

Luminoso

Science and Humanities Department's Newsletter

Volume 05, Issue 02, January - July 2021

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Editors

Ms. Steefni Ema Cruz (Faculty)

Mr. Aryan Kotru (Student)

VISION

To build a stairway, empowering engineering dreams to success, broadening intellectual perspectives, fostering research and developing ethical humane engineers for the global world.

MISSION

- To achieve academic excellence through intellectual pursuits, promoting research abilities, implementing innovation through a multidisciplinary approach towards technological advancements.
- Fostering team spirit, professional conduct, personality development and building skilled human resource.
- Striking a balance between nurturing the environment and technological advancements.

DEPARTMENTAL DETAILS

The Department of Science and Humanities forms an integral part of the first year engineering students as it lays the foundation for technical education wherein the ethos of Science and Technology prevails.

The faculty is involved in developing the aptitude and curriculum based knowledge of individual students. Students are encouraged to contribute towards intensifying their respective professional strengths and inter - personal skills under the banner of the association 'SEEDS'.

The Department of Science and Humanities offers courses in Engineering Mathematics, Applied Sciences (Physics & Chemistry), Technical Communication, Engineering Geology, Environmental Science and Communication Skills. These courses enhance the applicative

aptitude of the students in various branches of engineering.

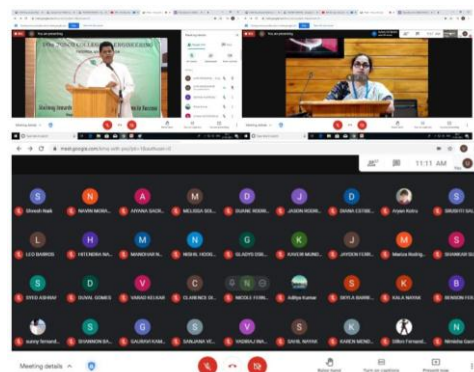
The department has three laboratories - Physics Laboratory, Chemistry Laboratory and Language Laboratory. Physics Laboratory- Physics being an integral part in Engineering and Technology creates awareness for the students to understand the fundamental concepts of Engineering and Technology. In brief, it lays a foundation in which the students want to excel in their own field of interest. Chemistry Laboratory- The need for Chemistry in engineering is conveyed to the students in the form of theory and practical classes which helps the students to enhance their practical skills. Language Laboratory – The language laboratory is equipped with Orell Talk Pro-Pro Version Cloud based Software so as to improve effective communication through online practical exercises from the comforts of their homes due to the Covid19 Pandemic. Research also forms an integral part of the development of the Department of Science and Humanities.

STUDENTS' CORNER

STAIRWAY TOWARDS EMPOWERING ENGINEERING DREAMS TO SUCCESS (SEEDS)

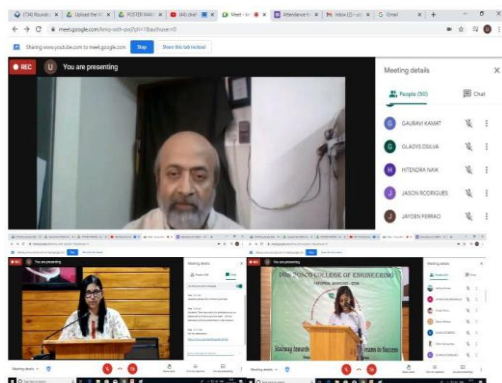
Inaugural Function

The installation of the members 'of the Students Association (SEEDS) 8th Council for the academic Year 2020-2021 was held on the March 25, 2021. The Chief guest for this occasion was Mr. VSS Sastry. It began with a prayer for mother earth, followed by 'Nurturing of SEEDS', symbolized by the watering of a plant by all the dignitaries, Rev. Fr. Kinley D'Cruz, Principal Dr. Neena Panandikar, Registrar Dr. Kala Nayak,, and the SEEDS faculty coordinators Prof. Ulpa Waingankar and Prof. Maya Lin Noronha . The Dignitaries were then escorted to the dais.



