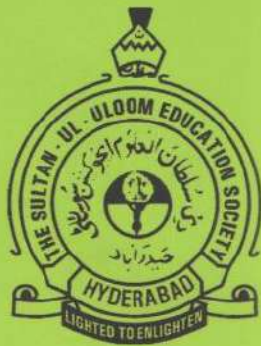
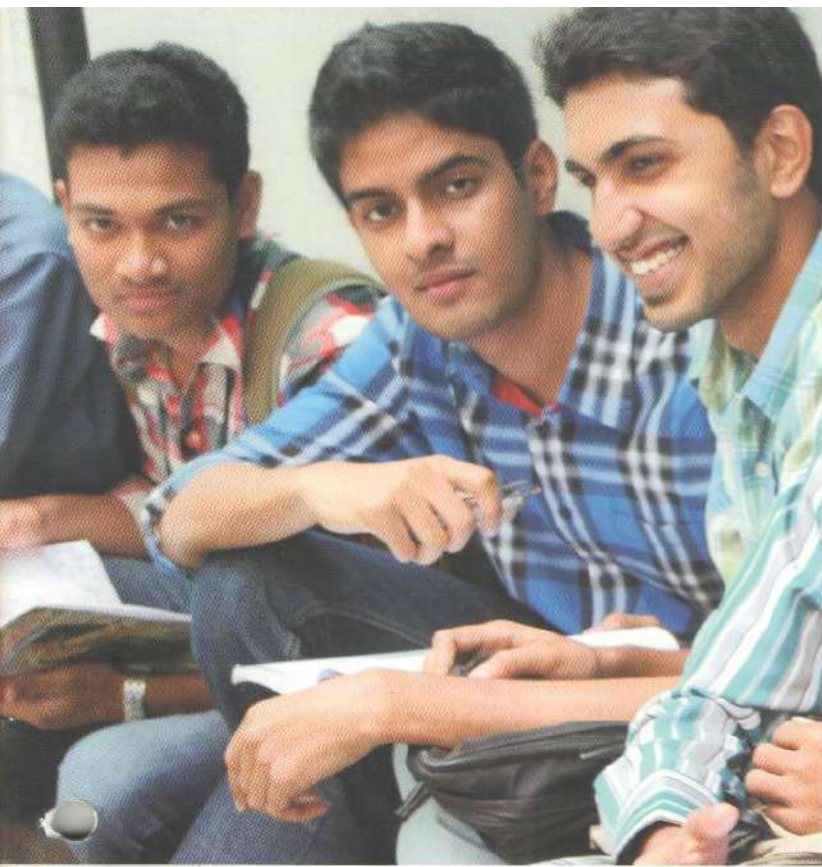


**1.3 Indicate where the vision, mission and PEOs are published and disseminated among stakeholders (10)**

The Vision, Mission and PEOs are disseminated through various for a in an appropriate format. Described below are some of the means of dissemination.

- a) The vision and mission statements of the Institute and the Department are published on the official website [www.mjcollege.ac.in](http://www.mjcollege.ac.in)
- b) The PEOs of the program are published on the official website [www.mjcollege.ac.in](http://www.mjcollege.ac.in)
- c) The Institute's brochure contains the vision and mission statements of the Institute and the Department and the PEOs of programs.
- d) The annual placement brochure (soft copy format) that is provided to all the prospective employers contains vision and mission statements of the Institute and the Department.
- e) The departmental newsletter highlighting the activities of the department contains the departmental vision and mission statements.
- f) The mission and vision statements of the Institute and Department are displayed at several prominent public places in the campus.
- g) The mission and vision of the institute is also available on the alumni association website [www.mjalumni.org](http://www.mjalumni.org) for the information of alumni.
- h) Apart from above, the mission and vision is disseminated through faculty and staff.
- i) Induction program, Graduation program, Workshops, Seminars and Alumni Meets are other avenues through which the vision and mission are disseminated.



**Muffakham Jah  
College of  
Engineering & Technology**



**A PASSION FOR EXCELLENCE**

[www.mjcollege.ac.in](http://www.mjcollege.ac.in)

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ  
رَبِّ زِدْنِي عِلْمًا

'O' Lord increase me in knowledge



Mr. Khan Lateef Mohd Khan Chairman

## VISION

To be a part of universal human quest for development and progress by contributing high caliber, ethical and socially responsible engineers who meet the global challenge of building modern society in harmony with nature.

## Mission

- ❖ To attain excellence in imparting technical education from the undergraduate through doctoral levels by adopting coherent and judiciously coordinated curricular and co-curricular programs
- ❖ To foster partnership with industry and Governmental agencies through collaborative research and consultancy
- ❖ To nurture and strengthen auxiliary soft skills for overall development and improved employability in a multi-cultural work space
- ❖ To develop scientific temper and spirit of enquiry in order to harness the latent innovative talents
- ❖ To develop constructive attitude in the students towards the task of nation building and empower them to become future leaders
- ❖ To nourish the entrepreneurial instincts of the students and hone their business acumen
- ❖ To involve the students and faculty in solving local community problems through economical and sustainable solutions.





# Civil Engineering Department

The Civil Engineering Department has been in existence since the inception of the Institution in the year 1980. Today it is a full-fledged department offering courses both at UG and PG level. Besides delivering quality teaching and instructions, it also undertakes industrial consultancy works as part of its professional interaction with industry. The sophisticated laboratories of the department expose the students to contemporary technologies in the area of civil engineering drafting, structural analysis and design, material testing, GIS and automated mapping and facilities management.

