

# Luminoso

Science and Humanities Department's Newsletter

Volume 05, Issue 01, July - December 2020

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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

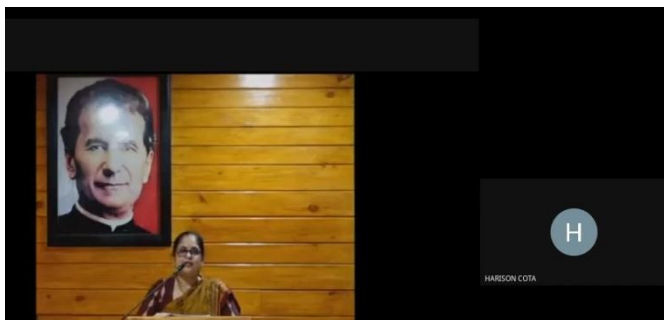
aptitude of the students in various branches of engineering.

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

### ORIENTATION FOR FIRST YEAR ENGINEERING STUDENTS

As mandated by the AICTE Model Curriculum, the Science & Humanities Department of Don Bosco College of Engineering conducted a one-week orientation program for the newly inducted first year engineering students. Due to pandemic, the Induction program was held in online mode through Google meet. The Google meets were hosted by Mrs. Natasha D'Souza, Mrs. Gladys D'Silva, Mrs. Vaishali Parakhi, Mr. Harison Cota, Ms. Steefni Cruz, Ms. Ulpa Waingankar and Mr. Sanford Mascarenhas, faculty from the Science & Humanities Department. The Induction program was co-ordinated by Institute Induction Program Cell (IIPC) members Mrs. Gladys D'Silva & Mr. Harison Cota. The schedule was meticulously prepared keeping in mind the norms and recommendations set in the model curriculum.



**Day 1 (16th November 2020):** In the morning session the students were addressed by the Director, Fr. Kinley D'Cruz and Principal Dr. Neena Panandikar. The director briefed them about the inception of the college and gave general instructions on discipline and overall behavior in the institution. The principal gave a general overview of the various activities and achievements of the college. Prof. Kala R. Nayak, Registrar & HOD of Science & Humanities,

introduced the FE faculty to the students and further explained about the Scheme, Grading System and Scholarships which the students can avail of. In the afternoon session, Fr. Ralin De Souza, Administrator, DBCE, gave a session on the Don Bosco's Spirit, wherein he spoke about the Don Bosco's preventive system of education.

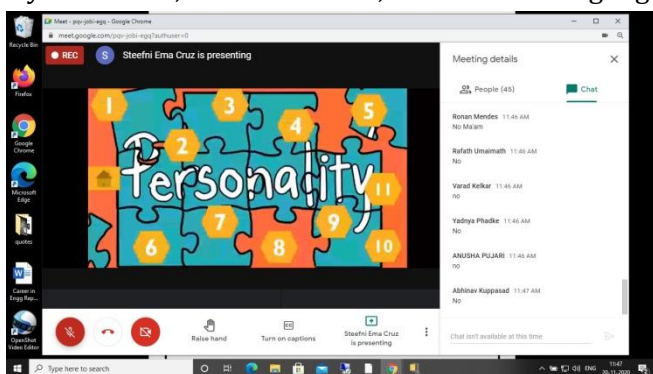
**Day 2 (17th November 2020):** Day 2 began with meditation & breathing exercises conducted by Mr. Vishvanath Swar, certified trained Yoga teacher. This was followed by a workshop on Communication skills conducted by Ms. Jyoti Lewis and Ms. Steefni Cruz. The workshop focused on Group Discussion and Letter writing. In the afternoon session, the HODs of the different departments interacted with their respective branch students and enlightened them about the vision, mission of department, activities of the department and NBA accreditation process.

**Day 3 (18th November 2020):** On Day 3 Ms. Nirmala Rebello, Counselling Psychologist, gave a talk on "Facing challenges with a smile" in which she highlighted the benefits of positive thinking. Mr. Roland

D'Cruz, Librarian along with Assistant Librarian, Vanessa Fernandes enlightened the students about the college library system and gave a demo of the library portal. In the afternoon the students were given an insight into all the activities through sessions on Cultural activities, Sports, NSS, E-cell, IEEE, SEEDS, Satellite Club, FSAI, NPTEL and the respective department Associations. Mr. Rahul Naik, Co-founder, Internship Station interacted with Computer Engineering students and shared his startup journey through his session "Internship Station: A journey from project to Start up" Mr. Kedar Acharya, Executive, Schindler India Pvt. Ltd and DBCE Alumnus spoke with the Mechanical Engineering students on "My Engineering Journey" Ms. Flavia Leitao, Assistant Professor at Department of ETC, DBCE, conducted a workshop for the ETC engineering students on "Introduction to PCB design".

