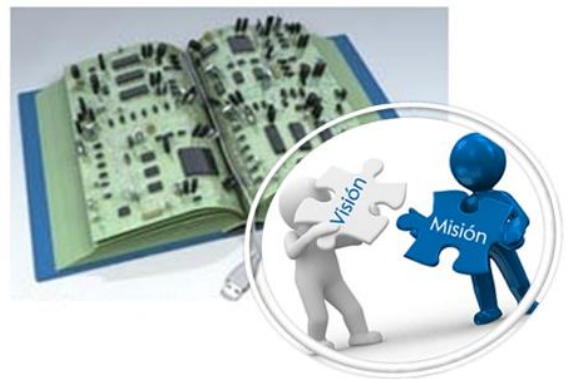# FLASH

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VISION

To evolve into a Holistic Learning Hub that moulds technologically proficient engineers in the field of Electronics and Telecommunication; contributing to the global industry and society with Integrity, Ethics and Professionalism as envisaged by Don Bosco
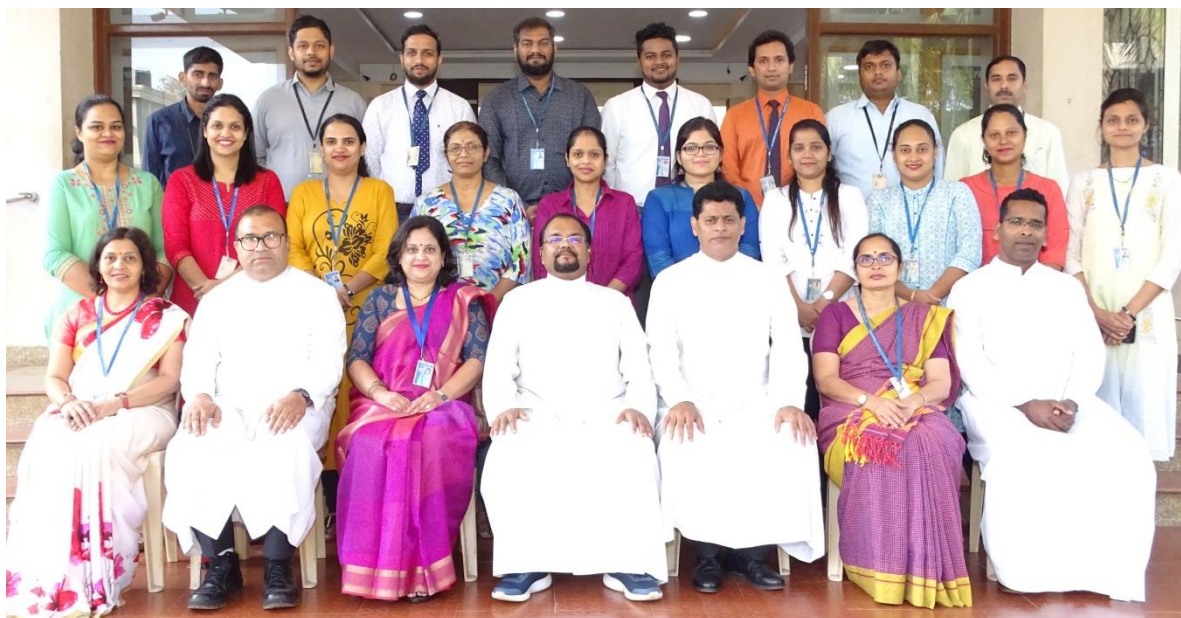
MISSION

- To impart education abreast with the fundamentals and advances in technology and transform students into globally accepted professionals
- To foster networking with all stakeholders for promoting technical innovation, research and entrepreneurship

- To encourage various skill enhancing activities and extra-curricular activities to instill high levels of work ethics and responsibility for a better society

DEPARTMENTAL DETAILS

The Department has well qualified and experienced faculty in the areas of Electronics & Communication, VLSI, Embedded, Signal Processing, Automation and ControlEngineering. The Department offers Bachelors of Electronics & Telecommunication Engineering programme, with total number of 60 seats in the 1st year and 12 seats for lateral entry into the second year.

The department has been organizing various programs to enhance the Industry -Institute interaction through field visit and workshops. Every year students of the Final Year are exposed to Industry through internship programme of 1 month duration for industry experience.

