

FLASH

Electronics & Computer Science
(formerly known as Electronics and Telecommunication Engineering)
Departmental Newsletter

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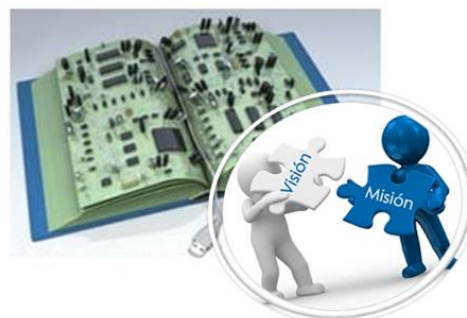
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VISION

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



MISSION

- To impart quality education abreast with advances in technology and transform students into competent professionals.
- To promote innovation, research and entrepreneurship through collaboration and networking.
- To encourage various skill enhancing activities and extra-curricular activities to foster high levels of work ethics and responsibility for a better society.

DEPARTMENTAL DETAILS

Electronics and Computer Science is a cross-discipline integrated program that explores the exciting interface between Electronics and Computer Science (ECS). The fields to be explored are Robotics, Augmented and Virtual Reality, Internet of Things, VLSI Technology, Database Management system, Computer Vision, Cyber Security, Artificial Intelligence and Machine Learning.

The department has been organizing various programs to enhance the Industry -Institute interaction through field visit and workshops. The students are also provided an opportunity to choose specialization electives to focus on their identified areas of interest.



Department has 11 fully functional Laboratories as listed below, along with the different Software.

- Signal Processing Laboratory
- EDA tools Laboratory
- e-Yantra Robotics Lab

➤ LABORATORIES

- Basic Electronics Engineering Laboratory
- Microwave Engineering Laboratory
- Analog Electronics Laboratory
- Digital Electronics and Instrumentation Laboratory
- Communication Engineering Laboratory
- Embedded system laboratory supported by Cypress
- Project laboratory
- Control and automation Laboratory

SOFTWARES

MATLAB
Xilinx 14 Version
OSCAD
MAGIC
LabVIEW
OCTAVE
POISARPro

KITS

8051 kits
ARM kits
PIC kits
PLC kits
LAN Trainer kits
OFC Kits
PSoC ARM Cortex Kits

One Week ISTE STTP on “Research Methodology: Tools, Techniques and Strategies”

The Department of Electronics and Computer Science, Don Bosco College of Engineering in association with Research and Development Cell, DBCE organised a one week ISTE STTP on “Research Methodology: Tools, Techniques and Strategies”. The workshop was held from 27th November – 1st December 2023. Prof. Yeshudas Muttu and Prof. Mohini Naik were the coordinators of the workshop. The workshop was attended by 37 participants from different institutes. The inaugural ceremony of the workshop was held on 27th November 2023. Dr. Shubash S. Shetye, Senior Scientist Department of Chemical Oceanography.



The inaugural ceremony was followed by session conducted by Dr Parul Kumar, certified Mendeley advisor, Delhi skill and Entrepreneurship University. She gave a detailed explanation of research methodology and identification and formulation of a research problem. She explained the various steps involved in choosing a research topic. In the post lunch session Dr Parul covered the topics of data collection methods and its types. On the second day, Dr. Parul Kumar started the first session on ‘Hypothesis Testing’ wherein she gave an insight to hypothesis testing, which is a systematic procedure for deciding whether the results of a research study support a particular theory which applies to a population in other words, a statistical method to determine if there is enough evidence in a sample data to draw conclusions. She added details on types of hypothesis like null hypothesis, alternate hypothesis. The next session was a hands on session on ‘SPSS’. She taught how to insert data into SPSS software and work with the data in the software.



On day 3, the first session was on “Strategies and organizational methods for preparing a literature review and tools”. Dr. Swati Agarwal explained the difference between objective, motivation, challenges and gap. For the next session Dr. Chirag Modi spoke about Technical paper review and evaluation process. He mentioned that less than 1% of research papers are converted to products. Mr. Mohanish Bhandange discussed the importance of plagiarism check and how plagiarism tool needs to be selected.



On the day 4, The session was conducted by Dr. Mahesh S. Majik, Associate Professor, Research Development & Innovations, Goa State Higher Education Council, Directorate of Higher Education. The second session of the day was also conducted by Dr. Mahesh S. Majik on various Research Promotion Schemes & Funding agencies. Session 3 and 4 were conducted by Mr. Hannan Satopay, CEO- Alhansat Solutions. He gave a hands-on session on 3D Modeling and Simulation Tools.

