# 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 |
|---|---|
| To transform our students into fully-functioning human persons and empowering leaders with autonomy and passion for continuous self-learning.<br>To equip them with contemporary scientific and technical knowledge with student centered teaching methods.<br>To animate them into pioneering researchers and investors.<br>To train them to excel with cutting edge technical, entrepreneurial and managerial skills for a successful career.<br>To expose them to challenging opportunities of self-discovery and to commit themselves to lead a value-based life of humane service.<br>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.<br>To provide standard infrastructure, serene and stimulating environment that is most conducive to learning.<br>To develop avenues of continuous and responsive collaboration with stakeholders for the optimal development of the students and institution. | Efficiency that leads to Excellence<br>Excellence that leads to Eminence<br>Genuineness that leads to authenticity<br>Transparency that leads to credibility<br>Person centeredness that leads to family-ness<br>Appreciation that leads to high motivation<br>Altruism that leads to humane service<br>Critical thinking that leads to scientific approach<br>Fidelity that leads to responsibility<br>Knowledge that leads to wisdom<br>Innovative research that leads to inventions<br>Hard work that leads to achievements<br>Eco friendliness that leads to protection of nature<br>Aesthetic campus that leads to serene environment<br>Fiscal discipline that leads to economic sustainability<br>Feedback that leads to responsivity<br>Spirituality that leads to committed service. |

## Department Vision Mission PEO PO PSO
## Program: B.E. Electrical and Electronics Engineering

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|---|---|
| **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 | **Engineering knowledge:** Apply the Mathematical knowledge and the basics of Science and Engineering to solve the problems pertaining to Electrical and Electronics Engineering. |
| PO 2 | **Problem analysis:** 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 | **Design/development of solutions:** 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 | **Conduct investigations of complex problems:** 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 | **Modern tool usage:** 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 | **The engineer and society:** 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 | **Environment and sustainability:** 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 | **Ethics:** Apply the principles of Professional Ethics to adhere to the norms of the engineering practice and to discharge ethical responsibilities. |
| PO 9 | **Individual and team work:** Function actively and efficiently as an individual or a member/leader of different teams and multidisciplinary projects. |
| PO 10 | **Communication:** 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 | **Project management and finance:** 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 | **Life-long learning:** Recognize the need for self and life-long learning, keeping pace with technological challenges in the broadest sense. |
| **Program Specific Outcomes (PSO)** | |
| 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

| | | |
|---|---|---|
| **CHIEF PATRON** | : | **Rev. Fr. Dr. M. Maria William**<br>**Correspondent / SXCCE** |
| **PATRON** | : | **Dr. J. Maheshwaran**<br>**Principal / SXCCE** |
| **PRESIDENT** | : | **Dr. S. V. Kayalvizhi**<br>**HOD / SXCCE** |
| **FACULTY ADVISOR** | : | **Dr.M. Germin Nisha**<br>**Faculty Advisor / SEE** |

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# SEE Presidents Messsage

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 2021-2022.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 Advisor

I am happy to present the annual magazine of our department Electrical and Electronics Engineering for the Academic year 2021-22

"Technology is best when it brings people together."

This year our students eagerly selected a fabulous Theme FALCONX '22 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 FALCONX 22 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

**Dr. M. Germin Nisha,**
Faculty Advisor, SEE.

# Office Bearers

**Convener** : **Dr. A. Darwin Jose Raju**

**Faculty Advisor** : **Dr. M. Germin Nisha**

**Secretary** : **Ms. R. Rich Brindha, Final Year EEE**

**Treasurer** : **Mr. K. T Branesh, Final Year EEE**

**Joint Secretary** : **Ms. R. B. Jeedith Melfhiya, III Year EEE**

**Assistant Secretary** : **Ms. V. Sairama, II Year EEE**

**Executive Members**

**Mr. A. Selva Roderick and Ms. D. Sahaya Akshara Jekcy, IV Year EEE**

**Mr. M. Navin Richard and Mr. S. R. Antilin Stanis, III Year EEE**

**Ms. Y. Dalni and Mr. A. V. Sanjeev Mugunthan, II Year EEE**

# SEE Report-2022

## Department of Electrical and Electronics Engineering

## Society of Electrical Engineers (SEE)

The Society of Electrical Engineers (SEE) was inaugurated on 2nd March 2001 to professionally equip our students with the latest technologies and innovations. The main objective of SEE is to enhance the knowledge of students through various Seminars, Technical talks, Industrial visits, Paper presentations, Workshops and Education forum.