## The Programs

- ❖ B.E. in Civil Engineering
- ❖ M.E. in Structural Engineering

Civil Engineering is broadest of engineering fields dealing primarily with designing, construction and maintenance of infrastructure projects like buildings, towers, dams, canals and pipelines, transportation and traffic control systems, bridges, power plants, water and waste water treatment plants. The scope of civil engineering has expanded in the recent years to include many environmental areas such as assessment of the impact of large scale projects, pollution control, resource management etc.

There are many areas of specialization in civil engineering like structural engineering, water resources engineering, construction management, environmental engineering, geotechnical engineering and transportation engineering.

## Vision

To produce technically competent and socially responsible civil engineers to propel infrastructural development

## Mission

To impart quality education and inculcate professional skills to function as proficient planners, designers and constructors capable of ensuring sustainability and safety

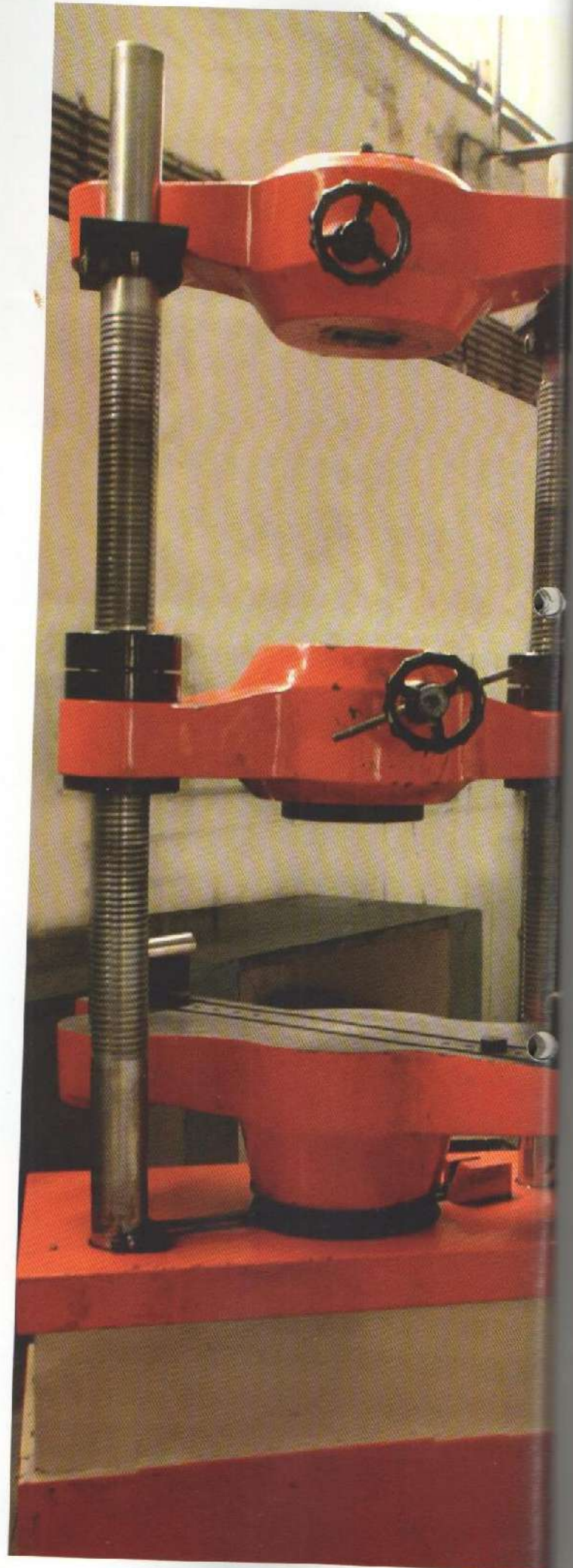
## Program Educational Objectives

- ❖ Graduates will demonstrate technical competence and leadership by analyzing, designing and executing Civil Engineering Structures using current techniques and tools.
- ❖ Graduates will be successful as professional engineers, academicians, researchers, consultants and entrepreneurs in the field of Civil Engineering.
- ❖ Graduates will communicate effectively as individual or team members and be successful Civil Engineers in the local and global environment.
- ❖ Graduates will demonstrate lifelong learning through continuing education and professional development.
- ❖ Graduates will be successful in providing viable and sustainable solutions within societal, professional, environmental and ethical context.

## Program Outcomes

The program outcomes conceived by the department are that, the students, on successful completion of the course will acquire ability to:

- ❖ Apply concepts of engineering fundamentals, mathematics and basic sciences to solve Civil Engineering problems.
- ❖ Identify, formulate and analyze complex problems in the area of Civil Engineering.
- ❖ Design concrete structures, steel structures, irrigation structures, water supply and waste water treatment systems, various types of sub-structures, pavements and efficient transport systems.
- ❖ Design and conduct experiments, analyze and interpret the data to draw the valid conclusions.
- ❖ Use modern engineering software for drafting, analysis and design of Civil Engineering structures and use available tools for report presentation, data representation and presentations.
- ❖ Evaluate the impact of Civil Engineering solutions in safety, health and legal context.
- ❖ Recognize the need for sustainable development in the societal and environmental context with reference to construction materials and resources.
- ❖ Demonstrate social responsibility and professional ethics in dealing with multi disciplinary projects.
- ❖ Function effectively as an individual and as a member of multi disciplinary teams.
- ❖ Produce engineering report using written, oral and graphical method of communication and communicate effectively with superiors, colleagues and construction workers.
- ❖ Apply best management and accounting practices for construction and maintenance of Civil Engineering projects.
- ❖ Engage in research and lifelong learning to adopt the changes and update themselves in the procedure of analysis, design and soft skills.





