



## DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

# TECHTONIC '24



**St. XAVIER'S**  
CATHOLIC COLLEGE OF ENGINEERING  
(Autonomous)

Chunkankadai, Nagercoil - 629003  
Kanyakumari District, Tamil Nadu

MAGAZINE BY  
SOCIETY OF ELECTRICAL ENGINEERS

## College Vision, Mission, Slogan, Quality Policy, Objectives and Values

### St. Xavier's Catholic College of Engineering

Vision	Mission
To be an institution of eminence of optimal human development, excellent engineering education and pioneering research towards developing a technically-empowered humane society.	To transform the (rural) youth into top class professionals and technocrats willing to serve local and global society with ethical integrity, by providing vibrant academic experience of learning, research and innovation and stimulating opportunities to develop personal maturity and professional skills, with inspiring and high caliber faculty in a quality and serene infrastructural environment.
Slogan	Quality policy
Towards a technically-empowered humane society.	Attaining global eminence, by achieving excellence in all that we do, in life, education and service.
Objectives	Values
<p>To transform our students into fully-functioning human persons and empowering leaders with autonomy and passion for continuous self-learning.</p> <p>To equip them with contemporary scientific and technical knowledge with student centered teaching methods.</p> <p>To animate them into pioneering researchers and investors.</p> <p>To train them to excel with cutting edge technical, entrepreneurial and managerial skills for a successful career.</p> <p>To expose them to challenging opportunities of self-discovery and to commit themselves to lead a value-based life of humane service.</p> <p>To recruit faculty who inspire the students with their passion for knowledge and transmit knowledge to the students by student-centered creative and innovative teaching and learning methods, lead them by example in high-end researchers, and edify the students with their life of integrity and ethics.</p> <p>To provide standard infrastructure, serene and stimulating environment that is most conducive to learning.</p> <p>To develop avenues of continuous and responsive collaboration with stakeholders for the optimal development of the students and institution.</p>	<p>Efficiency that leads to Excellence</p> <p>Excellence that leads to Eminence</p> <p>Genuineness that leads to authenticity</p> <p>Transparency that leads to credibility</p> <p>Person centeredness that leads to family-ness</p> <p>Appreciation that leads to high motivation</p> <p>Altruism that leads to humane service</p> <p>Critical thinking that leads to scientific approach</p> <p>Fidelity that leads to responsibility</p> <p>Knowledge that leads to wisdom</p> <p>Innovative research that leads to inventions</p> <p>Hardwork that leads to achievements</p> <p>Eco friendliness that leads to protection of nature</p> <p>Aesthetic campus that leads to serene environment</p> <p>Fiscal discipline that leads to economic sustainability</p> <p>Feedback that leads to responsivity</p> <p>Spirituality that leads to committed service.</p>

## Department Vision Mission PEO PO PSO

### Program: B.E. Electrical and Electronics Engineering

#### Vision

Providing globally competent professionals, innovative researchers and successful entrepreneurs in the field of Electrical and Electronics Engineering for developing a technically empowered humane society.

#### Mission

- |     |   |
|-----|---|
| M 1 | To impart high quality technical education in Electrical and Electronics Engineering with high caliber faculty members, excellent infrastructure and stimulating environment. |
| M 2 | To lead the students to learn and practice technologies that are prevalent in the related industries.   |
| M 3 | To introduce the students to the latest concepts and innovations through technical gatherings and research collaborations.  |
| M 4 | To inculcate ethical values, team spirit and leadership qualities to meet the social challenges and needs.  |

#### Program Educational Objectives (PEO)

- |       |   |
|-------|---|
| PEO 1 | Build a solid foundation in mathematics, science, engineering and soft skills for diverse career and persistent learning.                                   |
| PEO 2 | Engage in life long process of learning and research to keep themselves abreast of new developments in the field of Electrical and Electronics engineering. |
| PEO 3 | Have an ability to work in Multi-disciplinary Environment.  |
| PEO 4 | Practice their profession conforming to ethical values and environmentally friendly policies.   |
| PEO 5 | Model, design and develop a system and component or process the same to meet the needs of the society and industry within realistic constraints.            |