The inauguration ceremony of SEE for the academic year 2021-2022 was held online on 25th September 2021 and the office bearers have been assigned for our association.

### Office Bearers

| | |
|---|---|
| Convener | : Dr. A. Darwin Jose Raju |
| Faculty Advisor | : Dr. M. Germin Nisha |
| Secretary | : Ms. R. Rich Brindha, Final Year EEE |
| Treasurer | : Mr. K. T Branesh, Final Year EEE |
| Joint Secretary | : Ms. R. B. Jeedith Melfhiya, III Year EEE |
| Assistant Secretary | : Ms. V. Sairama, II Year EEE |

### Executive Members

Mr. A. Selva Roderick and Ms. D. Sahaya Akshara Jekcy , IV Year EEE
Mr. M. Navin Richard and Mr. S. R. Antilin Stanis , III Year EEE
Ms. Y. Dalni and Mr. A. V. Sanjeev Mugunthan, II Year EEE

A webinar on "Entrepreneurship, Growth and Future" was conducted online on 09/10/2021 by Ms. Angelin Indira Jeevamony, Founder and CEO, Ed-Zoe. All UG students of our department were informed to attend through Google meet. The main theme of this webinar is to bring a very positive effect on student's mind about entrepreneurship. The necessary task that needed to be done assure success was explained. This led a path to focus in their academic accomplishments, to become a successful entrepreneur.

A Workshop on "PCB Design" was conducted in physical mode, on 21/10/2021 by Dr. V. Suresh, Professor/ECE, Mar Ephraem College of Engineering and Technology & Dr. S. V. Kayalvizhi, AP/ EEE, St. Xavier's Catholic College of Engineering. Final year UG students of EEE attended the program. The main theme of this workshop is to instruct students about Printed Circuit Board (PCB) design which brings the electronic circuits to life in the physical form. Using layout software, the PCB design process was explained hands on in simulation laboratory and further the component placements and routeing to define electrical connectivity on a manufactured circuit board were explained practically in project laboratory.

A webinar on "BIM for an Electrical Engineer" was conducted online on 06/11/2021 by Mr. Mohammed Sherfuddin/ Chairman, Unique groups; Ms. Tintu Joy/ Design Engineer, Unique groups; Ms. Siddiqa/ HR, Unique groups. Students, faculty members and industrialists from various organisations attended the program through Google meet. The main theme of this webinar is to bring awareness about Building Information Modeling (BIM) which is a digital representation of physical and functional characteristics of a facility. The webinar also focussed on sophisticated tools for electrical trade design and estimation.

SEE organized a one day workshop on eSim for the students of II year EEE department of our college on 20/11/2021, in physical mode. Prof. Dr. Jain B Marshel, AP/EEE, Mr. V. Jesus Bobin, AP/EEE, Mr. J. Leon Bosco Raj, AP/EEE, Ms. P. Suji Garland, AP/EEE, Ms. W. Vinil Dani, AP/EEE handled the sessions. In the morning session, the objectives and the fundamentals of eSim software along with process of applying internship to IIT Bombay for various student projects in eSim were explained. In the afternoon session, the circuit simulation process using eSim was explained along with hands on exercises. Students were asked to select a circuit of their own interest and design using eSim. The designed circuits were verified and appreciated.

A Workshop on "Getting started with Arduino" was conducted in our department as a part of our association activities (SEE' 21) in physical mode. Third year EEE students attended the workshop. The main theme of this workshop is to provide an opportunity for participants to enrich their knowledge and skill in Aurdino, thereby developing various solutions for engineering problems in the society. The necessary tasks such as developing program in a computing language to perform a specific task, embedding the program in Aurdino controller and controlling a specific hardware setup using Aurdino controller was explained. This workshop was especially helpful to the students those who were interested in automation.