# Computer Science & Engineering Department

The Computer Science and Engineering Department was established in the year 1986 to support the increasing demand of Computer Science professionals in the software sector. Starting from an intake of 30 students, the Department has moved from strength to strength and today its intake has increased to 120. The department's academic elegance coupled with state-of-the-art infrastructure makes it a comfortable place for the students to excel in computing on par with the industry. The computational skills of the students are strengthened through mini projects offered from second year onwards.

## The Programs

- ❖ B.E. in Computer Science and Engineering
- ❖ M. Tech. in Computer Science and Engineering

The Computer Science and Engineering program lays importance on principals of computing along with other core computer science themes, concentrating on Data Structures, Algorithms, Databases, Computation Theory, Data Mining, Software Engineering, Information Security and Embedded Systems. The programs novel approach balances theory and practical courses through mini-projects and real-time major project at the final year level.

## Vision

To contribute competent computer science professionals to the global talent pool to meet the constantly evolving societal needs.

## Mission

Mentoring students towards a successful professional career in a complex transnational workspace complemented by innovative technical and leadership skills via quality education using state of art computing environments facilitated by capable educators

## Program Educational Objectives

- ❖ Graduates will demonstrate technical skills and leadership in their chosen fields of employment by solving real time problems using current techniques and tools.
- ❖ Graduates will be successful as professional engineers, academicians, administrators, managers and entrepreneurs appropriate to their background, interest and education.
- ❖ Graduates will communicate effectively as individuals or team members and be successful in the local and global cross cultural working environment.
- ❖ Graduates will demonstrate lifelong learning through continuing education and professional development.
- ❖ Graduates will be successful in providing viable and sustainable solutions within societal, professional, environmental and ethical contexts

## Program Outcomes

On successful completion of the program, graduates of CSE will have the ability to:

- ❖ Apply the knowledge of mathematics, science, engineering fundamentals, and computer science and engineering for the solutions of complex computational problems.
- ❖ Identify, formulate, and analyze a problem, reaching substantiated conclusions using acquired knowledge.
- ❖ Develop solutions and design system components or processes that meet the specified needs with appropriate consideration for local and global impact, such as, public health and safety, cultural, societal, and environmental considerations.
- ❖ Use research-based knowledge and research methods to derive valid conclusions for complex problems.
- ❖ Develop software solutions for real time applications by using modern IT tools.
- ❖ Apply analytical 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.
- ❖ Evaluate the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- ❖ Employ ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- ❖ Perform effectively as an individual, and as a member or leader in diverse teams, multidisciplinary and multicultural settings.
- ❖ Communicate effectively on technical aspects with the stakeholders, such as, being able to comprehend and compile effective documentation, and make oral presentations.
- ❖ Apply knowledge and understanding of engineering and management principles to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

- ❖ Engage in independent and life-long learning in the context of technological changes.

## Faculty

The CSE Department has a stable faculty profile consisting of 32 faculty members whose average experience is 10 years in academics and industry. All the faculty members possess post graduate qualification and a number of them are pursuing Ph. D. program. The faculty members specialize in areas like Software Engineering, Data Mining, Artificial Intelligence, Wireless and Mobile Computing. The Department recognizes the significance of the faculty updating itself with latest development and therefore regularly deputes them to refresher courses, seminars and conference. During the last three years the Departmental faculty has published over 45 papers in journals and conferences.

