science and Engineering. State-of-the-art lab facilities which make the learning process an enjoyable experience.

We imbibe the qualities in students in developing their abilities to think critically and independently, and their willingness to argue logically but to keep an open mind for new ideas as well.

Post Graduate

The structure of the programme includes core subjects, supportive subjects, program electives, interdisciplinary electives, industrial training and project work. The projects are research oriented and socially relevant, leading to publications.

The department supports to attain high standards of education and shine in their chosen path which in turn enhances the core strength of students and enables them for an all round development.

Research

Research area includes Process Control, Power System Analysis, Power Electronics, Robotics and Control, etc.

The Research centre functions in a cooperative manner to identify and initiate foundational multidisciplinary research and applied research projects, design and develop prototypes and proof of concepts, manage and market products and solutions and succeed to deliver funded research projects.

Careers

All the students will have the opportunity to get placement in companies like TCS, Infosys, Accenture, HCL, L&T, IGATE, Bosch, Mahindra Sathyam, etc. Many students have also gone for the higher studies in our country and also in foreign countries.

Programmes Offered

B.E. - Electronics & Instrumentation Engineering

M.E. - Control & Instrumentation Engineering

Doctoral: **Ph.D.**

Information Technology

Vision

To become a model for higher learning through development to prepare self-disciplined, creative, culturally competent and dynamic Information Technocrats while remaining sensitive to ethical, societal and environmental issues.

Mission

- To mould the students as innovative and high quality IT professionals to meet the global challenges and entrepreneurs of international excellence as global leaders capable of contributing towards technological innovative learning processes, participation citizenship in their neighborhood and economic growth.
- To impart value-based IT education to the students and enrich their knowledge and to achieve effective interactions between industries and institutions for mutual benefits.

Information Technology

Academic

Under Graduate

The Bachelor of Technology in Information Technology programme offers solid foundation in information technology. From this, the students will acquire knowledge on the basic engineering fundamentals which are very indispensable for an engineering student. Programming knowledge is gained in laboratories and applied in the areas of fundamental and advanced networking, cloud computing, scripting, databases, cryptography, chip level design, malware analysis, and forensics. Students specialize in a particular area of information technology by taking guided elective courses. IT students will gain the necessary skills to solve professional challenges using information technology while also creating new opportunities with technology.

Research

The department is equipped with the Network Simulator (NS2) which is installed primarily for network related protocol implementation in Linux operating system. Hadoop software is installed for big data analysis related projects in Linux Operating system. Openstack software is installed for virtual network creation related projects in Linux Operating system. Android studio software and Intel XDK software is installed for Mobile application related projects in Windows. Weka and postgreSQL software is installed for data mining and data analytics related projects. Students are allowed to do the projects in their interested areas with the research facilities available in the department.

Careers

Information technology has entered and benefited all sectors of industry. IT professionals design, support, and maintain computer hardware and software for various industrial and individual applications and are much sought after for their expertise and experience. As a software developer, they can design or customize computer applications software and evaluate software requirements and user needs to determine software feasibility for various real time projects. As a computer system analyst, their analyze data processing problems to improve the computer systems, develop and test system design procedures. As network system administrators, they are capable of installing and supporting an organization's network system and examining the website functionalities to ensure high end performance without interruption. As information security analysts, their monitor networks for security breaches and investigate when one is detected, develops security standards and the best practices suitable for the organization.

Programme Offered

B.Tech. - Information Technology

Mechanical Engineering

Academic

Under Graduate

In Mechanical Engineering, students acquire knowledge in the areas of Thermal Engineering, Engineering Design, Manufacturing Technology, Engineering Materials, Metallurgy, Metrology and Measurements, etc. The knowledge in these areas mould the students as sound Mechanical Engineers to create innovations in this field.

Post Graduate

The course in Industrial Safety Engineering is to train the personnel, who already possess the first degree in engineering; by providing them the scientific know-how and orientation in theory and practice in the area of Industrial Safety, Fire Engineering and Explosion Control, Safety in Chemical Industries and Safety Management skills to reach higher levels in their profession. A knowledgeable safety engineer also renders professional expertise to the industrial and societal safety needs at national and global level as per the legal requirements. These engineers disseminate information on health safety and environment and collaborate with experts across various disciplines so as to create and execute safe methodology in complex engineering activities in various environments.

Research

The advanced research in the field of Mechanical Engineering can be carried out in our Research Centre. All the basic equipment and machineries to support the research are available. In addition, the facilities like CNC,CAD/CAM/CAE,CMM, Machineries, Mechanical Softwares like AutoCAD, Pro-E, ANSYS, CADEM, and Control Systems Softwares like FANUC and SIEMENS are available to support research.

Careers

Tremendous and brilliant career opportunities are available in the field of Mechanical Engineering. The students can have opportunities in the field of Aerospace, Ship Building, Oil Explorations, Automobile, Mines, Steel Industries, Defence Manufacturing, Design, Metallurgy, and Research and Development.

Programmes Offered

B.E. - Mechanical Engineering

M.E. - Industrial Safety Engineering

Doctoral: **Ph.D.**

Mechanical Engineering

Vision

To provide quality education and to promote research leading to responsible engineers who will be able to meet the emerging needs of the society.

Mission

- Imparting quality education to the students and enhancing their skills to make them competitive mechanical engineers.
- To provide facilities and opportunities to the students and faculties for creating, interpreting, applying and disseminating knowledge.

Master of Business Administration

Need of Post Graduation

India is one of the many countries that has grown and is still growing rapidly in the industrial respect. Thus, the demand as well as popularity of business related courses has also taken a rapid jump. MBA is one of the most popular as well as widely chosen courses amongst the other entire business related courses. This is because MBA has its own values and hence it has wider scopes and job prospects.

Research

As part of the curriculum, the MBA students have to undergo project work, which involves doing consultancy for organizations. The students have to take up the problems of the industries and do a study for a period of three months and provide the same to the industries.

Careers

The Department strives towards bringing in the best of Industry experts through its Industry Institution Tie-up initiatives. Campus Placement Services are offered to the eligible students and some of our recruiters include top brands like, ICICI Direct, Bajaj Capital Limited, ISSM B School, Kent RO, RR Donnelly and Jaro Education. In addition, the department has also conducted various Entrepreneurship Development Camps in association with the Anna University Centre for Entrepreneurship Development for the benefit of students.

Programme Offered

MBA - Master of Business Administration

Master of Business Administration

Vision

To be a leading Management institution that contributes to the development of business and society through excellence in grooming leadership, entrepreneurial talent and research.

Mission

- Create intellectual capital in terms of scholarly and practice-oriented research, relevant to its evolving techno-civilization context.
- Foster a worldview that promotes diversity, inclusion, and ethical participation in the interconnected world of business.
- Forge meaningful partnerships with industry, academia, government, and social sectors such that sustainable businesses are built fulfilling the collective needs of various stakeholders and the society.
- Promote a culture of academic excellence benchmarked against the best institutions in its peer group.

Sports Complex with Flood Light


Pongal Celebration

SRM Valliammai Engineering College

[An Autonomous Institution]

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