A webinar on "Artificial Intelligence in Aerospace Applications" was conducted online as a part of our association activities (SEE'21). All UG students of EE were informed to attend through Google meet. The main theme of this webinar is to address participants about the significance of AI in aerospace applications, as the aerospace industry is constantly looking for effective ways to speed up development processes in order to meet the growing demand as well as deliver high-quality components.

The National level technical symposium was conducted by the Society of Electrical Engineers on 27/05/2022. The Symposium was named as FALCONX'22. The theme of the Symposium was Ambition and Courage. The Symposium inauguration started at 9.45a.m in the seminar hall with prayer song. The Head of the Department Dr. S. V. Kayalvizhi welcomed the gathering. SEE Secretary Ms. R. Rich Brindha, Final year EEE read the annual report of SEE. The SEE Faculty advisor Dr. M. Germin Nisha gave a brief note on the theme of the Symposium FALCONX'22. Former HOD Dr. A Darwin Jose Raju introduced the Chief Guest. The Chief Guest Er. B. Rajasekharan. Assistant Executive Engineer, TNEB-Enoor addressed the gathering about generation, transmission and distribution of power in power stations. Our principal Dr.J. Maheswaran felicitated the gathering. The presidential address was given by our correspondent Rev.Fr.Dr.M. Maria William. Ms. K. Atchayah, Big Data Developer, TCS addressed the gathering about her past experience in college and her experience as Big Data Developer. Winners were honored with various SEE Awards by our Correspondent and Chief Guest. Mr. S.R. Antilin Satnis of III year EEE thanked the gathering. The inauguration ceremony ended with the college anthem.

After the inauguration ceremony, events like Paper Presentation, Poster Presentation, Circuit Debugging, Technical Quiz and Connections were conducted. 98 students from other institutions and our institution have participated in the events conducted. Out of them 54 students presented their technical idea as paper presentation,33 students have presented their posters, 33 students have participated in circuit debugging, 46 students have participated in Quiz, 23 students have participated in Connections. Around 3.45 p.m. the winners of the events were honored with certificates and trophies. Finally the ceremony ended with national Anthem.

All the events conducted were beneficial for the students to improve their talents and knowledge. SEE express our gratitude to Correspondent Rev. Fr. Dr. M. Maria William, Bursar Rev. Fr. M. Francis Xavier, Principal Dr. J. Maheswaran, Vice Principal Dr. M. Marsaline Beno and Head of the Department Dr. S.V. Kayalvizhi for their motivation and Support. We thank Lord Almighty for that he has made yet another year of SEE a great success.