### Faculty Strength

Professors	02
Associate Professors	06
Assistant Professors	24
Total	32

### Faculty Qualification

Ph. D.	02
Pursuing Ph. D.	12
M.Tech	18

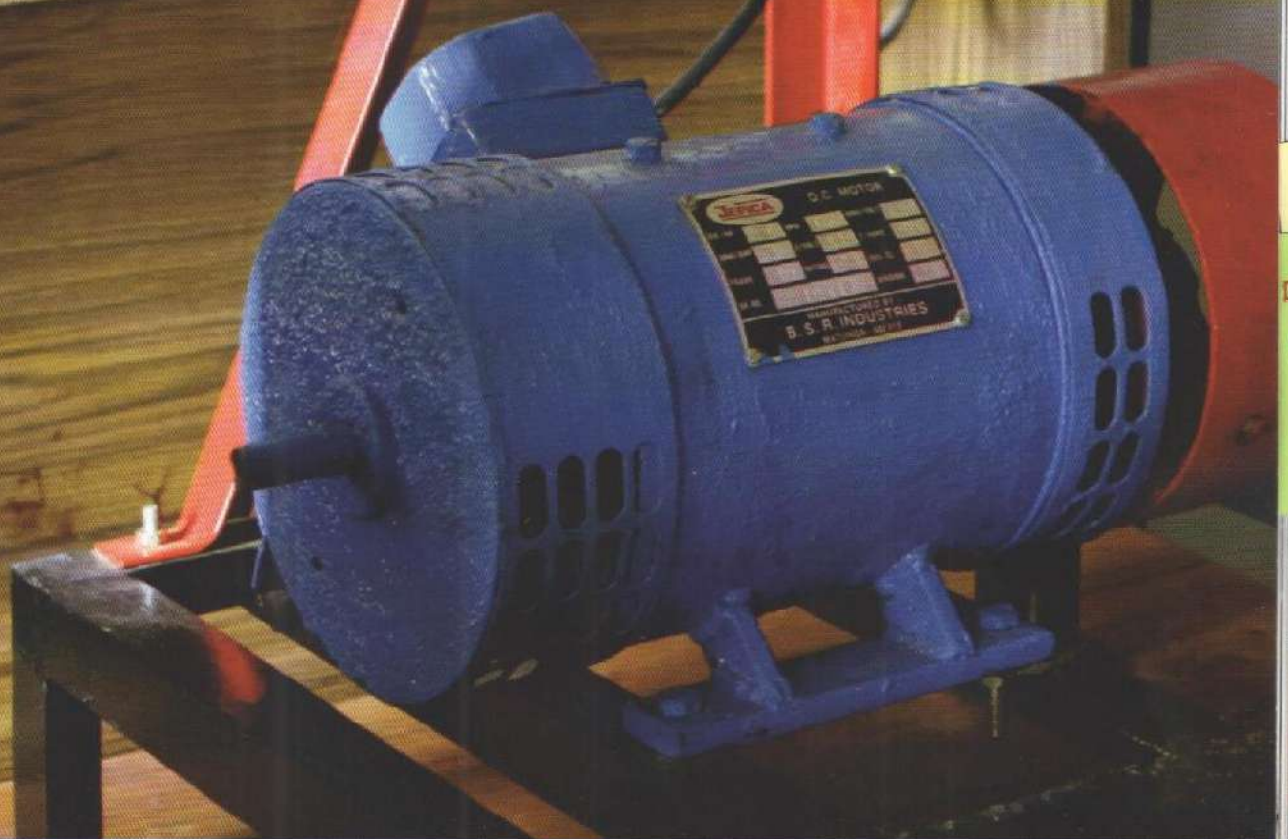
### Faculty Experience

More than 10 years	15
Between 5 to 10 years	16
Less than 5 years	01



# Electrical Engineering Department

The four year B.E. program in Instrumentation Engineering was started in the year 1997 in order to meet the surging industry demand for professionals who could monitor and control automated engineering systems. Subsequently the intake was increased from 40 to 60 and it was renamed as Electronics and Instrumentation Engineering. In the year 2002, the program of Electrical and Electronics Engineering was introduced and both these programs were brought under the Electrical Engineering Department.



## The Programs

The Electrical Engineering Department offers two B.E. programs and one M.E. program.

- ❖ B.E. in Electrical and Electronics Engineering
- ❖ B.E. in Electronics and Instrumentation Engineering
- ❖ M.E. in Power Electronic Systems

Electrical Engineers have traditionally been responsible for generation and supply of power. In addition to this they also design, develop, test and supervise manufacture of various electrical equipments like motors, machinery controls, communication systems and power generation, control and transmission devices used by electric utilities. The Electrical Engineers also design lighting systems in buildings, automobiles and aircrafts.

Electronics Engineers primarily deal with applications of electricity to control systems and signal processing. With the increasing applications of control technology it has become essential to be knowledgeable about analogue and digital circuits, microprocessors, digital signal processing and programming languages. The course of EEE seeks to supplement the traditional knowledge base of Electrical Engineer by addition of relevant courses of Electronic Engineering.

Instrumentation Engineers are responsible for designing, developing, installing and maintaining equipment used to monitor and control engineering systems, machinery and processes.



## Vision

To produce proficient engineers who illuminate the nation, drive the industry and innovate in the field of power and automation.

## Mission

- ❖ Provide futuristic and comprehensive technical education to equipped students with core competencies and relevant skill sets through effective teaching and learning methods and state of art laboratories thus performing them for global careers
- ❖ Pursue need based research and provide consultancy and testing services to address contemporary issues in the field of Electrical and Instrumentation engineering.

## Program Educational Objectives of EEE

- ❖ Graduates will demonstrate core competence in electrical engineering along with leadership in their chosen fields of employment by identifying, formulating, analyzing & implementing engineering solutions using current techniques & tools
- ❖ Graduates will be successful as professional engineers, academicians, researchers, managers & entrepreneurs appropriate to their background, interest & education.
- ❖ Graduates will communicate effectively as individuals or team members & be successful in local & global cross cultural working environment
- ❖ Graduates will demonstrate lifelong learning through continuing education & professional development
- ❖ Graduates will be successful in providing viable & sustainable solutions within societal, professional, environmental & ethical contexts

## Program Outcomes of EEE

- ❖ At the end of the B.E. course in EEE, a student will be able to:  
Apply the knowledge of Mathematics, Basic Science and Engineering sciences to solve complex Electrical Engineering problems.
- ❖ Identify, formulate & analyze Electrical Engineering Problems by applying principles of mathematics, basic sciences and engineering fundamentals.
- ❖ Design a System, component & process so as to meet specified requirements with appropriate societal, safety and environmental considerations.
- ❖ Conduct experiments, interpret and analyse data to present valid conclusions.
- ❖ Use latest software packages for simulation or design of electrical engineering systems & employ latest IT tools for data analysis, presentations & report writing.
- ❖ Develop solutions to societal engineering problems and adapt them to emerging trends and areas with due consideration to health, safety, legal issues and responsibilities.
- ❖ Evaluate the impact of engineering solutions within the context of society, environment and recognize sustainable technologies
- ❖ Function within the domain of professional ethics and responsibility
- ❖ Display team skills required for projects in multidisciplinary domains & exhibit professionalism.
- ❖ Demonstrate the ability to communicate effectively and professionally through technical writing, reports & presentations
- ❖ Manage the projects as a team member or a leader in multidisciplinary environment effectively



- ❖ Engage in lifelong learning to adapt and keep abreast with emerging technologies

## Program Educational Objectives of EIE

- ❖ Graduates will demonstrate core competence and leadership skills in their chosen fields of employment by diagnosing, modeling and designing engineering solutions using latest tools and techniques.
- ❖ Graduates will be successful as professional engineers, academicians, researchers, software developer and administrator appropriate to their background, interest and education.
- ❖ Graduates will communicate fluently as an individual or a team member and be a successful in the national and international cross-cultural working environment.
- ❖ Graduates will demonstrate lifelong learning process by means of further studies and professional development.
- ❖ Graduates will provide practical and sustainable solutions within social, environmental and ethical contexts.

