**About IEEE**

IEEE stands for the "**Institute of Electrical and Electronics Engineers**". The association is chartered under this full legal name. IEEE's membership has long been composed of engineers and scientists. Allied professionals who are members include computer scientists, software developers, information technology professionals, physicists, and medical doctors, in addition to IEEE's electrical and electronics engineering core.

The IEEE is incorporated under the Not-for-Profit Corporation Law of the state of New York. It was formed in 1963 by the merger of the Institute of Radio Engineers (IRE, founded 1912) and the American Institute of Electrical Engineers (AIEE, founded 1884). The IEEE serves as a major publisher of scientific journals and organizer of conferences, workshops, and symposia (many of which have associated published proceedings). It is also a leading standards development organization for the development of industrial standards (having developed over 900 active industry technical standards) in a broad range of disciplines, including *electric power and energy*, *biomedical technology and healthcare, information technology, information assurance, telecommunications, consumer electronics, transportation, aerospace, and nanotechnology.* ***IEEE develops and participates in educational activities such as accreditation of electrical engineering programs in institutes of higher learning.***

The IEEE logo is a *diamond-shaped design* which illustrates the **right-hand grip rule embedded in Benjamin Franklin's kite, and it was created at the time of the 1963 merger**. IEEE has a dual complementary regional and technical structure – with **organizational units based on geography** (e.g., the IEEE Philadelphia Section, the IEEE Buenaventura Section, IEEE South Africa Section) and **technical focus** (e.g., the IEEE Computer Society). It manages a separate organizational unit (IEEE-USA) which recommends policies and implements programs specifically intended to benefit the members, the profession and the public in the United States.

The IEEE includes 39 technical Societies, organized around specialized technical fields, with more than 300 local organizations that hold regular meetings. The IEEE Standards Association oversees the standardization activities of the IEEE. The IEEE History Centre became a feeder organization to the Engineering and Technology History Wiki (ETHW) in 2015. The new ETHW is a cooperative effort by various engineering societies as a formal repository of topic articles, oral histories, first-hand histories, Landmarks + Milestones and archival documents. The IEEE History Centre is annexed to Stevens University Hoboken, NJ. In 2016, the IEEE acquired Global Spec, adding the provision of engineering data for a profit to its organizational portfolio.

***IEEE Global***

IEEE's core purpose is to foster technological innovation and excellence for the benefit of humanity.

Core values are the essential and enduring principles that guide IEEE.

* *Service to humanity*: leveraging technology and engineering to benefit human welfare; promoting public awareness and understanding of the engineering profession.
* *Trusted source:* being a source of trusted and unbiased information to enhance the quality of life for all people through methods like peer review.
* *Global focus:* supporting and embracing the global nature of and need for technical work and engineering solutions.
* *Intellectual activity:* forward-thinking; nurturing of new and existing science and technology.
* Growth and nurturing of its members and the profession: encouraging education as a fundamental activity of engineers, scientists and technologists at all levels and at all times; ensuring a pipeline of students to preserve the profession.
* Collaboration and community building: cultivating active, vibrant, and honest, exchange among cross-disciplinary and interdisciplinary global communities of technical professionals.
* *Professionalism*: creating a world in which engineers and scientists are respected for their exemplary ethical behavior and volunteerism.
* *Trust and respect*: promoting a culture where contributions at all levels are valued; encouraging member driven, volunteer-led, knowledge-based projects; building effective volunteer/staff partnerships.
* *Individual contribution:* being a membership organization with individuals who contribute to the core purpose of IEEE.

**IEEE REGION10 (Asia Pacific Region)**

The IEEE Region 10, also sometimes referred as the Asia Pacific Region, comprises of 56 Sections, 5 Councils, 12 Sub-sections, 400+ Chapters and 583 student branches. It covers a geographical area stretching from South Korea and Japan in the north-east to New Zealand in the south, and Pakistan in the west. With a membership of 73,662, it is one of the largest regions in IEEE.

To fulfill IEEE's mission of advancing the theory and practice of electrical, electronics, communications and computer engineering, as well as computer science and related areas, Region 10 activities are directed to developing and maintaining regional entities for the best interests and benefits of the IEEE members in the region. To achieve that mission, the Regional activities include:

* To formulate goals and objectives for the Region
* To plan Regional operations, including budget preparation and approval
* To report officer, financial operation and meeting reports to the Regional Activities Department
* To plan and implement programs in support of the local organizational units in meeting the needs of the members of the Region
* To plan and implement programs for the volunteer structure of the Region, for example, develop and implement leadership training programs for volunteers and members to enhance their interpersonal skills, group skills and leadership abilities
* To provide leadership opportunities for interested members to take an active role within the operations of the Region.

**IEEE INDIA COUNCIL**

IEEE India Council is the umbrella organization which coordinates IEEE activities in India. Its primary aim is to assist and coordinate the activities of local "Sections", in order to benefit mutually, and avoid duplication of effort and resources. IEEE India Council was established on 20th May 1976 and is one of the five councils in the Asia Pacific Region (Region 10 of IEEE).

**MISSION STATEMENT**

IEEE's core purpose is to foster technological innovation and excellence for the benefit of humanity.