Department has 12 fully functional Laboratories as listed below, along with the different Software.

- Embedded Lab
- e-Yantra Robotics Lab

➢ **LABORATORIES**
  - Electronics Engineering
  - Power Electronics and Control Systems
  - Devices and Circuits
  - Communication Engineering
  - Microprocessor
  - Electrical Engineering
  - Electrical Technology
  - Digital Systems and Electronic Instrumentation
  - Signal Processing Lab

SOFTWARES	KITS
MATLAB	8051 kits
Xilinx 14 Version	ARM kits
OSCAD	PIC kits
MAGIC	PLC kits
LabVIEW	LAN Trainer kits
OCTAVE	OFC Kits
POlSARPro	PSoC ARM Cortex Kits

- Advanced Communication Lab

IEEE Day- "Celebrate The Bond Of Technology"

The IEEE Student Branch of Don Bosco College of Engineering celebrated IEEE Day on 22nd October 2022. The IEEE SB Counselor, Prof. Yeshudas Muttu briefed the audience about IEEE Day, its importance and various takeaways. Later, the IEEE EXECOM members were handed the badges by IEEE Adviser, Dr. Varsha Turkar. Ms. Anjima Rajesh, IEEE DBCE Vice-chair shared the benefits she experiences throughout her IEEE journey. The celebration continued with a networking activity conducted by Mr. Benson Fernandes & Mr. Clarence Dias. The IEEE Day programme progressed with the cake – cutting ceremony. To conclude the entire event, there was a prize distribution ceremony and Ms. Britney Mascarenhas, IEEE WIE DBCE Chair proposed the vote of thanks. The overall event was coordinated by IEEE Student members, Mr. Benson Fernandes & Mr. Clarence Dias and hosted by Mr. Nupoor Sirsat.

STUDENT'S CORNER

Workshops/Seminars/In-house Trainings/ Project Exhibitions

IEEE Bombay Section- STEM Programme

IEEE Student Branch of Don Bosco College of Engineering, Goa organized a Workshop for school students on "Electrical & Electronics made easy" with one simple objective to, create a spark and interest in the young minds' of this generation on 11th – 12th March, 2022.

Prof. Yeshudas Muttu addressed the participants and allotted an IEEE Member for each group of school students. IEEE members, Mr. Kaiser Souza & Mr. Clarence Dias introduced the basic concepts in electrical & electronics to the audience. They made the participants understand the components like resistor, battery, identification of resistance via colour codes, breadboard, Light emitting diodes, transistors, sensors, etc.

While implementing circuits, other IEEE Members, Mr. Arya Shanbhag, Mr. Benson Fernandes, Ms. Athena Rodrigues, Mr. Daron Pereira and Ms. Diana Estibeiro were completely involved in making students understand the circuit connections in the most effective way. Also, they explained practically the testing of sensors/ conversion of one form of energy to other. The students had the most amazing time by building the circuits which was reflected through their positive feedback at the end of the workshop.

The Workshop was very insightful for the students and created a deep interest in the field of Electronics and their use in daily life. It was also a confidence and knowledge booster for the IEEE DBCE STEM Team members as they also gained a lot of hands-on experience working with school students.

IEEE Bombay Section Student Branch Meet Up- Goa Region

The IEEE (Institute of Electrical and Electronics Engineers) Student Branch (SB) of Don Bosco College Of Engineering Fatorda, Goa organized a IEEE Bombay Section Student Branch Meet Up on August 26, 2022. Six Colleges under the IEEE Bombay Section participated in this event. The main purpose of the meet was to discuss the activities undertaken by different student branches under IEEE Bombay Section and to collaborate with the other student's branches for keeping events under IEEE Bombay Section.