The newly elected SEEDS members were administered the oath by HOD of Science and Humanities Dr. Kala R. Nayak, followed by the outgoing committee handing over their badges to the new committee. SEEDS faculty coordinators Prof. Ulpa Waingankar welcomed the guests, the faculty, the new and the outgoing SEEDS members, the students and everyone present on the occasion. She thanked the out-going members for their zeal, cooperation and enthusiasm in making SEEDS 2019-2020 a success.

Dr. Neena Panandikar in her address mentioned about IIC, Student satellite club, E-cell, the incubation centre and all the activities conducted in DBCE. Rev. Fr. Kinley D'Cruz congratulated the outgoing committee on a successful term and wished the new committee with good luck. He also narrated a story about Alfred Nobel and quote by Charles Reade.



The Chief Guest in his address congratulated the students for getting admission into engineering, also stating that this is the best time for being engineers with due reference to the New Educational Policy (NEP) in India in which it is said that this policy would help students to achieve great success in the 4th industrial revolution. He also advised the students to learn as many languages as possible, with at least one international language apart from English. He asked the students to get used to as many softwares as possible, take notes in class and make best use of digitalization by using MOOC platforms like NPTEL, Coursera etc.

The new Chairperson Mr. Leo Barros, read out the plans for SEEDS 2021 in which he mentioned about different competitions in different fields that would be organized in the next few months with active participation from the students. The outgoing committee was awarded mementos and a letter of appreciation, by Rev. Fr. Kinley D’Cruz. The ceremony ended with a vote of thanks by Prof. Maya Lin Noronha followed by a brief photo-shoot. First year student Miss. Kritha Rajan anchored the whole program.

As all the students couldn’t be present on 25th March due to the pandemic situation, the recording of the whole Induction program was presented to the students on-line via Google meet, of which the two links were shared.

Students were requested to send their videos/photos of the four competitions that were held, namely: 1) Poem writing- for which the students had to send a video of themselves reciting the poem, 2) Photography- for which a photo had to be sent along with a caption, 3) Poster making- wherein students had to make a video of themselves explaining their poster and 4) Essay writing- wherein students had to send a pdf of their essay. Videos of all 6 participants in poem and 3 in poster making and a combined power point presentation of all 7 participants in photography were presented virtually. Overall, it was a good competition to witness and the programme was a success.

Valedictory Function

The SEEDS (Stairway towards Empowering Engineering Dreams to Success) valedictory program was held on July 17, 2021 Due to the pandemic this event was conducted online. The program began with the SEEDS Chairperson – Mr. Leo Barros welcoming the staff and students. The host for the event Mr. Aryan Kotru invited the respective student coordinators to introduce and explain each event to be held during the day. There were a total of 6 events conducted, namely:

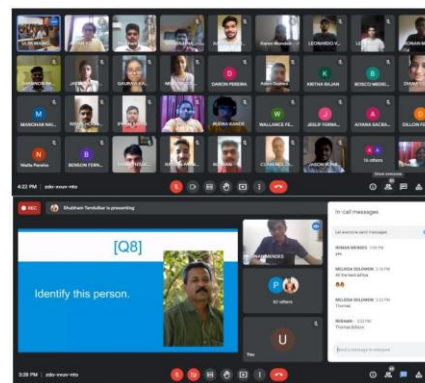


- Build a Brand: wherein participants designed a logo and an advertisement for a given company.
- Ideas germinate: where groups of participants pitch their idea to a panel of judges.
- A glimpse of my quarantine: a short movie making contest depicting daily life amidst a pandemic.
- Around the world in 1 day; a virtual scavenger hunt around the world to places of historical and scientific importance.
- Trial by Trivia: a quiz based on engineering, business and general knowledge.
- PES 2021: A multiplayer football game.

The participants came up with brilliant ideas in the events namely, “Ideas germinate”, “Build a Brand” and “A glimpse of my quarantine”, which was much appreciated by the esteemed judges from various backgrounds. The event “Trial by Trivia” was very exciting and knowledge-enriching for all the viewers and came to a nail biting finish. The crowning glory of the day was the PES 2021 football match which had everyone at the edge of their seats cheering and routing for their teams.