On the day 5, The Resource person was Mr. Hannan Satopay. First session was on AI Tools for research. The speaker briefed on how the AI tools like Scholarcy , Paperpal , Tynker.ai etc help to summarize the paper and get the essence of the paper. The second session was on Chat GPT which is a free-to-use AI system and is used for engaging conversations, gain insights, automate tasks, and witness the future of AI, all in one place.

The Valedictory function was held on Dec 01, 2023. Mr. Hannan Satopay, CEO-Alhansat Solutions was the Chief Guest on the occasion.



Finishing School - PLC, VFD and HMI

The Electronics and Computer Science Department (formerly known as Electronics and Telecommunication Department), of Don Bosco College of Engineering (DBCE), Fatorda, conducted a Finishing School, in association with Autotech Technologies on Industrial Automation Training. It was an 18 day course, which went on from 7th August to 31st August 2023, and was based on Programmable logic controller (PLC), Variable-frequency drive (VFD) and the Human-Machine Interface (HMI) module of Industrial Automation.



The resource persons for this finishing school were Mr. Sandip Mone, Proprietor and Trainer of Autotech Technologies, and Sanjita Nadkarni, Project in-charge and Trainer of Autotech Technologies. The Finishing School this year was organized for the Electronics and Telecommunication (ETC) and Mechanical students of DBCE as well as students from other colleges, like Goa Engineering College, Padre Conceicao college of Engineering and Curchorem polytechnic. The different brands that would be covered under this course were DELTA VFD, ALLEN BRADLEY PLC, DELTA HMI.

The course started with a brief introduction on DELTA VFD which included introduction to motor and explanation on motor name plate and some basic information on VFD, its advantages, and uses. Later students were shown to program a VFD by putting different VFD parameters. Reverse and forward motion of the motor was shown using the VFD.



The second topic was on Programmable Logic Controller. The PLC that was covered for the students was Allen Bradley Micrologix 1000. Initially students were introduced to Allen Bradley PLC, its softwares and basics of Ladder Diagram Programming with different Industrial examples. The topics covered in PLC were Basic gates (AND, OR, XOR), One Shot Rising, Latching, Interlocking, Binary bit concept, Up counter, down counter, ON and OFF delay timer, and some basic and advance programs with Industrial examples. This was followed by wiring of the PLC. Students were taught to wire inputs as well as output such as Indicators and Relays.



The final topic that was covered was Delta HMI. In the initial introduction to HMI, the students were taught to handle a touch screen HMI and different communication ports of HMI to communicate with PLC. The concepts covered here were Page generation, Tag generation and Downloading pages to PC, including communication between the PLC and HMI. This included turning ON a PLC output via HMI keys. Variable Numeric input values were gives to PLC's timer and counter using HMI.

On the 1st September 2023, the Vaedictory function was held of the Finishing course. The students were awarded certificates for the course, after which the students shared their valuable feedback where they mentioned how enriching and fruitful the course was in making them Industry ready.



The faculty coordinator for the Finishing School was Prof. Flavia Leitao.

STUDENT'S CORNER

Workshops/Seminars/In-house Trainings/ Competitions

Workshop on “e-Yantra Robotics”

The e-Yantra Robotics Faculty Team of Electronics & Telecommunication Department of DBCE organized a Workshop on Firebird V Robot for the students of SE ETC, TE ETC and TE MECH, on 12th August, 1st and 15th September 2023. The purpose of the workshop was to spread education in Embedded systems and Robotics.

The training saw participation of 32 students, from the ETC and Mechanical departments willing to work on the Firebird V Robot. The resource persons for the workshop were Prof. Deron Rodrigues, Prof. Flavia Leitao and Prof. Mathilda Colaco.



The first session on 12th August 2023 was taken up by Prof. Deron Rodrigues on Introduction to Robotics that included major components such as Sensors, Actuators, Control system, Intelligence, Power supply, Communication, Indicating Devices of a Robot and Introduction to Firebird V ATmega 2560. The students were also introduced to the various Input-Output Ports and Registers in ATmega 2560 and how they can be accessed. Subsequently, the students were given hands-on exposure in Embedded C programming for interfacing the Buzzer using the Atmel-6 Studio.

The second session was taken by Prof. Flavia Leitao on interfacing the Bar-graph LED, LCD with the Firebird V Robot. The Students were briefed on the Boot Switch and LCD operation and were then asked to interface the LCD and the Boot Switch for a given application. This was followed by interfacing of the Motors. The students were briefed on the Motor Driver IC L293D and the different Motions and were then given a small task of how to interface the Motors and device an application to make the Robot move in a defined direction.