The Director, Rev. Fr. Kinley D'Cruz welcomed all the dignitaries and the participants at the host institute. Dr. Sarika Chouhan, SAC Chair, IEEE Bombay Section gave an overview of IEEE Bombay Section and Students Activities Committee. Mr. Devendra Gowda, SAC Secretary, IEEE Bombay Section inspired the students by enlisting the various benefits of becoming an IEEE member. Both conventional and rarely known benefits were discussed. Dr. Vinit Kotak, SAC Advisor, IEEE Bombay Section gave us tips on how to attract and retain

student members. Dr. Satyanarayana Bheesette, Chair, IEEE Bombay Section and Dr. Kavita Sonawane, SAC Vice-Chair, IEEE Bombay Section highlighted the importance on why and how an Institution with SB must organize an IEEE Conference and how to engage with students and student activities in Student Branch. Mr. Karthik Iyer, SSR, IEEE Bombay Section gave an insight on IEEE Volunteer Tools. The event was very informative which benefited many students and faculty members. The program came to an end with questionnaire and networking session where students interacted with other college students followed by a vote of thanks proposed by IEEE Student Branch Counselor, Prof. Yeshudas Muttu. The host of the event was Ms. Karen Mendes, IEEE DBCE SB Member. The event was coordinated by Dr. Varsha Turkar and Prof. Yeshudas Muttu.

IEEE Bombay Section – STEM Programme 2.0

The IEEE Student Branch under the leadership of IEEE Student Branch Counselor Prof. Yeshudas Muttu of Don Bosco College of Engineering, Fatorda organized a Workshop on the topic "Electrical and Electronics made Easy". The main goal of this workshop was to make the students aware and to create an interest in the Electrical and Electronics domain.

The workshop was held on 26th- 27th of August at Santa Cruz School, Santa Cruz for the students of class 10. Prof. Yeshudas Muttu addressed the audience. The IEEE Student Branch speaker Clarence Dias and Aryan Kotru introduced and made the students understand the basic components like Battery, finding values of Resistors, LED's, the use of a Multimeter, outline of a Breadboard and connection of Series and Parallel and the different forms of energy with the help of Piezo Resistor and Motor. The other IEEE Volunteers Diana Estibeiro, Benson Fernandes, Ronan Mendes, Karen Mendes, Kezia Fernandes, Daron Pereira Shane Rodrigues and Nupoor Sirsat were simultaneously guiding the students to implement the circuit in the most effective way. The Students had a hands of experience with the breadboard

and the components the different experiments performed by them created a thirst for them to know and learn more about these Domains. It was also a new hand on experience for the IEEE Volunteers as it amplified their confidence and knowledge and team work.

The event was coordinated by IEEE Student Branch Counselor Prof. Yeshudas Muttu.

Workshop on "Electronics Simulation using Tinker CAD Circuits."

As a part of the National Skills Qualification Framework (NSQF) through Goa Samagra Shiksha Abhiyan, 2nd Lt. J. J. Rane Government High School, Kudchire organized a workshop on "Electronics Simulation using TInkerCAD Circuits" in association with the IEEE Student branch of Don Bosco College of Engineering, Fatorda on 13th December 2022. The main objective of the workshop was to provide a way for students to design and simulate electronic circuits without the need for physical components.

Prof. Yeshudas Muttu commenced the session by introducing what simulation is by giving some real life examples. Next, he discussed the difference between hardware & software followed by an in-depth explanation on why software matters in electronics. Further, he introduced the students to a variety of electronics simulators and explained how TinkerCAD can be useful, especially to beginners.

The session was carried forward by IEEE student member Mr. Benson Fernandes. All the students were also given hands-on practice on the software. Mr. Benson also simulated some day-to-day circuits to highlight the importance of TinkerCad Platform. The workshop was technically sponsored by IEEE WIE Bombay Section Affinity Group.

EXPERT TALKS AND CONFERENCES

4th International Conference on Cybernetics, Cognition and Machine Learning Applications, Goa, India (IEEE Conference Number – 56841), technically co-sponsored by IEEE Germany Section was held on October 8-9, 2022. It was organized by Department of Electronics & Computer Science of Don Bosco College of Engineering, Goa.

This conference held in hybrid mode, provided a networking platform for researchers and Scientists working in Cybernetics, Cognition, Intelligent Computing and Machine Learning areas.

The Chief Guest for the Inaugural ceremony was Prof. Harilal B. Menon, Vice-Chancellor, Goa University. The occasion was also graced by the presence of keynote speaker, Dr. Venkatanareshbabu Kuppili, Asst. Prof., CSE Dept., NIT Goa; Plenary Speaker, Takako Hashimoto, Vice President, Chiba University of Commerce, Research Fellow, The University of Tokyo; Rev. Fr. Kinley D'Cruz, Director-DBCE and Dr. Varsha Turkar, Head of Department of Electronics and Computer Science and Local organizing chair.