#### Program Outcomes (PO) (with Graduate Attributes)

- |      |   |
|------|---|
| PO 1 | <b>Engineering knowledge:</b> Apply the Mathematical knowledge and the basics of Science and Engineering to solve the problems pertaining to Electrical and Electronics Engineering.  |
| PO 2 | <b>Problem analysis:</b> Identify and formulate Electrical and Electronics Engineering problems from research literature and be able to analyze the problem using first principles of Mathematics and Engineering Sciences. |

PO 3	<b>Design/development of solutions:</b> Come out with solutions for the complex problems and to design system components or process that fulfill the particular needs taking into account public health and safety and the social, cultural and environmental issues.
PO 4	<b>Conduct investigations of complex problems:</b> Draw well-founded conclusions applying the knowledge acquired from research and research methods including design of experiments, analysis and interpretation of data and synthesis of information and to arrive at significant conclusion.
PO 5	<b>Modern tool usage:</b> Form, select and apply relevant techniques, resources and Engineering and IT tools for Engineering activities like electronic prototyping, modeling and control of systems and also being conscious of the limitations.
PO 6	<b>The engineer and society:</b> Understand the role and responsibility of the Professional Electrical and Electronics Engineer and to assess societal, health, safety issues based on the reasoning received from the contextual knowledge.
PO 7	<b>Environment and sustainability:</b> Be aware of the impact of professional Engineering solutions in societal and environmental contexts and exhibit the knowledge and the need for sustainable Development.
PO 8	<b>Ethics:</b> Apply the principles of Professional Ethics to adhere to the norms of the engineering practice and to discharge ethical responsibilities.
PO 9	<b>Individual and team work:</b> Function actively and efficiently as an individual or a member/leader of different teams and multidisciplinary projects.
PO 10	<b>Communication:</b> Communicate efficiently the engineering facts with a wide range of engineering community and others, to understand and prepare reports and design documents; to make effective presentations and to frame and follow instructions.
PO 11	<b>Project management and finance:</b> Demonstrate the acquisition of the body of engineering knowledge and insight and Management Principles and to apply them as member / leader in teams and multidisciplinary environments.
PO 12	<b>Life-long learning:</b> Recognize the need for self and life-long learning, keeping pace with technological challenges in the broadest sense.
<b>Program Specific Outcomes (PSO)</b>	
PSO 1	Utilize the Technological advancements in the field of modern Power Systems and formulate reliable and feasible solutions towards the eco-friendly and challenging environment.
PSO 2	Design and analyze fundamental Electronics and Embedded systems for real-world problems and develop smart products.
PSO 3	Apply recent Technology to control Electrical Machines with the aid of solid state devices to enhance energy conservation and sustainability.

# THE WIZARDA BEHIND THIS ENDEAVOUR

<b>CHIEF PATRON</b>	<b>:Rev. Fr. Dr. M. Maria William</b> (Correspondent / SXCCE)
<b>PATRON</b>	<b>: Dr. J. Maheshwaran</b> (Principal / SXCCE)
<b>PRESIDENT</b>	<b>: Dr. S. V. Kayalvizhi</b> (HOD/SXCCE)
<b>FACULTY ADVISOR</b>	<b>: Mr. Almond D'Souza M.E</b> (Faculty Advisor/SEE )

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## SEE Presidents Message

I am pleased to know that the student magazine is released successfully with the contents highlighting the activities of the Department during the academic year 2023-2024. The Electrical and Electronics Engineers Association **Society of Electrical Engineers(SEE)** of St.Xavier's Catholic College of Engineering ,paves way for students to develop their technical intellect and skills. This will enable all stake holders to know about the achievements of Society of Electrical Engineers.

I congratulate the faculty member in-charge, office bearers and all other members of SEE who are involved in this endeavor. All the very best.

Dr.S.V.Kayalvizhi

Head of the Department

Department of Electrical and Electronics Engineering

## Message from faculty

I am happy to present the annual magazine of our department Electrical and Electronics Engineering for the Academic year 2023-24

“Technology is best when it brings people together.”

This year our students eagerly selected a fabulous Theme TECHTONIC'24 Falcons are birds of prey which include about 40 species. The falcon is faster than any other animal on earth, both on land and in the air! And its known for its precision and speed. They are seen as the symbol of ambition and courage.