The event ended with a short valedictory function, graced by Director, Rev Fr. Kinley D’Cruz, Principal, Dr. Neena Panandikar, Registrar and Head of Department of Science and Humanities, Dr. Kala Nayak and staff members. The SEEDS Coordinator Mrs. Maya Lin Noronha welcomed the dignitaries, staff and students and also thanked the SEEDS Council for their cooperation and enthusiasm and for putting in their hard work and efforts to make the event a success.

Rev. Fr. Kinley D’Cruz in his address said, “Congratulations on a job well done. You have indeed pushed the limits for yourself and for all. The events organized by SEEDS members and coordinators together were really classy.” Rev. Fr. hoped that this event was a good learning experience and wished the students the very best in their future endeavors. Dr. Neena Panandikar applauded the efforts taken by the chairman and his team members in organizing the various events. She said, “I strongly believe it was not an easy task connecting and coordinating this event virtually.” The Van Mahotsav program held under the banner of SEEDS was also appreciated by the Principal. She wished the students all the very best as they would now be entering into their respective departments.



The chairperson Mr. Leo Barros gave the annual report of the various events held during his tenure. This was followed by the announcing of winners of all the events and the overall championship trophy which was bagged by the students of the Department of Electronics and Telecommunication Engineering. The Faculty SEEDS Coordinator Ms. Ulpa Waingankar thanked the SEEDS Council and applauded them for their excellent execution of the event. The Vote of thanks was delivered by Shubham Tendulkar the Secretary of the SEEDS Council. Overall this event was a great success with the students taking with them a memorable and fruitful learning experience.

ACHIEVEMENTS & FELICITATION

SPORTS

- Due to the Covid-19 Pandemic, no sports events were conducted.

TECHNICAL

Leo Barros from FE Computer Engineering, DBCE, builds ‘Quarantined Chefs’

What started off as a final project for Harvard’s CS50 online course, ‘Quarantined Chefs’ a website built by Mr. Leo Barros from FE Computer, DBCE, is now helping many home cooks and bakers to expand their business to reach a larger clientele. As part of the project he had to observe a problem and come up with a plausible solution. “With the onset of the pandemic, I noticed that a lot of people from Goa had taken to cooking and selling food from their home. Some did it as a hobby while for others; it was their primary source of income. Most of these people promote their business through social media, but this alone has a limited reach when it comes to each individual. Hence I decided to build a single platform dedicated to these home-based chefs where they could register and showcase their business,” he said.

Each listing on ‘Quarantined Chefs’ displays the menu, locality, as well as direct links to the social media profiles of the chefs so that the viewers can contact the chefs directly. He launched the website on June 1, 2021 and received an overwhelming response of over 300+ users in just 4 days. “From staying up late to fix bugs, to coding and implementing a manual-review system for the listings in a matter of few hours to

managing the entire marketing process single handed, this has definitely been a learning process,” he posted on his LinkedIn feed. This platform is built as a non-profit project. It is completely free and as of now, available only to residents of Goa. Besides this, Mr. Leo Barros has also begun a series of webinars called ‘DeveloperSundays with Leo.’

FACULTY INITIATIVES

Departmental Café

The department had its eighth café session. The organizer of the Session was also the Resource person for that afternoon, i.e., Ms. Steefni Ema Cruz. The session topic was ‘Grammar Nazi’s Masterclass and it began at 3.30pm in Seminar hall 2. The content of the session included positive and negative sentence formations, common homophone errors, and common errors in spoken English, commonly used redundant words and errors made during email writing. She began her session by introducing two sentences to the audience and asked them to answer whether they are positive or negative sentences. She then went on to explain that sentence positivity and negativity depends on syntax as well as connotation. A sentence that has a positive syntax can have a negative connotation and vice versa.