The Inaugural ceremony commenced with a welcome prayer and lighting of the digital lamp. Thereafter, Director, Rev. Fr. Kinley D'Cruz, briefed about the conference and welcomed all the participants present physically and those who joined through the online platform.

Thereafter, Dr. Varsha Turkar, addressed the gathering and read the message of the Principal, Dr. Neena Panandikar, in her absence.

We were delighted to have amongst us, Dr. Harilal Menon, 9th Vice-Chancellor of Goa University, Senior Professor and Dean, School of Earth Ocean and Atmospheric Sciences as the chief guest

for the function who was introduced by Prof. Yeshudas Muttu. In his address, he focused on publishing the experimental results in International journals for evaluation by International scientific committee. Putting forth the challenges of Gender inequality and mind-set of Indians, he encouraged participants to take up Entrepreneurship as a career option. He hoped for a fruitful discussion for the two days conference. The chief guest was felicitated with a token of appreciation.

In the keynote session, Dr. Venkatanareshbabu Kuppili, provided insights on the topic Recent Trends in Machine Learning and it's applications. He explained the various algorithms in Machine Learning such as Artificial Neural Networks (ANN), Decision trees, Support vector machines, Regression and Label distribution learning. Further he elaborated on Deep neural networks, Spiking neural networks and optimization for improving ANN.

This was followed by Plenary Talk by Ms. Takako Hashimoto, titled 'Structuring Topics on Large-Scale Twitter for Discovering People's Perceptions.' She presented her research work which includesvisualizing people' s perceptions and uncertain situations such as flaming and rumors by structuring topics on large-scale social media, using data mining techniques, time series analysis, etc.
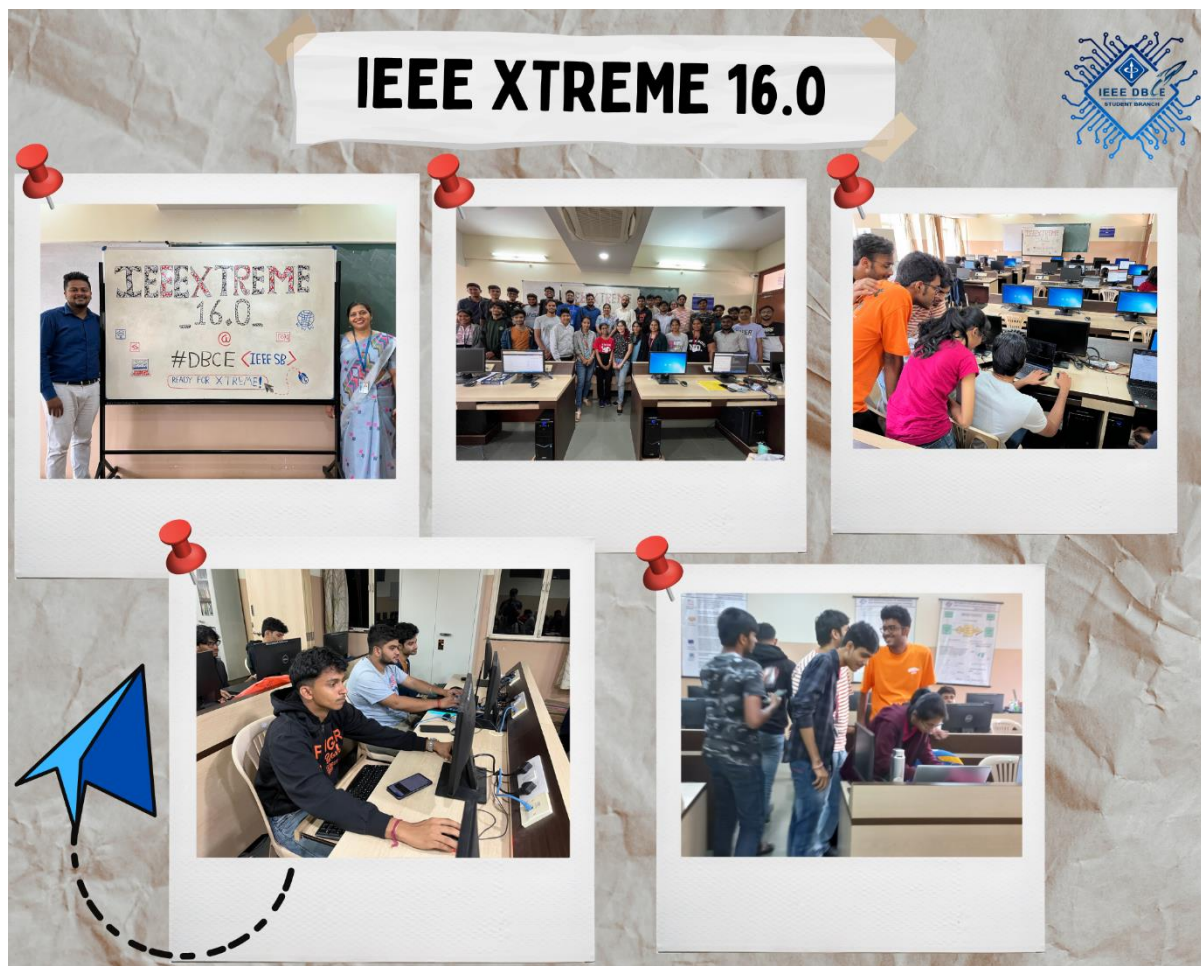
The Inaugural ceremony concluded with a vote of Thanks proposed by Prof. Melba D'Souza.