Also in another way, Falcon was the first privately developed liquid fuel launch vehicle to be launched into orbit. It is the only rocket fully certified for transporting humans to the International Space Station. Our symposium TECHTONIC'24 is to raise the power which resides in every individual with great ambition and courage, to invent ideas, to share cutting-edge developments, to provide platform for relationship with other technocrats, to provide a conducive environment, to enable triggering minds and ultimately to enhance their own work and to be unique.

On behalf of our department I congratulate our office bearers and the editorial committee for their valuable efforts in bringing out this issue.

Best wishes and Thank you

## Office Bearers

**Convener : Dr. S. V. Kayalvizhi**

**Faculty Advisor : Mr. Almond D'Souza M.E**

**Secretary :Mr. Godwin J P, Final year EEE**

**Treasurer :Mr. Dhayanand N S, Final year EEE**

**Joint secretary :Mr. Harikrishnan Nair, III year EEE**

**Assistant secretary :Mr. Thanish T, III year EEE**

**Executive members are**

**Mr. Akil M and Ms. Sai Rama V , IV year EEE**

**Ms. Jaculin Rose R J and Ms. Steny S, III year EEE**

**Ms. Ashmi M and Mr. Sam Raj Kumar, II year EEE**

# SEE Report -2024

## Department of Electrical and Electronics Engineering

### Society of Electrical Engineers (SEE)

First of all, let me thank and praise the almighty for this immense blessing throughout this year.

Honorable chief guest, Beloved correspondent, Respected principal, esteemed Dean of Research, Respected Head of department, Faculty members and my dear friends a very good afternoon to all.

It is a great privilege, as the student Secretary, I am truly honored to present the annual report for this academic year (2023-2024).

The inauguration ceremony for SEE for the academic year 2023-2024 was held on 22nd September 2023 and the office bearers were assigned for the academic year.

The chief guest of the day was Er. B Raj Kumar, Managing director, Agar Electro Plast Manufacturing and Research. He empowered and motivated our students to enrich themselves for this social welfare and the wellbeing in multidisciplinary areas.

#### Workshops and Seminars:

- ☐ On 21st July 2023, a seminar on the topic of “Emerging Research Areas in Renewable Energy Source” was conducted by Dr Binu Jose, Professor, School of Electrical Engineering, Vellore Institute of Technology, Chennai
- ☐ The awareness program on “Online courses through NPTEL” was conducted on 4th August 2023 by Dr. J. Annrose, Dean of IQAC, SXCCE.
- ☐ A lecture on the “Career Guidance Program” was held on 13th September 2023 by Er S Kumaresan, wind Tech Technology, Chennai.
- ☐ In the topic of “Electrical Engineering in shipping”, a seminar was organized on 26th September 2023 by P. S. Sishmon, ETO, Executive shipping company, Singapore.
- ☐ An awareness program on “How to excel in research” was held on 26th September 2023 by Dr M Marsaline Beno, Dr Germin Nisha and Dr M John Bosco of our college
- ☐ A seminar on “Operating procedures of Inverters” was organized on 3rd October 2023 by Er Muruganandan, Testing Engineer, Schnider Electrical Pvt Ltd , Chennai
- ☐ Our Alumni meeting was arranged on 26th December

- The inauguration of TVS training and services was conducted by Mohammed S Manager TVS training and Services followed by two-day “Faculty Training Program on electrical Vehicle” on 22nd November 2023
- A two-day “Carrer Guidance program” was held on 22nd January 2024 to 24th January 2024 by Mr. Raganathan , CAD Technology, Chennai
- On 9th February 2024, a workshop was arranged on “Hands on training on Grid System” by F Antony Jeffry Vaz, Kovilpatti
- A lecture was conducted under the topic of “Big Data Analytics in smart grid” on 12th February 2024
- An awareness program was conducted regarding “Carrer development program for software Engineer” by D Amutha, F Karthikeyan CAD technologies on 14th February 2024.
- In the topic of “Immensive Technologies” a session was organized on 14th February 2024 by A Sundar Raman, National head, Scopik Edutech, Chennai
- A one-week workshop on Electric Vehicle Technology on 20th March 2024 to 25th March 2024 by P. Amarnath, S. R. Executive & R. Anand Executive Trainer, TVS Motor Company.
- A live Webinar was held on 25th March 2024 by Muthukumar, Deputy General Manager power System Operation Corporation Pvt. Ltd., Bangalore

**Symposium and other Competition:**

- A National Level Technical Symposium “Techtonic” was held on 5th April 2024 to motivate, enrich and develop our fellow students socially to explore their ideas in latest technology and different disciplines. The chief guest of the day was Er. Neelalingam C., Network Architect, Net App India Pvt. Ltd, Bangalore. In that Symposium 50 students have participated from various colleges
- SEE has organized paper presentation, poster presentation, project demo and quiz in association with college TechFest on 14th March 2024.