The session on 1st Sept. 2023 was taken by Prof. Deron Rodrigues. It included introduction to counters and timers in ATmega 2560 for calculating time delays for various applications.

IEEE Committee Meet and Greet 2023

On 17th July 2023, the IEEE Student Branch Counselor, Prof. Yeshudas Muttu organized the IEEE Committee Meet for the executive committee and sub-committee members of the student branch.

The meet started with the introduction of the council members, followed by the fun game of 'roll the wheel' which provided all the students about the basic knowledge of IEEE and helped in knowing the council better. Further, every council member was assigned and briefed about their roles and responsibilities.

Students were introduced to the IEEE GRSS chapter, which is a community of researchers and practitioners collaborating and designing tools to understand our interaction with earth's ecosystem, to monitor its environments, oceans and ice caps, and to characterize potential risks. GRSS supports collaboration at a global level.



The meeting was fruitful and got concluded with networking activity in the pantry.

IEEE DBCE SB WIE Affinity Group Organizes Self Defence for Girls

On 30th September 2023, the IEEE WIE chapter at Don Bosco College of Engineering organized a self defence session for girls under the guidance of Prof. Yeshudas Muttu and Prof. Mohini Naik. The resource person for the event was the master's degree holder in black belt kung fu with an experience of 5 years in teaching martial arts, fitness and self defence and the founder of lion self defence academy, Mr. Ninar Sawant.



As self defence is an essential skill, this enriching session started off with full energy and enthusiasm. The session began with warm-up exercises to loosen up our body and to gear up for the various defence techniques. The various types of punches and kicks were introduced and were advised by the trainer to practice and keep ourselves fit.

Mr. Ninar was very interactive and made sure that all were into the routine in the right way so as to avoid the injury. This was followed by some real-life instances wherein; the girls could use quick defence techniques to defeat the opponent. This empowering session ended with a vote of thanks followed by refreshments.

This event served to be a great opportunity for all the female participants through the IEEE Student Branch WIE AG as the ability to defend oneself not only fosters a sense of confidence and security, but also promotes a deep understanding of the body and mind.

IEEE Day Celebration

The IEEE DBCE Student Branch celebrated IEEE Day on 13th October 2023. The IEEE Student Branch Counselor - Prof. Yeshudas Muttu, WIE & GRSS Mentor - Prof. Mohini Naik and Prof. Deron Rodrigues were present on the occasion.

Prof. Yeshudas Muttu addressed the students, focusing on the theme "Bond of Technology - IEEE." He highlighted the history of IEEE Day and emphasized the need to keep the momentum going. He also discussed about the areas for improvement within the IEEE Student Branch and stressed the importance of an ethical committee. Following the address, the Executive Committee was formally installed, receiving their badges from Prof. Yeshudas and Prof. Mohini and a cake-cutting ceremony was held.



The celebration successfully blended knowledge sharing, team-building, and fun, strengthening the bond among the IEEE student members.

FIELD VISITS

Field visit at Letcetra Agritech

The Department of Electronics and Computer Science, Don Bosco College of Engineering, Fatorda organized a field visit on August 26, 2023 to Letcetra Agritech, as a part of faculty development programme.

Letcetra Agritech was founded in 2016 by a group of engineers with diverse backgrounds and a shared passion for healthy food and sustainable agriculture.



With the help of cutting-edge technology such as AI and computer vision, a hydroponics farm was set up, latest research and practices are incorporated into solutions which are not only innovative but also practical and accessible.

At the farm, Mr. Harish Usgaonkar and Mr. Sandeep Maitrey, described the entire process. They informed the faculty that the crops like celery, lettuce and turmeric are grown. They further explained the lifecycle governed by the process of the crop. The faculty learnt that the ongoing research that is being done is to check some variants of turmeric that has the highest variety of curcumin.

A total of 13 faculty members attended the fieldtrip and it was truly an enriching experience both in terms of technology and novelty.

Field visit at National Institute Of Oceanography (NIO)

On September 6, 2023 the SE-ECS class of Don Bosco College of Engineering (DBCE) visited National Institute of Oceanography (NIO) at Dona Paula- Goa. They were accompanied by Faculty Prof. Trima Fernandes e Fizardo, Prof. Yeshudas Muttu and Prof. Anisha Cotta.

The NIO was established in the year 1966. Their main focus is to research, observe and understand the special oceanographic characteristics of Indian Ocean. Their mission was quoted as “To continuously improve our understanding of the seas around us and to translate this knowledge to benefit all”. The headquarters is situated in Goa and the other regional centers in Kochi, Thiruvananthapuram and Mumbai.