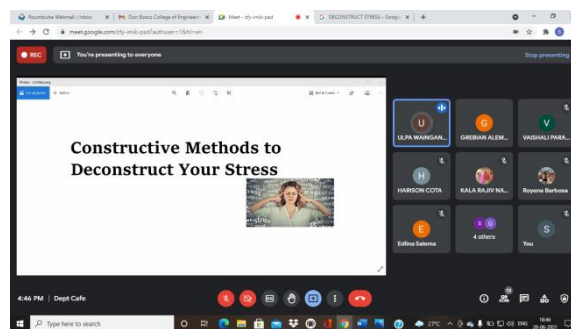
Many of us find the usage of its and it's confusing. These are homophones or words that have similar pronunciations but different meanings all together. Following this, she focused on some of the common errors that are made in spoken English giving a special mention to the usage of myself while introducing one's self. She then gave a list of redundant words that are used in daily language; words like end result, thought to myself, plan ahead, et al. Email writing is a common practice in the world of professionals, yet, there are many errors that one makes. Ms. Steefni enlightened the audience on the usage of sincerely and faithfully and the importance of a good subject line. It was a very entertaining and informative session and was attended by 10 faculties from the Department of Science and Humanities.



The Department of Science and Humanities had its ninth Departmental Café Sessions on the 12 April 2021. The resource person for the afternoon was Mr. Sanford Fritz Mascarenhas, Assistant Professor (Geology) of the Department of Science and Humanities. His session was on the topic 'Energy: Needs, Choices & Possibilities'. He introduced the topic by reminding us that for every activity that we do, we use energy. Sourcing his information from the U.S. Energy Information Administration, he showed us different graphs that enlightened us on the amount of energy consumption that has been done. Fossil fuels like Oil,

Natural Gas and coal are consumed in the highest quantity for the fulfillment of all human needs. BP Statistical Review of World Energy 2016 has calculated that coal might last only for another century and Natural gas and Oil will last for about 50 years only. He said that even though we have the options of solar, hydro, wind, tidal, geothermal and biomass, the space or the methods of acquiring these to the fullest are not yet available to us. So he offered a few possibilities. He offered that gas hydrates, polymetallic nodules and oil shales can also be possible options for sustainable energy consumption. He spoke in detail about each of these options and gave a geographical overview of places from where these energies can be harnessed. His session was followed by a healthy round of Q&A. This eloquent and informative session was attended by 12 faculties of the Department of Science and Humanities.

The Department of Science and Humanities had its tenth Departmental Café Sessions on the 28 June 2021. The resource person for the afternoon was Ms. Grebiana Alemao, Counsellor of Don Bosco College of Engineering. She began her session on **Constructive Methods to Deconstruct Your Stress** by conducting an activity. She then analysed the pictures drawn giving an overview of what one's personality type could be. A disclaimer was shared saying that these are not facts of life but more like an ice breaker session.



Ms. Alemao then spoke about Stress defining it as a reaction of our body to the changing situations of our lives. It can be internal like body image or external like family issues. When stress is not managed well, body reacts with different illnesses or bad lifestyle. To deal with these stressors, she focused mainly on cultivating hobbies. "Many of us fail to see the value of purposeful distraction or hobbies because we are tied up with many things that we do throughout the day", she said. She coaxed us all to be a little selfish and think about ourselves. She then interacted with the participants and requested them to share about their hobbies. Ms. Grebiana ended her session by saying, "A healthy mind will lead to a healthy surrounding".

Department R&D Sessions

Talk on PV array design & estimation



The R & D Cell (Department of Science & Humanities) of Don Bosco College of Engineering had the activity on 23 January 2021. The resource person was Prof. Harison Cota, Deputy HOD of Science and Humanities. In his session, Prof. Harison Cota spoke about the PV array model, the difference between the stand alone model and the grid connected (net metering) model and how the consumption of energy decides the number of PV modules required to be installed. He explained in detail how to calculate the cost and consumption of the power units and the long term benefits of the same.