**Secretary,**
**Ms. R. Rich Brindha,**
**Final Year EEE**

# SEE AWARDS

## St. Xavier's Catholic College of Engineering

## Department of Electrical and Electronics Engineering

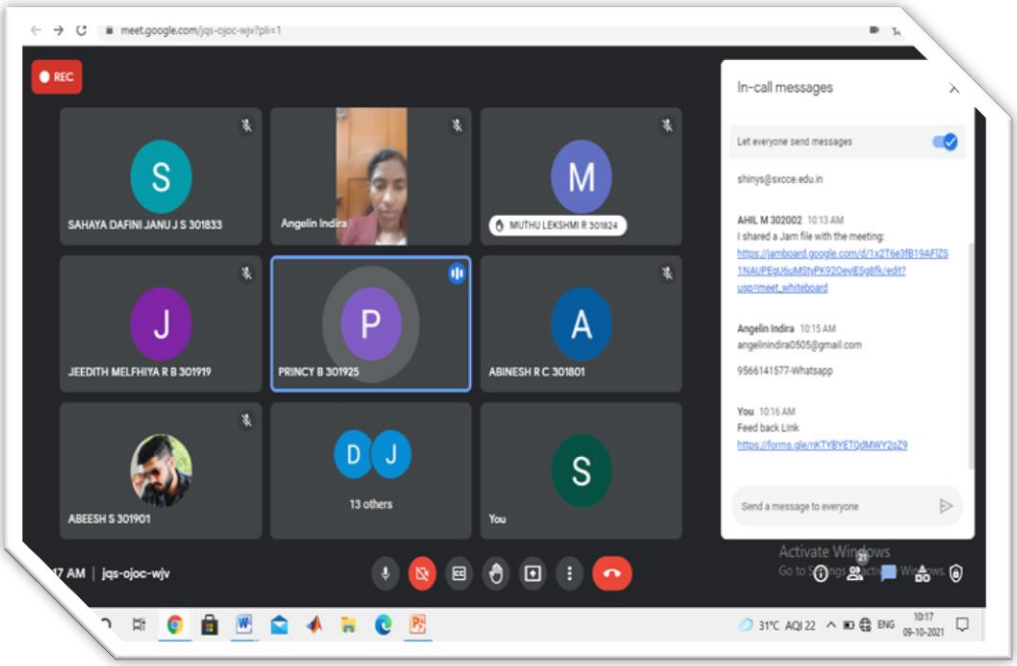
## *SEE Awards 2022*

| SL. NO. | NAME | AWARD | PHOTO |
|---|---|---|---|
| 1 | K. Reshma Priya | SHINING STAR OF THE YEAR AWARD |  |
| 2 | J. Rojar Donald | SEE GLADIATOR AWARD FOR CO-CURRICULAR PERFORMANCE |  |
| 3 | C. Shelshiya | SEE GLADIATOR AWARD FOR EXTRA CURRICULAR PERFORMACE |  |
| 4 | T. Jeen Ramand Raj | SEE GLADIATOR AWARD FOR FINE ARTS |  |
| 5 | M. B. Mabish | SEE MARVEL AWARD FOR BEST DESIGNER OF THE YEAR |  |
| 6 | S. Chackochan | SEE BEST VOLUNTEER AWARD |  |

| | | | |
|---|---|---|---|
| 7 | A. Dave Andrew | SEE AMBASSDOR AWARD |  |
| 8 | A. Muhammed Althaf | SEE GLADIATOR AWARD FOR SPORTS ACHIVEMENTS |  |
| 9 | R. B. Jeedith Melfhiya | SEE GLADIATOR AWARD FOR BEST PERFORMER |  |
| 10 | A.K. Dona Jobin | SEE CRUSADER AWARD FOR BEST ACADEMIC PERFORMER |  |
| 11 | M. Ahil | SEE GLADIATOR AWARD FOR BEST PERFORMER |  |
| 12 | K. T. Branesh | SEE GLADIATOR AWARD FOR BEST PERFORMER |  |
| 13 | R. Rich Brindha | SEE GLADIATOR AWARD FOR BEST PERFORMER |  |