## Program Outcomes of EIE

Graduates will have the ability to:

- ❖ Apply the knowledge of Mathematics, Basic Science and Engineering science for solutions of complex engineering problems in the field of Electronic, measurement and control.
- ❖ Analyze and identify a problem using the principles of mathematics and basics and engineering sciences.
- ❖ Design a system consisting of sensors, actuators and processors with constraints to meet the societal and environmental requirement.
- ❖ Plan and conduct experiments, interpret and analyze data to present valid conclusions.

# Electronics and Communication Engineering Department

The Electronics and Communication Engineering department was established in the year 1980 at the time of inception of the institution. Being one of the oldest departments, it has acquired a stable profile with a good blend of experienced and young enthusiastic faculty coupled with state of art infrastructure. The Department trains the students towards overall growth and holistic development in all aspects of life. Many a graduate from the ECE Department have excelled in their professional life by virtue of the rigorous training imparted to them during their four years of course work.



## The Programs

The Electronics and Communication Engineering Department offers the following programs:

- ❖ B.E. in Electronics and Communication Engineering
- ❖ M.E. in Digital Systems

The Department is also a recognized research center of Osmania University for doctoral degree.

The Electronics and Communication Engineering field is the one which has grown the most in the past few decades. Its applications span the domains of consumer electronics, communication, medical electronics, defense, industry and many more areas. The most notable contribution is perhaps in the field of communication which has progressed from telephony and telegraphy to the present day wireless satellite communication. All the recent advances in the field of medical diagnosis and treatment are backed by developments like X-rays, computerized tomography, ECG, shortwave diathermy etc.

The B.E. (ECE) program lays emphasis on the principles of communication systems along with the core electronics courses. The students are introduced to the concept of simulation through P-Spice and other advanced tools like Tanner and Cadence. Another novel feature of the program is the student centric mini-projects which are introduced from the second year level.

## Vision

To be recognized as a premier education center providing state of art education and facilitating research and innovation in the field of electronics and communication engineering

## Mission

We are dedicated to providing high quality, holistic education in Electronics and Communication engineering that prepares the students for successful pursuit of higher education and challenging careers in industry, R & D and academics

## Program Educational Objectives

- ❖ Graduates will demonstrate technical skills and leadership in their chosen fields of employment by solving real time problems using current techniques and tools.
- ❖ Graduates will be successful as professional engineers, academicians, administrators, managers and entrepreneurs appropriate to their background, interest and education.
- ❖ Graduates will communicate effectively as individuals or team members and be successful in the local and global cross cultural working environment.
- ❖ Graduates will demonstrate lifelong learning through continuing education and professional development.
- ❖ Graduates will be successful in providing viable and sustainable solutions within societal, professional, environmental and ethical contexts

## Program Outcomes

On successful completion of the program, graduates of ECE will have the ability to:

- ❖ Apply knowledge of mathematics, basic sciences and generic engineering skills and core knowledge of electronics and communications to the solution of engineering problems.
- ❖ To identify, formulate and analyze complex engineering problems using basic sciences and fundamentals of mathematics and engineering.
- ❖ To design a component, a system or process that meets the specified needs with appropriate consideration for societal, environmental, public health and safety issues.
- ❖ To design and conduct experiments, analyze data and interpret the results to provide valid conclusions.
- ❖ To use modern CAD tools for analysis and design of Electronic Systems
- ❖ To provide engineering solutions to societal problems.
- ❖ To understand the impact of engineering solution on the environment and the need for sustainable development.
- ❖ To value professional ethics and responsibilities in engineering practice
- ❖ Perform effectively as an individual and as a member or as a leader in a multi-disciplinary environment.
- ❖ Communicate effectively in oral/written form and make effective reports and presentations.
- ❖ To understand and apply engineering and financial management principles to projects as individual, team member or leader in multi-disciplinary environment.
- ❖ Recognize the need for life-long learning and adopt to newer technologies.

## Faculty

The faculty of ECE Department is experienced in diverse areas of specialization like signal processing, microwave engineering, computer architecture, VLSI (Chip) design and embedded systems. The IEEE chapter in the Department helps the faculty and the students to update themselves with the latest developments in their areas of specialization. The faculty members have published over 70 papers in journals and conferences in the past five years.

### Faculty Strength

Professors	02
Associate Professors	04
Assistant Professors	22
Total	28


### Faculty Qualification

Ph. D.	02
Pursuing Ph. D.	06
M.E/M.Tech	19
B.Tech	01

### Faculty Experience

More than 20 years	05
Between 10 to 20 years	03
Between 5 to 10 years	17
Less than 5 years	03



A group of students, primarily women, are gathered around a table in a classroom or lab setting. They are focused on a computer hardware project, specifically a printed circuit board (PCB) with various components like chips, capacitors, and connectors. One student in the foreground is pointing at a component on the board, while others look on attentively. The background shows other students and office chairs, suggesting a busy educational environment.

# Information Technology Department

Established in the year 2000, with an intake of 60 students in B.E. IT Course, the Information Technology Department is the youngest of all departments at MJCEIT. In the year 2006 the intake was increased to 120. The department aims to stimulate in the students an urge for learning, and prepare them for the demands of the IT industry. Apart from imparting knowledge, skills, and values to fulfill their role as proficient IT professionals, the students are also motivated towards their responsibility as ethical citizens of the country.

## The Program

In a broad sense, Information Technology encompasses all technologies used for the creation, management and use of information. The IT program is a blend of software-oriented Computer Science courses and hardware-oriented Electronic courses with an emphasis on VLSI and Embedded Systems components. The program prepares the students to efficiently handle jobs in software development along with computer hardware, internet and communication technologies.