Paper Review: Communication Skills for workplace success

The R & D Cell (Department of Science & Humanities) of Don Bosco College of Engineering had the activity on 2 March 2021. The resource person was Prof. Avila Naik Assistant Professor in Communication Skills. In her session, Prof. Avila Naik reviewed the Paper by Dr. Radhika Kapur where she emphasized the need to listen with ears, eyes, heart and mind. In the non-verbal communication the importance of body language, eye contact, the tone of the voice and gestures was highlighted. The following points were accentuated for effective communication Clarity and Conciseness, Friendliness, Confidence, Empathy, Open-mindedness, Respect, Feedback, Stronger Organizational culture, Reinforcement in employee participation, Formation of amiable working environment. She concluded by saying it is very difficult to put into practise the correct way of communicating; it starts in the mother's womb and ends in the grave.



Talk on Research Methodology



The R & D Cell (Department of Science & Humanities) of Don Bosco College of Engineering had the activity on 19 March 2021. The resource person was Prof. Jyoti Lewis, Assistant Professor in Communication skill. In her session, Prof. Jyoti Lewis spoke about the Research Methodology, the methods one would employ, analysis of documents and critical analysis of the findings. She emphasized that Research methods are

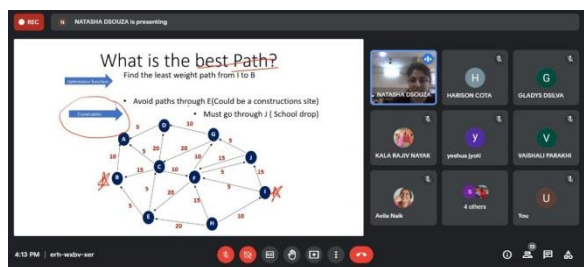
part of methodology and not the methodology. She also spoke about the Research Process which involves the series of actions/steps necessary to effectively carry out research. She concluded by giving example of the dissertation paper she presented during her M-Phil.

Talk on A study of Software Reliability

The R & D Cell (Department of Science & Humanities) of Don Bosco College of Engineering had the activity on 17 April 2021. The resource person was Prof. Vaishali Parakhi. In her session, Prof. Vaishali Parakhi started her lecture with the definition of reliability and how when reliability decreases wear out of the product increases, which was illustrated with the bath tub curve for hardware as well as software reliability. She also touched upon the component configurations in software reliability and how parallel systems are better than the series systems. She concluded by giving a difference between Hardware reliability and Software reliability. She also discussed the different types of software reliability models and their characteristics. Finally she explained the first widely used and well known model in software reliability was by Jelinski and Moranda.



A flavour of Graph Analytics and Virus Graphs in COVID – 19 Pandemic



The R & D Cell (Department of Science & Humanities) of Don Bosco College of Engineering had the activity on 14 June 2021. The resource person was Prof. Natasha DSouza e Jaques. In her session, Prof. Natasha D Souza e Jaques started with the definition of “Graph Analytics” and discussed the techniques for graph analytics that include path analytics, connectivity analytics, community analytics and centrality analytics. In view of

the paper titled ‘Virus Graph and COVID-19 Pandemic’ published in the book ‘Big Data Analytics and Artificial Intelligence Against COVID-19: Innovation Vision and Approach’ she discussed the definition of variable set, variable graphs and their types with respect to variable vertex sets and variable edge sets, and further elaborated the 4 types of virus graphs ;Virus graph I, II, III and IV and their growth types divided in 1-1, 1-P and 1-all growth types.

Talk on Composite materialsPMCs Scope to explore

The R & D Cell (Department of Science & Humanities) of Don Bosco College of Engineering had their knowledge sharing session on 27 July 2021. The Resource person was Prof. Gladys Da Silva. She started her session with the definition of Composites and explained the different components which include the matrix phase, the dispersed phase and the interface; she explained the contribution of each of the phases in the making of the composite. Further she touched upon the different types of matrix and dispersed phase materials used importantly the CMCs, PMCs and MMCs. She emphasized on PMCs and how different reinforcements can be used to develop new Composite materials using the right polymer matrix. Lastly, she concluded by listing out the applications of composite materials with special reference to Civil and Mechanical Engineering.