The students watched various equipment's displayed there. There were research ships such as RV Sindhu Sankalp and RV Sindhu Sadhana, Autonomous Underwater Vehicle- Maya displayed there. They were then explained about the functioning and working of Remotely Operated Vehicle (ROV). Lastly, the students were shown a short movie on how all these processes took place.



The students were grateful to get this opportunity to witness various tasks performed in oceanography. This made them even keener by idea of studying ocean. They were grateful to the staff at NIO for being available to guide the students.



Field visit at Oil and Natural gas Cooperation (ONGC)

The department of Electronics and Telecommunication Engineering of Don Bosco college of Engineering under DBEATS (Don Bosco Electronic and Telecommunication Society) organised a field trip on September 6, 2023.

A group of 20 students accompanied by prof. Kimberly Morais went on an industrial field trip at ONGC (Oil and Natural gas Cooperation), Betul. The purpose of the event was to create awareness and gain knowledge on solar energy and oil and natural gas production.



The students were welcomed by the Chief Engineer Mr. Shrikant Ughade and senior HR Mrs. Sonika Talaulikar, who explained that the purpose behind building a solar power plant is to reduce ONGC's carbon footprint and simultaneously be independent in terms of energy requirements. Later they were taken to a conference room where a session on oil and natural gas production was delivered by the chief Engineer Mr. Sudarshan. It was a very informative and interactive session. Students had a great time and learnt a lot through this field trip.



EXPERT TALKS

Talk on “GATE AWARENESS”

The GATE Awareness for the second year students of Electronics & Computer science was organized on Thursday, August 10, 2023. The main objective behind the program is to make students aware about the GATE exam and its importance in higher studies as well as to get job in certain PSU’s.

The resource person for the event was Prof. Deron Rodrigues (Qualified GATE 2021 with percentile 96.5%). He briefed the students about the GATE (Graduate Aptitude Test in Engineering) and its importance. The Nature of Gate Examination, Pattern of Questions, Gate Test Papers and Eligibility Criteria for GATE were discussed.

He said that there are 30 papers in total for GATE 2024 and candidates can apply for up to two papers.



The different Papers that can be opted for the exam being in Electronics & Computer science degree such as EC (Electronics and Communication) and CS (Computer Science and Information Technology) were indicated and their syllabus was discussed.



This year IISc has added a new paper on Data Science and AI, he added.

Further he went on to describe the marking scheme, Paper Combinations and the Cut-off Scores. He guided the students on techniques to study for GATE and provided some tips to score in GATE Exam. The queries from the students were answered by the speaker.

The event was coordinated by Prof. Mathilda Colaco & Prof. Mohini Naik.

STUDENT'S ACHIEVEMENTS & FELICITATION

Ms. Melissa Alexander Solomon, Student of TE ETC, from Don Bosco College Of Engineering, Fatorda-Goa was a Leading Cadet who successfully completed the ALL INDIA NAUSAINIK CAMP-2023 held at INS SHIVAJI, Lonavala - Maharashtra, representing Karnataka and Goa Directorate. For this she underwent 5 levels from commencing from May 2023 PRE NSC, PRE NSC-1, PRE NSC-2, Inter Group Competition-1, Inter Group Competition-2 and finally AINSC. She was placed in various events such as Boat Pulling, standing Drill, rifle Drill contingent. Service Subject Written, Tent pitching and Line Area. She stood second position in service subject and was the Coxswain (Captain) of the Karnataka & Goa DTE boat. We won the silver medal in boat pulling and was judged as the best coxswain as she took the boat from last position to the 2nd position with a crazy comeback and also won the cock (murga). Her efforts were appreciated by all the officers.



TRAINING AND PLACEMENTS

Placements

- Ms. Adhira Coutinho and Ms. Swati Shet Kudalkar, in Haier Appliances (India) Pvt Ltd
- Mr. Aadnan Khan, in Syntegon
- Mr. Adarsh Suryavanshi, Ms. Britney Mascarenhas and Ms. Manisha Gaonkar, in Rosenberger
- Ms. Preksha Karpe, in Online Productivity Solutions Pvt. Ltd
- Mr. Nauman Sherpur, in Online Productivity Solutions Pvt. Ltd
- Ms. Aldrika Pereira, in Elin Electronics

Internships

The students of BE ETC (VIIth Semester) underwent a two month long internship in various companies in and around Goa. The internship commenced on 31st July 2023 till the 23rd September 2023. All the students completed their internship in the physical mode both in hardware and software areas.

The different companies that were selected for internship were Digisol, MeaVita, National Institute of Oceanography, Medispray laboratories private limited, IFB, Commscope, NIT, Siemens, Elin, Optel, Electrocontrols, Syntgon, Siva Group, etc.