## Vision

Fostering a bright technological future by enabling students to function as leaders in software industry and serve as a means of transformation to empower society through IT enabled services.

## Mission

To create an ambience of academic excellence through state of art infrastructure and learner centric pedagogy leading to employability in multi disciplinary field.

## Program Educational Objectives

- ❖ Graduates will demonstrate core competence in electrical engineering along with leadership in their chosen fields of employment by identifying, formulating, analyzing & implementing engineering solutions using current techniques & tools
- ❖ Graduates will be successful as professional engineers, academicians, researchers, managers & entrepreneurs appropriate to their background, interest & education.
- ❖ Graduates will communicate effectively as individuals or team members & be successful in local & global cross cultural working environment
- ❖ Graduates will demonstrate lifelong learning through continuing education & professional development
- ❖ Graduates will be successful in providing viable & sustainable solutions within societal, professional, environmental & ethical contexts

## Program Outcomes

Graduates of the program in IT will demonstrate ability to:

- ❖ Apply knowledge of computing, mathematics, science and IT engineering fundamentals for solution of complex problems.
- ❖ Analyze a problem, and identify and formulate the requirements appropriate to its solution
- ❖ Design and implement a computer-based system, process, component, or program to meet the needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.
- ❖ Use research - based knowledge and research methods to derive valid conclusions for complex problems.
- ❖ Use current techniques and modern tools necessary for computing practice i.e. for presentation and report.
- ❖ Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional IT practice.
- ❖ Examine the impact of professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of and need of sustainable development.
- ❖ Understand professional, ethical, legal, security and social issues and responsibilities.
- ❖ Function effectively individually and on teams, including diverse and multidisciplinary, to accomplish a common goal.
- ❖ Communicate effectively with a range of audiences in various formats.
- ❖ Recognize and engage in continuous professional development.
- ❖ An ability to understand engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects.

## Faculty

The Department is supported by qualified, experienced, and dedicated teaching and non-teaching staff. The faculty constantly endeavors to upgrade themselves through publications and participation in seminars, conferences etc., which is an essential demand for IT sector employees where half-life of knowledge is very short. In the last three years the faculty has published about 100 papers in journals and conferences.

### Faculty Strength

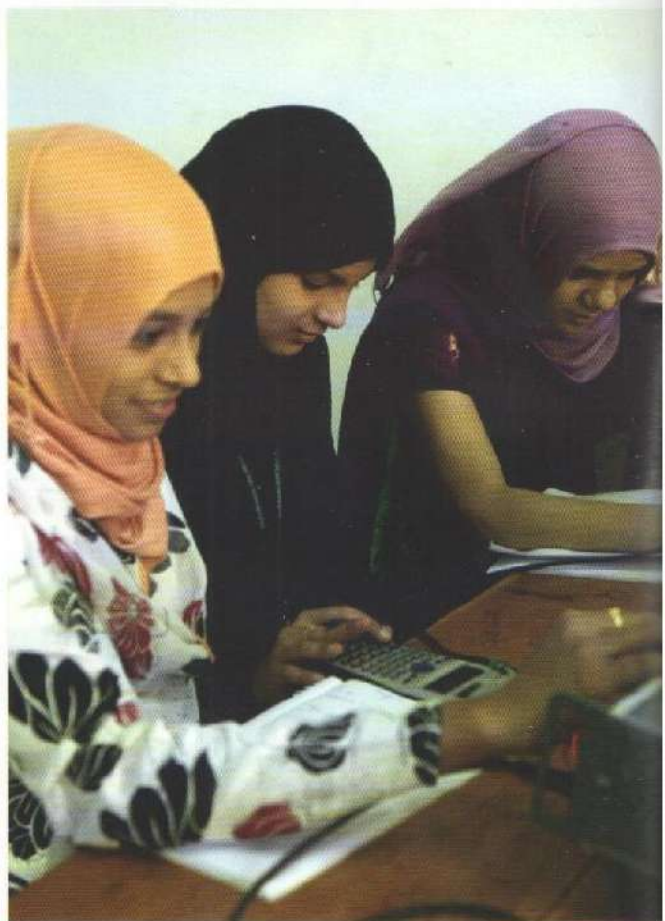
Professors	01
Associate Professors	03
Senior Assistant Professors	01
Assistant Professors	19
Total	24

### Faculty Qualification

Ph. D.	01
Pursuing Ph. D.	08
M.Tech	15

### Faculty Experience

More than 15 years	02
Between 10 to 15 years	02
Between 5 to 10 years	11
Less than 5 years	09





# Mechanical Engineering Department

The Department of Mechanical Engineering, being one of the largest and oldest departments of the Institute, continuously strives to achieve excellence in academics and industry oriented research with service to the society. With a solid grounding in the principles and practices of Mechanical Engineering, the graduates excel in their chosen field of employment and quite a few of them become entrepreneurs.

## The Program

The Mechanical Engineering Department offers two B.E. programs and one M.E. program. Apart from this the department is also recognized as a research center by the Osmania University.

- ❖ M.E. – CAD/CAM
- ❖ B.E. in Mechanical Engineering
- ❖ B.E. in Production Engineering

The role of a mechanical engineer is to take a product from an idea to the marketplace. In order to accomplish this, a broad range of skills are needed. Mechanical engineers play a central role in almost all industries like automotive, aerospace, biotechnology, computers and electronics, Micro-Electro-Mechanical Systems (MEMS), energy conversion, environmental control i.e., HVAC, air-conditioning, refrigeration, compressors, automation and manufacturing. To put it simply, mechanical engineering deals with anything that moves, including the human body, a very complex machine. Mechanical engineers learn about materials, solid and fluid mechanics, thermodynamics, heat transfer, control instrumentation, design, and manufacturing to understand mechanical systems.