# EVENT CONDUCTED

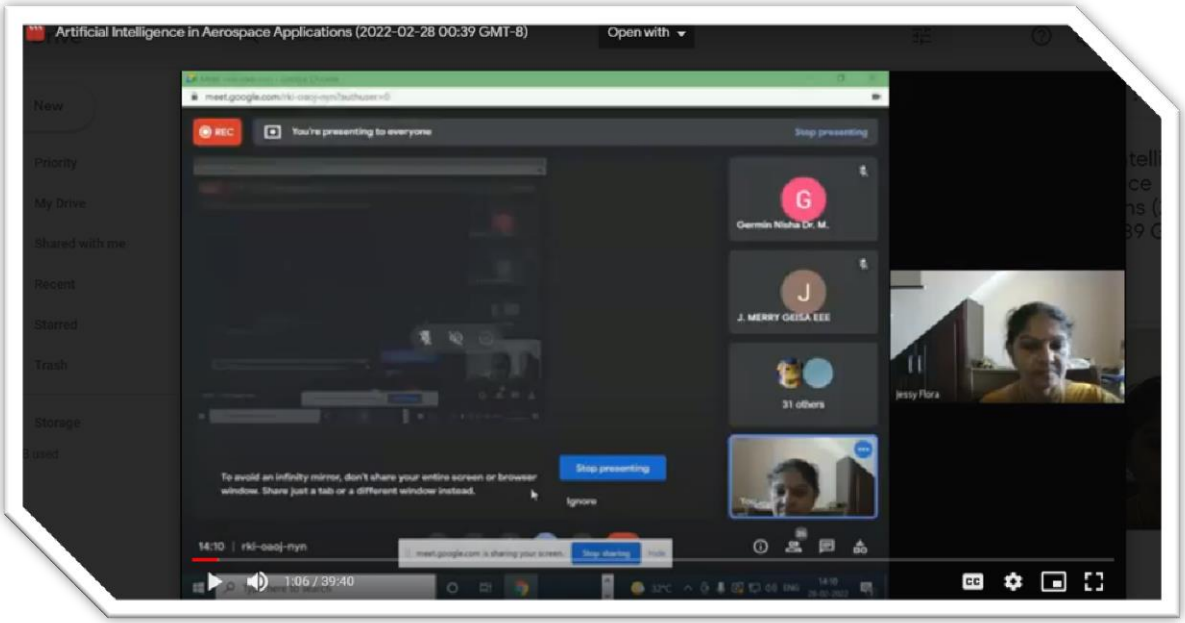
**Workshop on eSim**




**Webinar on Entrepreneurship, Growth and Future**


## National Level Technical Symposium


## Webinar on BIM for an Electrical Engineer




## Artificial Intelligence in Aerospace Applications

## Workshop on PCB design

## Workshop on getting Started with Arduino

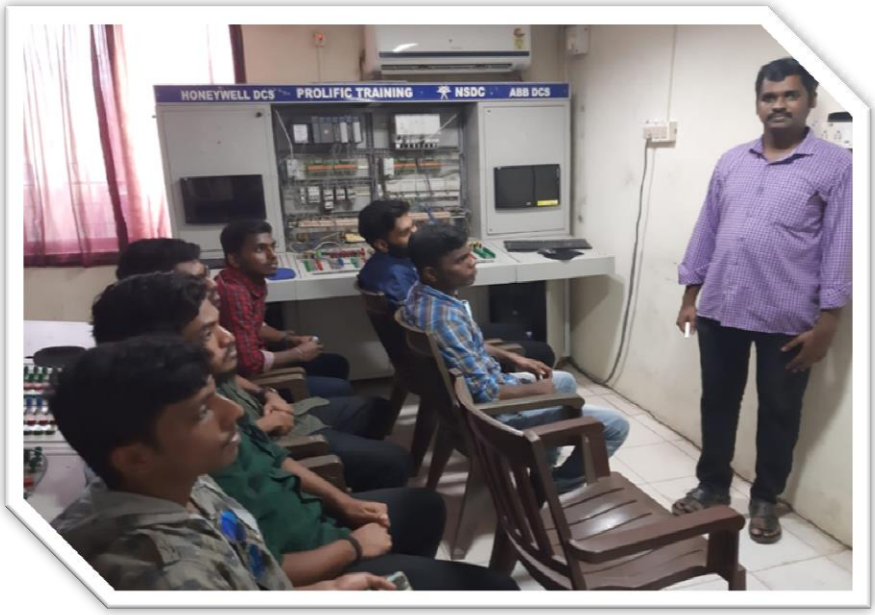
## SEE GALLERY

# IV Year South India Tour

# INDUSTRIAL VISIT II Year

## (National Institute of Wind Energy, Kayathar)

# III Year




**Prolific Training Centre Chennai ---- PLC, SCADA**

**TAQA 250 MW Thermal Power Plant, Neyveli.**


**TAQA 250 MW Thermal Power Plant, Neyveli.**

**IIT Chennai ---- High Voltage Lab**

# IV Year

**National Institute of Wind Energy, Kayathar**


**National Institute of Wind Energy, Kayathar**


St.Xavier's
SOCIETY


St.Xavier's


COUNCIL


St.Xavier's
SOCIETY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FINAL YEAR: 2018 - 2022 BATCH