A total of 37 students completed their internship successfully within the stipulated time. It was great learning experience for the students who were exposed to the industry environment and made aware of industry expectations. Companies also expressed their happiness to see the eagerness and willingness of our students to learn. They also commended their discipline and punctuality.

The entire Internship activity is coordinated by Prof. Samantha Cardoso.

FACULTY INITIATIVES

CERTIFICATIONS/ AWARDS/ ACHIEVEMENTS

- Prof. Trima Piedade Fernandes e Fizarido successfully completed 12 weeks NPTEL course (FDP) in “Cyber Security and Privacy” - with a consolidated score of 61% from July-October 2023



- Prof. Flavia Leitao successfully completed 8 weeks NITTT course in “Institutional Management & Administrative procedures” (Module 8), from 01 Apr 2023 to Sept. 2023
- Successfully completed 8 weeks NITTT course in, “Creative Problem Solving Innovation and Meaningful R&D” (Module 7), from 01 Apr 2023 to Sept. 2023



- Dr. Shreyas Simu gave a Session on “INTRO TO AI-ML AND IT'S DARK SIDE” for students and staff of DBCE, on 9th September 2023, under NDLI



CONFERENCE PAPER/ JOURNAL PUBLICATIONS

- Dr. Shreyas Simu and Prof. Mathilda Colaco, published a paper titled, “Disability-Friendly website design with recommendation system” in IEEE North Karnataka Subsection Conference 2023(NKCon2023), November 2023.

WORKSHOPS/SEMINARS/EXPERT TALKS ATTENDED

- All Faculty Members of the ECS department attended one day workshop on teaching Learning Pedagogy and Professional skill development on 17th November 2023 organized by Teaching learning and Education Technology (TLET) Cell, DBCE in association with BITS, Goa.
- All Faculty Members of the ECS department attended ISTE STTP on “Research Methodology: Tools , Techniques and strategies” on 27th November to 1st December 2023, organized by Department of Electronics and Computer Science, Don Bosco college of Engineering.

WORKSHOPS/SEMINARS/EXPERT TALKS CONDUCTED/ORGANIZED

- Prof. Melba D’Souza, CII IWN DBCE Faculty Coordinator, organized and accompanied CII IWN students for an Industrial Visit to Faber Castell (India) Pvt. Ltd, Corlim, Goa On 28th July 2023.
- Prof. Trima P. Fernandes e Fizardo, organized a session on “INTRO TO AI-ML AND IT’S DARK SIDE” for students and staff of DBCE, on 9th September 2023, under NDLI
- Prof. Selvyn Fernandes organized the Internal Institute Level Hackathon held on 27th September 2023, which is a nationwide initiative to provide students a platform to solve some of the pressing problems we face in our daily lives, and thus inculcate a culture of product innovation and a mind-set of problem solving.
- Prof. Melba D’Souza, CII IWN DBCE Faculty Coordinator, organized a session on, "Empower and Excel Mentorship Program” for CII IWN DBCE Student Members on the premises of Don Bosco College of Engineering in Goa, on October 31, 2023.
- Prof. Trima P. Fernandes e Fizardo and Prof. Melba D’Souza, organized a Talk on AR VR for Game Development using Utility, on 6th November 2023, to the students, which was conducted by CDAC Pune
- Prof. Melba D’Souza, CII IWN DBCE Faculty Coordinator, organized a fieldtrip to Commscope, Verna on 9th November 2023 for the CII IWN student members.
- Prof. Yeshudas Muttu and Prof. Mohini Naik, organized a one Week ISTE STTP ON “Research Methodology: Tools , Techniques and strategies”, from 27th November to 1st December 2023.

UPCOMING EVENTS

- IEEE Educational Tour in February 2024
- Tech- Talks in March 2024
- Technix Project competition in May 2024

COMMUNITY OUTREACH

Empowering Tomorrow's Innovators: IEEE STEM Workshop

The IEEE STEM Program Workshop on “Micro:bit and Radio Communication using Arduino” was a highly informative and engaging event led by Prof Yeshudas Muttu and the dynamic IEEE STEM team as a part of the Unnat Bharat Abhiyan Campaign sponsored by IEEE Bombay section for the students of Std. IX students of Government High School Balli and Sancordem Education Society’s School, Sancordem.



The workshop left the students with valuable takeaways including practical knowledge of Micro:bit and Arduino programming while collaborative activities throughout the workshop fostered teamwork and communication skills among the students. More importantly, the event ignited a passion for electronics, programming and technology.