*Section:*

An "IEEE Section" is an IEEE entity which caters to the needs of a specified geographical area. At present, there are 10 IEEE Sections in India (listed alphabetically):

1. Bangalore Section
2. Bombay Section
3. Calcutta Section
4. Delhi Section
5. Gujarat Section
6. Hyderabad Section
7. Kerala Section
8. Kharagpur Section
9. Madras Section
10. Uttar Pradesh Section

***STUDENT BRANCHES***

An "IEEE Student Branch" is an IEEE entity which helps students in a specific educational institution. Presently there are 327student branches located in all major Universities and Engineering Colleges all over India. Each Student Branch is attached to the nearest IEEE Section.

***CHAPTERS***

An "IEEE Chapter" groups IEEE members who share a common interest in a specific domain. Usually Chapters are attached to the nearest IEEE Section. Some Chapters have decided to be directly attached to the India Council. The following Eight Chapters are attached to the IEEE India Council:

1. NPS 05/IE 13: Joint IEEE Chapter of Nuclear & Plasma Sciences Society and Industrial Electronics Society
2. AES 01/COM 19/LE 036: Joint IEEE Chapter of Aerospace & Electronics Systems Society, Communications Society and Lasers & Electro- optics Society
3. ED 15/MIT 17: Joint IEEE Chapter of Electronic Devices Society and Microwave Theory & Techniques Society
4. CPMT 21: IEEE Component, Packaging and Manufacturing Technology Society
5. EM 14/IA 34: Joint IEEE Chapter of Engineering Management Society and Industry Applications Society

**IEEE UP SECTION**

The IEEE Uttar Pradesh Section was formed on 11 May 1992 representing at the Indian Council in IEEE Region 10. Prior to that, Uttar Pradesh was a sub-section under the Delhi Section since 28 December 1970. As authorized by the IEEE Board of Directors, the IEEE Member and Geographic Activities Board (known as IEEE Regional Activities Board prior to 1 January 2008) approved the establishment and boundaries of the IEEE Uttar Pradesh Section on 11 May 1992. The Section has student chapters in prestigious Indian institutions like IIT Kanpur, IIT Roorkee and 61 other institutions.

IEEE Uttar Pradesh (UP) Section is one of the most vibrant sections in India, which can be seen from the numerous events and activities, awards and growth of membership. It has continuously increasing for last three years in terms of opening of new student branches, new student branch chapters, section chapters. In 2016, The Section took many initiatives such as:

* Technically sponsoring 25 conferences/technical and 15 conferences/ technical events financially.
* Being one of the supporting sections of R10 SYWL Congress (50th celebration of R10) held at Bangalore during August 22-25, 2016.
* Hosting the R10-HTC, which was the first R10 event in the section, at DEI Agra where IEEE President and R10 Director inaugurated the conference.
* Organizing MiniPOCO during UPCON 2016 at IIT BHU where R10 Director was presented during the conference.

**IEEE DITU STUDENT BRANCH**

**Contextual:** DITU IEEE is DIT student chapter of the Institute of Electrical and Electronics Engineers (IEEE). The IEEE Student Chapter of DIT University brings under its umbrella some of the smartest, coolest and geekiest tech freaks on the campus. The chapter has its doors open to just about anybody who has the willingness to LEARN. The vision is not to mentor these individuals into technically sound individuals alone, but also to groom them into dynamic team players, who will in turn mentor their peers and juniors and keep the cycle going. Members exchange ideas and thoughts, interact, seek and extend support, and collaborate on projects. In this way, the chapter is very much a closely-knit family.  Keeping in line with the motto of IEEE: ‘Advancing Technology for Humanity', the chapter works to develop a sense of appreciation among students towards electronics, computer science and related fields. Going beyond the standard textbook approach, it conducts several workshops and events to let students get hands-on experience with technically relevant hardware and software, which may also be important from the industrial point of view. DITU IEEE Student Branch is proud to be a part of IEEE University Partnership Program.

**Goals and Missions:** We’re a group of electrical engineering and computer science students (undergrads and grads) who want to have fun and meet new people, to learn about research and innovation in technology, to find ourselves and our passions, to help our community, and to get inspired to change the world!

* DITU students are also always very career-minded.  We hold a lot of technical talks with industry and academics, and allow DITU students to keep up to date with the most cutting-edge technologies.
* At the same time, we serve as a bit of a social hub bringing engineering students together across disciplines. We’re always expanding, and reaching out to different disciplines, such as B-arch and B-pharma majors, to break out of our shell as an engineering-only group.
* All our events serve as a great platform for attracting new members to IEEE and networking among the existing IEEE student members to keep them involved in the DITU IEEE Student Chapter.

**Activities:**

* PCB and Embedded Workshop
* Raspberry Pi + Machine Learning
* Design Thinking
* In-house training program (machine learning, embedded, image processing, etc)
* Big O (Workshop+ Competition)
* PCB Workshop
* Image Processing using open CV
* Cyber Security (Hacking)
* Arduino

***Projects in Making:***

* Quadcopter We’re trying to build a real-time data acquisition drone which can be remotely maneuvered.
* INDIA’S DIGITAL FOOTPRINT Quadcopter It’s Google Student Community’s campaign about making India Digitally Alive one city at a time. In support with Indian Government’s Digital India Campaign, it promotes Digital Marketing and Online Business Management.
* DIGI CLUBS “Information should be available freely to everyone” With the Digi-Clubs project we aim to give all the clubs in a college a single platform where they can share about their inspiring projects and other works. Anything can be shared from Events and Meetings to Project Stories. We believe, every unnoticed event is a missed opportunity!
* Micro mouse We’re trying to build intelligent a bot solving the complex maze in less time very efficiently.
* LED cube The intensity of LEDs varies with equalizer settings of music connected to it.