## Vision

To produce high caliber, competent, industry oriented Mechanical Engineers

## Mission

To impart quality education by providing state of art technical facilities and enhance the professional abilities to meet the demands of ever-changing manufacturing industry

### Program Educational Objectives for Mechanical Engineering

- ❖ Graduate will demonstrate technical competence using their analytical, practical and software skills to solve the real time problems in their selected sphere of employment.
- ❖ Graduate will be successful as professional engineers, academicians, managers, consultants, researchers and entrepreneurs in accordance to their choice of profession.
- ❖ Graduates will be able to communicate effectively as team members and individuals in various professional environments.
- ❖ Graduate will demonstrate inclination towards higher education and skill improvement as part of lifelong learning process.
- ❖ Graduates will be capable of providing viable and sustainable solutions with in ethical domain.

### Program Educational Objectives for Production Engineering

- ❖ Graduates will be capable of demonstrating analytical and practical engineering skills using various techniques and tools in solving engineering problems.
- ❖ Graduates will communicate efficiently as professional engineers in a team or as an individual in local and global cross cultural working scenario.
- ❖ Graduates will excel as engineers, academicians, researchers, entrepreneurs, consultants and managers in their chosen professional sphere.
- ❖ Graduates will demonstrate lifelong learning through higher education, skill improvement and professional development.
- ❖ Graduates will be successful in devising sustainable solutions to environmental, and socio economic and professional problems, with due regard to professional ethics.

### Programme Outcomes of Mechanical Engineering:

Students in the Mechanical Engineering programme at the time of their graduation are in position to:

- ❖ Apply knowledge of mathematics, basic sciences, engineering sciences and mechanical engineering fundamentals to identify, formulate, analyze and solve complex real time engineering problems.
- ❖ To design various machine components, heat exchanger, HVAC systems, hydraulic machinery and kinematic systems with due considerations for safety and environment.
- ❖ Design and conduct experiments, analyze and interpret the data and conclude.
- ❖ Use software such as CAD, FEA to analyze real time engineering problems and use MS-Office to generate and present reports.
- ❖ Apply knowledge of renewable sources such as solar and wind energy to meet the demands of the future energy needs.
- ❖ Demonstrate social responsibility and professional ethics in all walks of life.
- ❖ Work effectively as an individual and in a team and communicate effectively in different formats and platforms.
- ❖ Manage inter disciplinary projects using the knowledge of project management and finance.

- ❖ Engage in research and lifelong learning.

### Programme Outcomes of Production Engineering:

Students of Production Engineering programme at the time of their graduation are in a position to:

- ❖ Apply knowledge of Engineering, Mathematics, Physics, Chemistry to manufacturing industrial problems.
- ❖ Identify, formulate and analyse complex optimization problems in the area of manufacturing and design.
- ❖ Design the machine elements, Kinematic Systems, hydraulic machinery, thermal turbo machinery & machine tools.
- ❖ Design, conduct experiments in hydraulic machinery, heat and power, and analyse and interpret the data for valid conclusion.
- ❖ Apply modern CAD/CAM & FEA to draft, design and conduct analysis on various machine components tools and engg. structures.
- ❖ Apply MS-Office and other general purpose software to draft and present reports relating to industrial projects.
- ❖ Recognize the need for lifelong learning and qualification improvement.
- ❖ Demonstrate social responsibility and professional ethics in their chosen sphere of profession.
- ❖ Apply the knowledge of regression, production management and quality control to industrial engineering problems.
- ❖ Apply knowledge of unconventional manufacturing technologies, materials science, metal forming machinery, casting & production drawing to identify and select the real time industrial production process.
- ❖ Apply knowledge of Contemporary subjects such as environmental engineering, electrical technology, managerial economics and applied electronics to interdisciplinary projects.
- ❖ Work in a team and also function individually in communicating and presenting effectively to accomplish an industrial project.



**MUFFAKHAM JAH**  
**COLLEGE OF ENGINEERING AND TECHNOLOGY**

**EC-231 ELECTRONIC DEVICES LAB**

*(With effect from the academic year 2015-2016)*

**STUDENT'S MANUAL**



**DEPARTMENT OF**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**



## Vision and Mission of the Institution

### Vision

To be part of universal human quest for development and progress by contributing high calibre, ethical and socially responsible engineers who meet the global challenge of building modern society in harmony with nature.

### Mission

- To attain excellence in imparting technical education from the undergraduate through doctorate levels by adopting coherent and judiciously coordinated curricular and co-curricular programs
- To foster partnership with industry and government agencies through collaborative research and consultancy
- To nurture and strengthen auxiliary soft skills for overall development and improved employability in a multi-cultural work space
- To develop scientific temper and spirit of enquiry in order to harness the latent innovative talents
- To develop constructive attitude in students towards the task of nation building and empower them to become future leaders
- To nourish the entrepreneurial instincts of the students and hone their business acumen.
- To involve the students and the faculty in solving local community problems through economical and sustainable solutions.

## Vision and Mission of ECE Department

### Vision

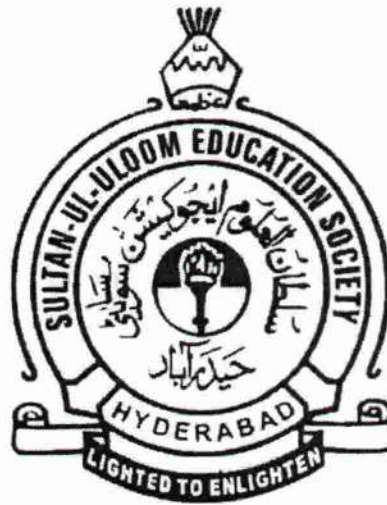
To be recognized as a premier education center providing state of art education and facilitating research and innovation in the field of Electronics and Communication.