The Inaugural function was compered by Prof. Deron Rodrigues.

COMPETITIONS

IEEE Xtreme 16.0

The IEEE Student Branch of Don Bosco College of Engineering, Goa hosted the 24 hours coding competition-IEEEXtreme 16.0 from 22 October 2021(5:30 am) to 23 October 2021(5:30am), which was proctored and well organized by the IEEE Student Branch counsellor Prof. Yeshudas Muttu and technically assisted by Mr Ignatius Dias.

IEEEXtreme 16.0 is a 24-hour World-wide online coding competition where various universities and colleges, of this esteemed community, which is IEEE, go on head-to-head in a friendly yet compelling and invigorating competition. The event was organised by CS Academy giving the participants a dynamic view of coding. To inculcate problem solving skills, the IEEE student members were encouraged to participate in this global challenge of 24-hour's time span. The total of 12946 coders participated all around the world, of which Don Bosco College of engineering had 12 teams, with 3 members each. The participants were challenged with a new problem statement every hour with 25 challenge-studded problem statements in total. It was also a very testing experience as the students had to sustain themselves for 24 hours as they kept tugging away which proved to be an amazing coding and social experience. The event was encouraged by the Director – Fr. Kinley D'Cruz, Principal – Dr. Neena Panandikar & HOD-Electronics & Telecommunications Engineering – Dr. Varsha Turkar with necessary support by FiiRE.

The competition ended on 23 October 2022(5:30 am). The event was co-ordinated by the IEEE student members Mr. Joseph Cardozo & Mr. Soham Tulaskar.

TPAC- National Level Coding Competition

IEEE Bombay Section Technical & Professional Activities Committee (TPAC) in association with IEEE DBCE – Goa, IEEE SAKEC and IEEE APSIT student Branches organized a National Level Coding Competition 2.0 hosted on CodeChef platform on 15th October 2022. The industry-oriented problem statements were taken from CodeChef team and framed by the organizing team. The competition received an overwhelming response of about 160+ participants from various institutes across the Nation.

The winners of the competition in the senior category are as follows; in the 1st place was Mr. Aditya Shah from Shah & Anchor Kutchhi Engineering College, Chembur, Mumba. In 2nd place is Mr. Rahul Kumarpal Bhandari from DKTE Society's Textile & Engineering Institute and securing the 3rd place is Mr. Dhiraj Harish Shetty from Shah & Anchor Kutchhi Engineering College, Chembur, Mumbai. In the junior category, Mr. Kunjan Nayan Panchal from Kokilaben Dhirubhai Ambani Reliance Foundation School won the 1st place and Mr. Francisco Ferrao from Don Bosco Higher Secondary School, Panjim, Goa won the 2nd place.