**Industrial Visit and Tour:**

Industrial Visit were organized to encourage students with practical and to experience real time application in industries.

- One Day industrial visit was arranged for final year EEE students on 10th April 2024 at hydroelectric power plant, Kottaiyar.
- All India Tour was arranged for final year EEE students from 5th January 2024, to 16th January 2024.

All the events conducted were beneficial for the students to improve their talents and knowledge. SEE express our gratitude to our correspondent Rev. Fr. Dr. M. Maria William, Principal Dr. J. Maheswaran, Dean of Research Dr. M. Marsaline Beno and HOD of EEE Dr. S. V. Kayalvizhi for their motivation and support. We thank Lord almighty, that he has made yet another year of SEE a great Success.

Thankyou

Convener

Dr. S. V. Kayalvizhi

Faculty Advisor

Mr. Almond D'Souza

Student Secretary

J. P. Godwin Dr. M.

Dean of Research

Marsaline Beno

Chief Guest

Er. Babio T. Praise

President

Dr. M. Maheswaran  
(Principal)

Correspondent

Rev. Fr. Dr. M. Maria William  
(Patron)

## SEE Awards

*St.Xavier's Catholic College of Engineering*  
*Department of Electrical Electronics Engineering*

SHINING STAR OF THE YEAR AWARD

**ASKER STEPHEN S**



SEE GLADIATOR AWARD

**JENIN J**



BEST EXTRA CURRICULAR PERFORMER AWARD