WORKSHOPS/SEMINARS/EXPERT TALKS ATTENDED

- Ms. Grebrian Alemao, Mrs. Maya Lin Noronha, Counsellors, attended ‘MentorED – National Counselors Meet 2021 organized by Ashoka University on February 26, 2021.

- Mrs. Maya Lin Noronha, Counsellor successfully completed an online non-credit course on 'Positive Psychology' authorized by The University of North Carolina at Chapel Hill offered through Coursera on April 6, 2021.
- Prof. Kala R. Nayak, HOD, successfully completed the AICTE-ISTE approved Orientation/Refresher programme on 'Innovation Teaching-Learning Methods' organized by Vidya Pratishthan's Kamalnayam Bajaj Institute of Engineering and Technology, Baramati, Pune from May 06, 2021 – May 12, 2021.
- Prof. Kala R. Nayak, HOD, Ms. Ulpa Waingankar, Assistant Professor, successfully completed the AICTE-ISTE approved Orientation/Refresher programme on 'Recent Challenges in Teaching Pedagogy' organized by Chouksey Engineering College, Bilaspur, Chhattisgarh from May 21, 2021 – May 27, 2021.
- Prof. Kala R. Nayak, HOD, attended a webinar on 'Principals and IQAC Coordinators Meet' organized by MasterSoft ERP Solutions Pvt. Ltd. Nagpur on May 28 & 29, 2021.
- Mrs. Maya Lin Noronha, Counsellor, successfully completed an online non-credit course on 'The Arts and Science of Relationships: Understanding Human Needs' authorized by University of Toronto offered through Coursera on June 14, 2021.
- Mrs. Maya Lin Noronha, Counsellor, participated in an online workshop on 'Values as Foundation of Human Behaviour' organized by Hema Foundation, on June 30, 2021.
- Ms. Ulpa Waingankar, Assistant Professor, participated in a 3-day National Training Program on 'Data Analytic Using Excel' organized by Department of Computer Science, Sardar Patel Mahavidyalaya, Chandrapur from July 1, 2021 to July 3, 2021.
- Prof. Kala R. Nayak successfully completed the Online Orientation Training Programme for Mentors organized by All India Council for Technical Education, New Delhi under the National Initiative for Technical Teachers Training from July 26-30, 2021.

WORKSHOPS/SEMINARS/EXPERT TALKS CONDUCTED

- Mrs. Avila Sumeet Naik, TPO, conducted a career talk powered by Internshala on 'How to Ace Your Summer Internship' on March 26, 2021.
- Mrs. Natasha D'Souza e Jaques, Assistant Professor, delivered an informative knowledge sharing session on 'A Flavour of Graph Analytics and Virus Graphs on Covid-19 Pandemic' organized by the Research and Development Cell, Department of Science and Humanities, DBCE, on June 12, 2021.
- Mrs. Gladys Da Silva, Assistant Professor, delivered a knowledge sharing session on 'Composite Materials... PMCs Scope to Explore' organized by the Research and Development Cell, Department of Science and Humanities, DBCE, on July 27, 2021.

PUBLICATIONS

- Prof. Kala R. Nayak, HOD, co-authored a paper on 'Statistical Inference on Stress-Strength Reliability of Multicomponent System Under Weibull-Pareto Type Distributions' published in the journal of Stochastic Modeling and Applications, Vol 25, No. 1 (January-June 2021) issue.

AWARDS

- Ms. Grebrian Alemao, Mrs. Maya Lin Noronha, Counsellors, were presented with a Life Membership by The National Advisory Body, Counsellors Council of India in recognition of continuing support and work in the area of Psychology Counselling and Guidance on April 19, 2021.

UPCOMING EVENTS

- Collage Competition to commemorate 60 years of Goa's Liberation on September 28, 2021
- FE Orientation
- SEEDS Inaugural
- DB3D-2021, International Conference on Big Data from October 19-21, 2021
- Sci-Minds webinar 'Innovations in Technology for Environment Sustainability' on February 26, 2022