The winners of this competition were awarded cash prizes from IEEE Bombay Section. The competition was coordinated by Vice-Chair of IEEE Bombay Section TPAC, Prof. Yeshudas Muttu. The student branch representatives for the same were Mr. Jeremy Gilbert – IEEE DBCE SB, Mr. Arpit Dharod – IEEE SAKEC SB and Mr. Rakshit Shah – IEEE APSIT SB.

STUDENT'S EDUCATIONAL TOUR

The IEEE student's branch of Don Bosco College of Engineering, Goa organized an educational tour to Hyderabad exclusively for IEEE Student members on from 17th – 23rd May 2022 under the guidance of IEEE Branch Counselor, Prof. Yeshudas Muttu. 74 IEEE student members along with 3 Faculty members, Prof. Yeshudas Muttu, Prof. Deron Rodrigues & Prof. Steefni Ema Cruz visited Hyderabad

– National Remote Sensing Centre (NRSC), ISRO; Regional Telecom Training Centre (RTTC), Bharat Sanchar Nigam Limited (BSNL).

19th May 2021
The IEEE DBCE students visited the NRSC, ISRO in Hyderabad at 10.00 am. The students were shown videos depicting the history, evolution and success of NRSC, ISRO. The launch of different satellites was also highlighted. A small lecture was delivered by Mr. Shankar Prasad, speaking about the establishment of NRSC and the launch of Chandrayan-I, Chandrayan-II and Mars Orbiter Mission. This was followed by the details of Remote Sensing domain. The students were then taken to see around the exhibits which had images captured by satellites, prototypes of satellites and much more. Towards the end the students asked questions which were answered by Mr. Prasad. Ms. Anjima Rajesh – Vice-chair, IEEE DBCE SB delivered the vote of thanks.

Next, the IEEE team visited the RTTC – BSNL. Mr. Ramesh Chari welcomed us and educated us on Mobile Communication by explaining the different types of wired and wireless media. He gave the students more in-depth information about optic fibers, including the pros and cons. He also spoke on how the generations progressed from 1G to 4G, and the upcoming 5G. After having a very interactive session, Mr. Chari cleared a few doubts the students had and then proceeded to inform the students about project opportunities BSNL provides under IOTR.

Visit to RTTC-BSNL:

Telephone Network

Evolution in Telephone networks

Mr. Bonu Prakash took over the next session by explaining the Switching and Transmission lines. He explained the basic infrastructure of the landline and the transmission of audio signals. Mr. Prakash further taught the basic process behind the transmission such as quantizing, sampling etc. He told the students a lot about Circuit switching exchange and packet-switching exchange. He demonstrated the assembly of the landline and explained various parts of it. The session was concluded with Q & A and Mr. Kaiser Souza – chair, IEEE DBCE SB proposed the vote of thanks.

20th May 2022

IEEE DBCE Students visited L & T Metro Rail. Students were taken to the training hall and Mr. Prashant Kumar; Media relations corporate communication department told us the brief agenda for the day. Mrs. Anindita Sinha, Head – Corporate Communications welcomed all and spoke about communication, corporate communication, media relation, branding, etc. L & T Metro Rail has 57 stations and 3 intersections. Videos on "Overview of Hyderabad, Metro" and "Evolution of Transport in Hyderabad" were shown. Everyone was later taken to the Depot where inspection, maintenance and functionality of metro take place. In the workshop section, duties including replacement, storage were explained. Then we visited the stable line and the functioning of it, the safety, and speed limit was explained. Students visited the Train model Room and Train simulator. In the train model room, it was mentioned that the metro rail of Hyderabad works on CBTC Technology. There were various sections like desk simulator that had various controls of the metro: automatic mode, all doors closed, horn, stop door open and close controls. dThe visit came to an end with a Metro journey in Hyderabad. A few IEEE members & faculty members shared their experience & valuable feedback with the Metro Rail team.

Visit to Metro Rail

L&T

21st May 2022

The Ramoji Film Industry gave the members an opportunity to expand their network as well as stay connected with the peers and learn a lot with respect to the technology used in today's modern film making industry. The visit started off with the students being taken around the industry to see the various setups used. Followed by a quick question answer round before lunch. After the lunch there was a small activity conducted before the students got to go into a few enjoyable rides. It was a very wonderful event, where the students got to learn and have a great time.