**BLESSED JOHN V**



SEE LEADERSHIP AWARD

**GODWIN J P**



SEE OUTSTANDING STUDENT OF THE YEAR

**SAIRAMA V**



SEE BEST VOLUNTEER AWARD

**AKSHO SELGIN R**



SEE TESLA AWARD

**ANTONY ASWIN**



SEE BEST VOLUNTEER AWARD

**VIJESH V**



SEE BEST VOLUNTEER AWARD

**SANJEEV  
MUGUNTHAN A V**



BEST PLACEMENT RECORDER

**RISHU GRAN S**



BEST PLACEMENT RECORDER

**GODWIN J P**

SEE BEST DESIGNER AWARD

**SHANU R**

BEST SPORTS PERSON OF THE YEAR

**DHAYANAD N S**

SEE ANCHOR OF THE YEAR

**JACULIN ROSE R J**CONSISTENT ATTENDANCE AWARD OF  
THE YEAR**AHIL M**

BEST ORGANIZER AWARD OF THE YEAR

**ROJAR DONALD J**

BEST ACADEMIC PERFORMER OF THE YEAR

**ASHIKA JOBIN A K**

BEST ACADEMIC PERFORMER OF THE YEAR

**AARTHIKA S H**

BEST ACADEMIC PERFORMER OF THE YEAR

**HARI KRISHANAN**

BEST ACADEMIC PERFORMER OF THE YEAR

**JOSHUA MOSAY A**

BEST ACADEMIC PERFORMER OF THE YEAR

**SAIRAMA V**

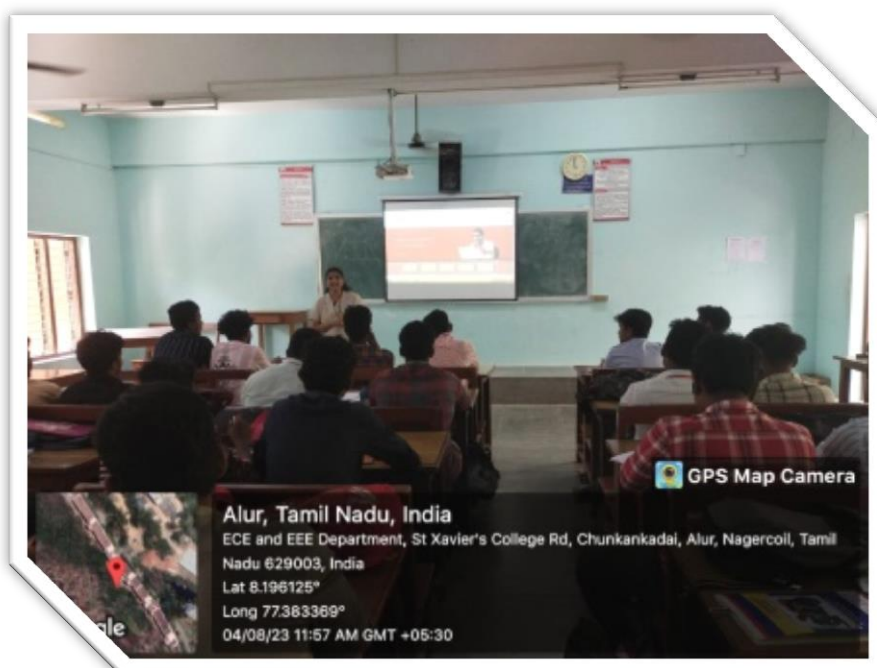
BEST ACADEMIC PERFORMER OF THE YEAR

**BERNISHA B**

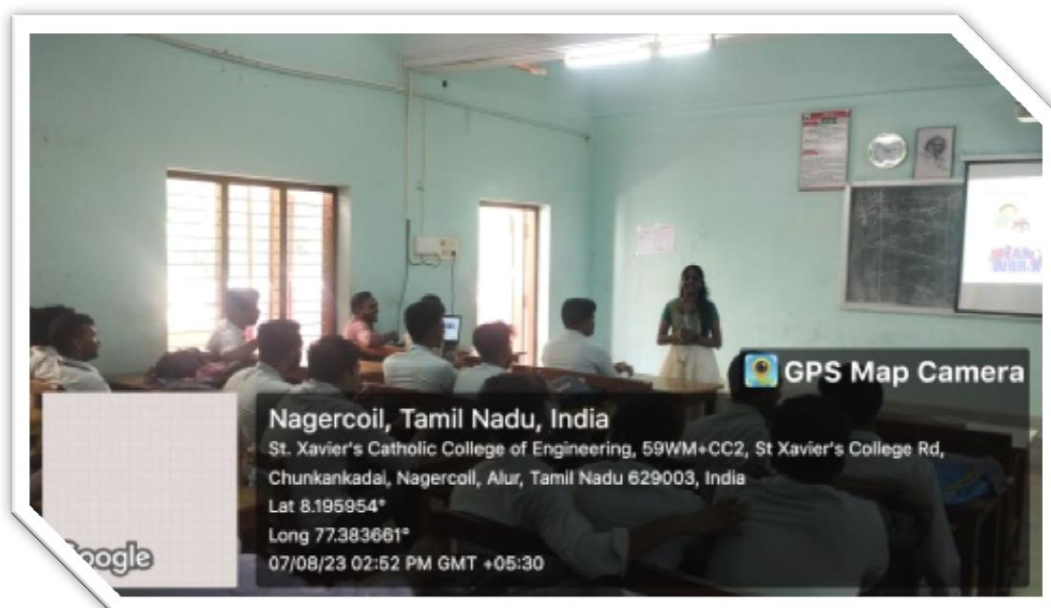
## EVENT CONDUCTED



**Emerging Research Areas in Renewable Energy Source**



**Online courses through NPTEL**



**CAD DESK program**



**Career Guidance Program**



**Inauguration**



**Electrical engineering in shipping**



How to excel in research