### Mission

We are dedicated to providing high quality, holistic education in Electronics and Communication Engineering that prepares the students for successful pursuit of higher education and challenging careers in research, R& D and Academics.

### Program Educational Objectives of B. E (ECE) Program:

1. Graduates will demonstrate technical competence in their chosen fields of employment by identifying, formulating, analyzing and providing engineering solutions using current techniques and tools
2. Graduates will communicate effectively as individuals or team members and demonstrate leadership skills to be successful in the local and global cross-cultural working environment
3. Graduates will demonstrate lifelong learning through continuing education and professional development
4. Graduates will be successful in providing viable and sustainable solutions within societal, professional, environmental and ethical contexts



# **Muffakham Jah**

**College of Engineering and Technology**

**Department of Electronics and Communication Engineering**

# **PLACEMENT BROCHURE**

**2017-2018**

## About the College:

Muffakham Jah College of Engineering and Technology (MJCET) was established in the year 1980 by Sultan-ul-uloom Education Society(SUES) which is formed by a group of visionaries and intellectuals from various walks of life. Today that tiny acorn has developed into a mighty oak. Today it is a premier institute, offering B.E Courses in 8 Branches (Civil, ECE, CSE,IT, EEE,EIE, Mechanical & Production) and 5 M.E Courses (CAD/CAM, Structural Engg, Digital systems, Computers & Power Electronics) of two years duration. The current intake of all the B.E. Courses is 780 in addition to the 102 students in the M.E. Programmes. Research Centers started in ECE Dept & Mech. Engg. for Doctral Studies. The college is affiliated to the Osmania University, Hyderabad and approved by AICTE, New Delhi. We are applying for Re-accreditation of NBA. As per survey of Out-Look Magazine, MJCET was ranked 48th among top 100 Engg. Colleges of both Govt. and Private in India. The Week Magazine Ranked 50th among the Top 50 Pvt. Engg. colleges in India. MJCET is among the Top 5 Engg. Colleges in Hyderabad and Top the list among Minority Engg. Colleges in the State.

### **Vision of the Institution:**

To be part of universal human quest for development and progress by contributing high calibre, ethical and socially responsible engineers who meet the global challenge of building modern society in harmony with nature.

### **Mission of the Institution:**

1. To attain excellence in imparting technical education from the undergraduate through doctorate levels by adopting coherent and judiciously coordinated curricular and co-curricular programs
2. To foster partnership with industry and government agencies through collaborative research and consultancy
3. To nurture and strengthen auxiliary soft skills for overall development and improved employability in a multi-cultural work space
4. To develop scientific temper and spirit of enquiry in order to harness the latent innovative talents
5. To develop constructive attitude in students towards the task of nation building and empower them to become future leaders
6. To nourish the entrepreneurial instincts of the students and hone their business acumen.
7. To involve the students and the faculty in solving local community problems through economical and sustainable solutions.

## **About the ECE Department**

The ECE department was established in the year 1980 by Sultan-ul-uloom Education Society(SUES) with an intake of 18 students. The department presently offers four year degree course with an intake of 120 and two years post graduation course in Digital Systems with an intake of 24. It is also recognized research center of Osmania Univeristy for Doctoral degree. The ECE department has a good blend of experienced and young enthusiastic faculty coupled with state of art infrastructure.ECE Department is equipped with state of art equipment, avant-garde, voluble and seasoned faculty with abound experience. The students of the department secured top University Ranks and have set the record of highest campus placement offers. With a very active IEEE Student Branch and Robotics Club,the department has achieved international and national level awards and trophies.

## **Department Vision**

To be recognized as a premier education center providing state of art education and facilitating research and innovation in the field of electronics and communication engineering.

## **Department Mission**

We are dedicated to providing high quality holistic education in electronics and Communication engineering that prepares the students for successful pursuit of higher education and challenging careers in industry, R& D and Academics

## **Programme Education Objectives**

1. Graduates will demonstrate technical competence in their chosen fields of employment by identifying, formulating, analyzing and providing engineering solutions using current techniques and tools
2. Graduates will communicate effectively as individuals or team members and demonstrate leadership skills to be successful in the local and global cross-cultural working environment
3. Graduates will demonstrate lifelong learning through continuing education and professional development
4. Graduates will be successful in providing viable and sustainable solutions within societal, professional, environmental and ethical contexts

## Program Outcomes (POs) of ECE Department

**PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO2: Problem analysis:** Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences

**PO3: 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.

**PO4: 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.

**PO5: Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

**PO6: 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.

**PO7: 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.

**PO8: Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO9: Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO10: 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.

**PO11: 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) of ECE Department

**PSO1:** The ECE Graduates will be Equipped with knowledge of complete design flow from specification to silicon in areas of both digital and analog VLSI Design and will be able to work in IC Design companies.

**PSO2:** the ECE Graduates will be Equipped with microprocessor and microcontroller based system design skills and can work as design and verification engineers in the area of Embedded Systems Design

**PSO 3:** The ECE Graduates will be able to apply engineering knowledge for design and implementation of projects pertaining to signal processing and Communications

**PSO 4:** The ECE Graduates will be Equipped with necessary soft skills, aptitude and technical skills to work in the software industry and IT sector.

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## Muffakham Jah College of Engineering and Technology, Hyderabad



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