



**EASWARI**  
**ENGINEERING COLLEGE**

An AUTONOMOUS Institution  
Affiliated to ANNA UNIVERSITY

**RAMAPURAM, CHENNAI**



**2020-21**

# Department Research Brochure

Consultancy & Research

DEPARTMENT OF  
**ELECTRICAL & ELECTRONICS**  
ENGINEERING

NBA Accredited





## ABOUT THE COLLEGE

Easwari Engineering College, a Unit of SRM group of Institutions is an Autonomous Institution affiliated to Anna University Chennai. The College offers Eleven Under Graduate and Six Post Graduate Programme covering Engineering & Technology and Management. The National Board of Accreditation has also accredited all eligible programmes up to June 2023.

Furthermore, the College has also obtained ISO 9001:2015 Certification from TUV, South Asia and accredited by NAAC with 'A' Grade. The College has been given Autonomous Institution status since 2019 for 10 years.

- Easwari Engineering College has Received Rs. 100 Lakhs Fund from DST – Fund for Improvement in S & T Infrastructure (FIST)
- Easwari Engineering College is ranked in Top platinum Grade in AICTE CII in the year 2020.
- Easwari Engineering College has secured 200<sup>th</sup> Rank in **National Institutional Ranking Framework (NIRF), Ministry of Human Resource Development**, Government of India 2019. 21<sup>st</sup> rank among 197 colleges participated in Tamil-Nadu including Government colleges.
- Ranked 5<sup>th</sup> among the cleanest higher Education institution in the country in the Swachhta Campus Ranking (Non-Residential)
- Easwari Engineering College is ranked 86<sup>th</sup> among **“Top 100 Private Engineering Colleges in India”** by Outlook Magazine, 2018.
- Easwari Engineering College is ranked 38<sup>th</sup> among **“Top 72 Private Engineering Colleges”** in the South Zone by Week Magazine, 2018.

## HIGH VOLTAGE TRANSFORMER



### **COURSES OFFERED:**

**B.E. Electrical & Electronics Engineering | M.E. Embedded Systems Technologies | Ph. D / M.S (Research)**

The department of Electrical & Electronics Engineering is accredited by National board of Accreditation (NBA) and offers B.E, Electrical & Electronics Engineering, M.E, Embedded Systems Technologies and Ph.D./M.S by Research. From the inception of the department in the year 1996 the department has achieved several credentials in par with the premier institution in the field of Electrical and Electronics Engineering.

In the placement, Higher studies, Entrepreneurship, national and international internships the department has excelled with more than 95 percent. The Department is recognized as a Research Centre for Ph.D./M.S. (by research) by Anna University, Chennai.

The department has a Centre of Excellence in Renewable Energy research (CRER) carrying out several research projects and consultancy works for industries. The department has initiated several students' clubs for the benefits of the students. Some of them are namely the Electronics Hobby Club, Green Energy Club, Free and Open-Source software club for Electrical Engineers, the energy club for making the students to actively involved in practical learning and journal club for exposing the students to rapidly evolving Engineering developments.

The Industry- Institute Interaction is one of the major strengths of the department when compared with its peer institutions in the country. More than 24 Core companies are associated with the department for Placement, Internships, In-plant training, R & D and Consultancy.

The department has a state of the Laboratories like Electrical Machines, Control and instrumentation, Linear Integrated Circuit, Power Electronics and Drive and Embedded system for carrying out the research activities.



The department has successfully carried out R&D and consultancy works for the industries in the field of Electric Vehicles and Renewable Energy Technology, Embedded Design. The department conduct Energy Audit every year for the college. The department has more than 8 PhD holders, specialized in various domain from premier institute like IIT & Anna University. The EEE Department research Centre is equipped with both DST FIST sponsored department Research and Central research facilities.

## Department Research Facilities

Our Department is equipped with DST FIST sponsored High voltage Transformer, Harmonic and power Analyzer for

Generation and measurements of High voltage AC Voltage using 5 kVA Oil cooled transformer up to 100 kV, as per IEC 60060.

Generation and measurements of High voltage DC Voltage using 5 kVA Oil cooled transformer up to 140 kV, as per IEC 60060 using Cockcroft–Walton generator.

Breakdown characteristic of air as a dielectric medium subjected to High AC/High DC and measurement of such by way of a Measuring Sphere Gap as per standard IEC60052 under different types of electrode configurations, such as

- Gap between two parallel plate electrodes.
- Gap between two uniform spherical electrodes.
- Gap between two rod electrodes.
- Gap between two pin electrodes.

Dielectric characteristic of insulating Material Under Transformer Oil subjected to High AC/DC Voltages and measurement of such by way of a Measuring oil testing unit as per the standard ASTM D3300 under different types of electrode configurations, such as sphere-sphere, plane-plane, mushroom mushroom, sphere-plane.

Tracking and treeing as per IEC standards.

Dielectric barrier discharge for regeneration of bone growth.

Testing of Power supply parameters such as harmonics, power factor, ripple factor and efficiency

## STUDENT INNOVATION CLUBS

ELECTRONICS HOBBY CLUB, ENERGY CLUB, JOURNAL CLUB, FOSS CLUB, GREEN ENERGY CLUB

## CENTRAL RESEARCH FACILITIES

The Central research facilities are equipped with DST FIST sponsored instruments imported from Germany and Japan for nanomaterials fabrication, Evaluation of static and dynamic contact angle measurements of dielectric materials and Measurements of permittivity, conductivity, loss tangent and permeability. Equipment available in the central research facilities are,



**ULTRASONIC PULSE ECHO RECEIVER**



**HIGH TEMPERATURE FURNACE**



**CONTACT ANGLE MEASUREMENTS**



**SPIN COATING SYSTEM**



**SPECTROFLUOROMETER**



**SONICATOR**



**LCR METER**



**PLANETARY BALL MILL**



**DIP COATING SYSTEM**