Operating procedures of Inverters



Alumni meet



Faculty Training Programme on Electrical Vehicle



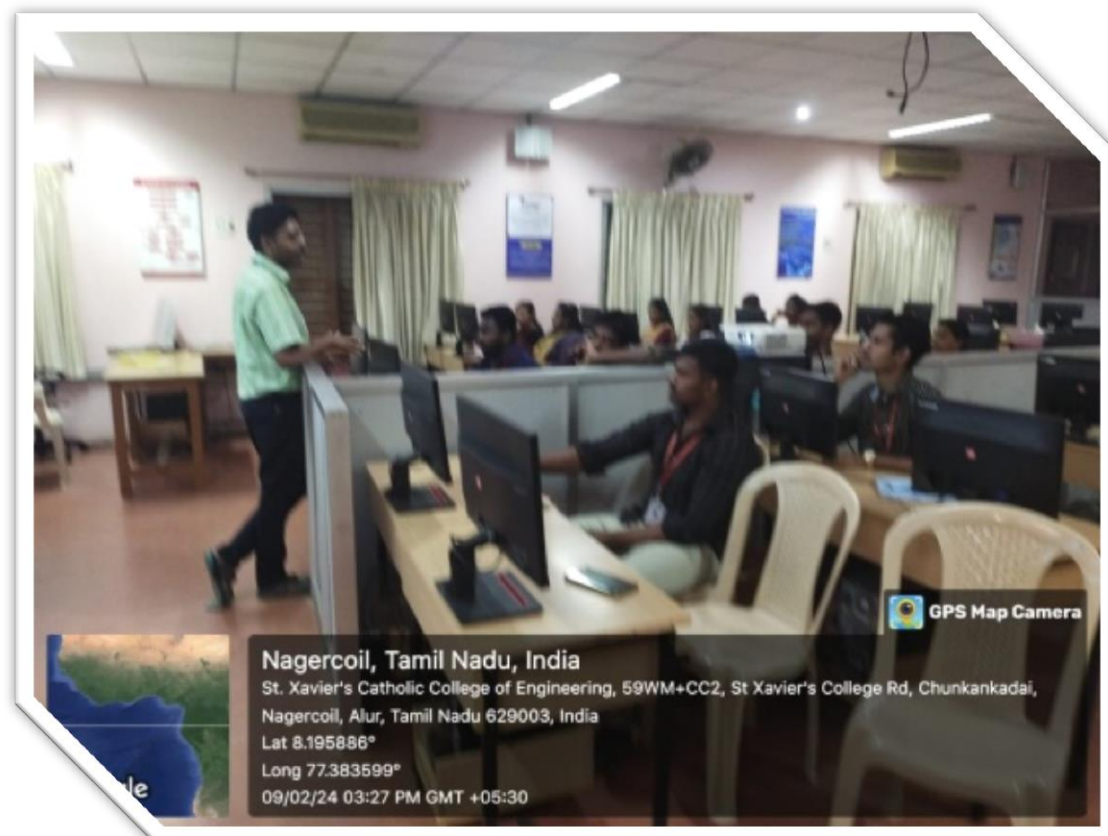
Inauguration of Electric Vehicle Lab



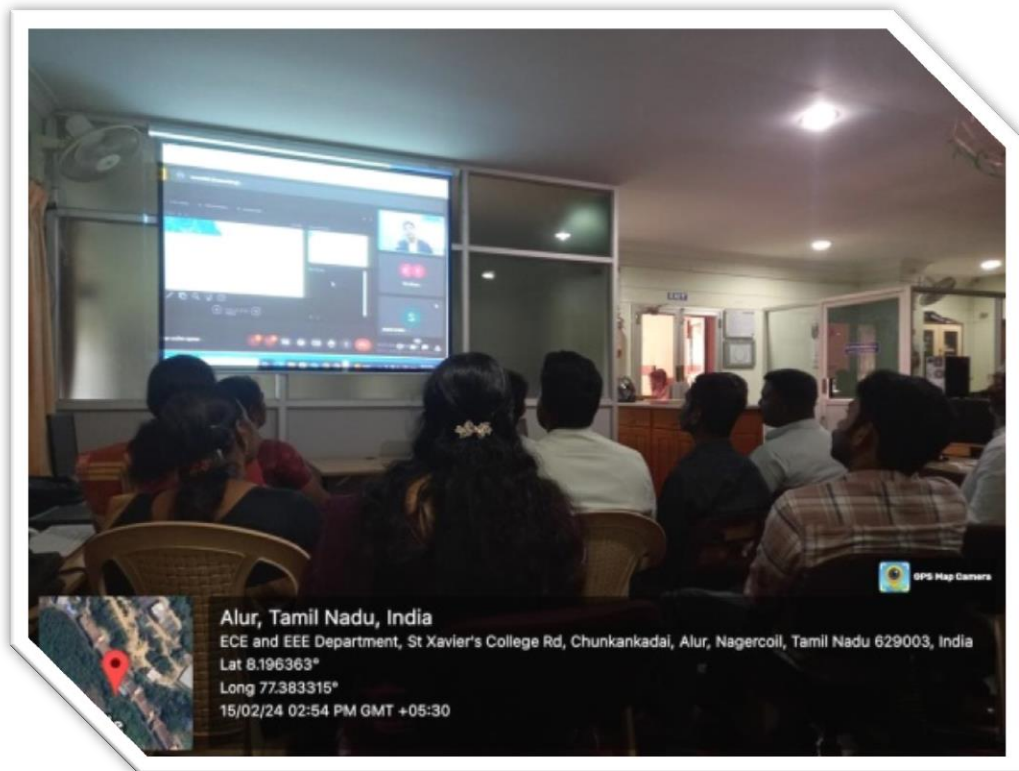
Career Guidance Program



**Career Guidance Program**



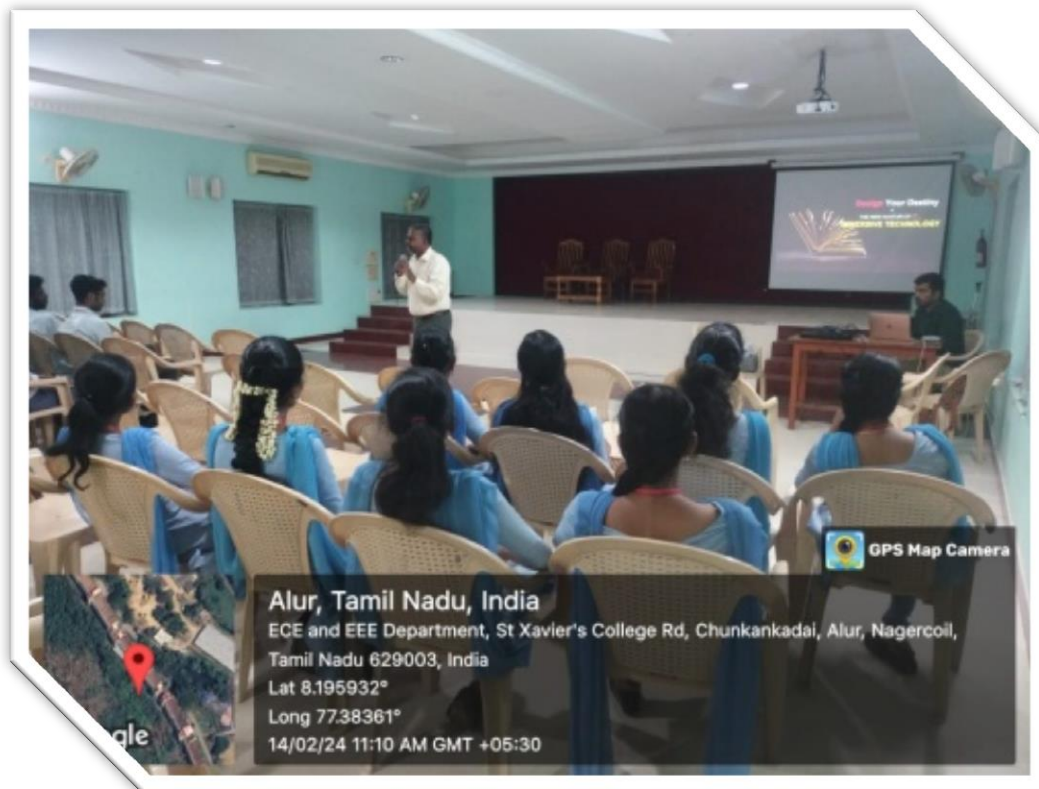
**Hands on training**



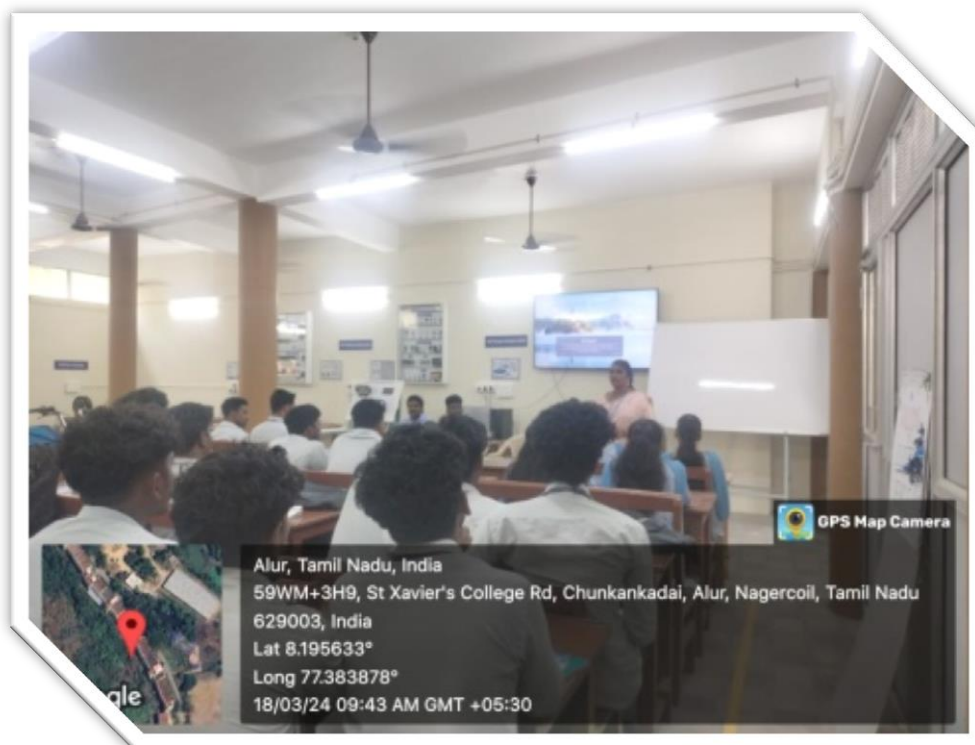
Big Data Analytics in Smart Grid



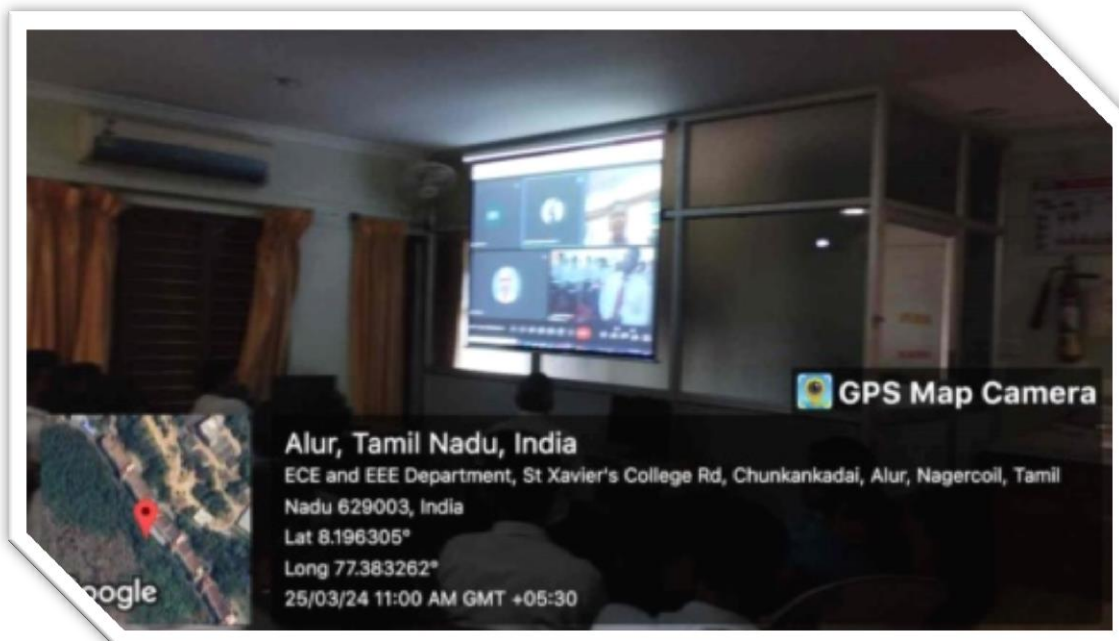
Career Development Program



**Seminar on Immersive technology**



**Workshop**



Live webinar



Technical symposium

## Final Year North India trip