**Day 4 (19th November 2020):** Ms. Grebrian Alemao, Counsellor, explained to the students the mentoring system while Mrs. Maya Lin Noronha, Counsellor gave a session on Time Management. This was followed by a session on FiiRE by Mr. Venugopal TR, Incubation Manager. He spoke to the students about the incubation process and the facilities provided at FiiRE. Later, a few senior students and Alumni shared their experiences of the college. Mr. Milind Anvekar, VP, Open Destinations gave a session to the Computer Engineering students on "Education and Career Ecosystem - Your Success Mantras" Dr. Suresh Mane, Principal, GSIT Karwar gave a session to the Mechanical Engineering students on "How to go about studies in an Engineering Institution"

**Day 5 (20th November 2020):** The day began with a talk on "Being positive during COVID" by Dr. Dayanand Rao, Medical Officer, GMC. Dr. Rao highlighted the precautions to be taken during COVID and



also brought out the positive side of the pandemic. This was followed by fun and talent search activities conducted by Mrs. Maya Lin Noronha, Ms. Grebrian Alemao, Ms. Steefni Cruz, Mr. Sanford Mascarenhas & Ms. Ulpa Waingankar. Finally the students were given a virtual tour of the college campus through a short video. Mr. Gajanan Nagarsekar, MD, Kallows Engineering India interacted with the ETC engineering students and explained "How to use Engineering curriculum in today's Industry".

Dr. Neena Panandikar, Principal, DBCE, gave a session to the Civil Engineering students on "Innovation in Civil Engineering". The above two sessions were conducted in association with the Institute Innovation Cell (IIC) and FiiRE. Ms. Juvairiya Shaikh, Maintenance Trainee, Dabolim Airport, Goa and DBCE Alumna, spoke to the Civil Engineering students about her professional journey.

Apart from the above, sessions were also conducted for the students by the DBCE faculty introducing them to the various first semester subjects.

## **ORIENTATION FOR PARENTS OF FIRST YEAR ENGINEERING STUDENTS**

An orientation programme was conducted for the parents of the FE students through Google meet. It began with an address by the Director Fr. Kinley D'Cruz, wherein he briefly explained the history of Don Bosco and the various Don Bosco institutes. Fr. Kinley also told the parents about the rules & discipline expected from the students in the institute. Next, Dr. Neena Panandikar, Principal, gave an overview of the various activities being held at Don Bosco College of Engineering and highlighted the progress of the college over the recent years.

Prof. Kala R. Nayak, Registrar, then introduced the class teachers and the faculty who will be teaching the FE students. She also informed the parents about the FE scheme of instructions of the 1st & 2nd semester and the grading system as per the new AICTE model curriculum. Further, Dr. Nayak briefed the parents about the various scholarships which the students can avail of.

This was followed by the heads of the Science & Humanities, Mechanical, Civil, ETC and Computer Engineering Departments highlighting the activities and achievements of their respective departments. Mrs. Avila S. Naik, TPO, gave a report of the placement drives and the status of students placed over the recent years.

The orientation concluded with a vote of thanks by Ms. Jyoti Lewis. The parents were then given a virtual tour of the college campus through a short video.



## **STAIRWAY TOWARDS EMPOWERING ENGINEERING DREAMS TO SUCCESS (SEEDS)**

The SEEDS 2019-2020 Valedictory function was a very unique experience held on December 5, 2020. It was held online for the first time, using the Google meet platform, with students from different departments joining in through their laptops.

Ms. Ulpa Waingankar, faculty and SEEDS coordinator began the function by welcoming the dignitaries. She also thanked the HOD, Prof. Kala R. Nayak, the staff members of Science and Humanities and the students for all their enthusiasm during the 7th was followed by the HOD-thanking and appreciating students. She also shared students and wished them Waingankar then invited the Panandikar to say a few Principal congratulated the events and also the Science Prof. Kala Nayak and the Ulpa Waingankar and Mrs. organizing this event and for the students for their future. Kinley D'Cruz, in his address committee and Coordinators for their time and energy. He also wished them success and positivity to fulfill their future endeavors.



the assistance, cooperation and SEEDS academic year. This Prof. Kala R. Nayak, the coordinators and words of wisdom with the all the very best. Ms. Ulpa Principal -Dr. Neena words. In her address the winners of the various and Humanities HOD – SEEDS coordinators Ms. Maya Lin Noronha for its success. She also wished The Director- Rev. Fr. congratulated the SEEDS

The Chairperson Ms. Ritika Ghanti read the report of Seeds 2019-20. She then presented a video, showing clips of the various events held. Ms. Steefni Cruz, assistant professor, read the names of the winners for the various events held and presented e-Certificates to them Prof. Kala R. Nayak announced the winners for SEEDS which was the Computer Class. The class C.R Mr. Reeve proposed a thank you speech for receiving the SEEDS championship trophy.

All the members of the seeds committee shared their experience and gave valuable feedback. The coordinator Mrs. Maya Lin Noronha also thanked and appreciated the SEEDS council, her colleagues and HOD and students, too. Secretary of SEEDS, Jolton Fernandes proposed the vote of thanks.

## ACHIEVEMENTS & FELICITATION

### TECHNICAL

- Mr. Rutvik Vaze from FE Computer Engineering has been selected as the Campus Ambassador of Internshala for Don Bosco College of Engineering, Goa.
- Mr. Ronan Chris Mendes qualified for an Online Foundation Level Programme in Data Science offered by Indian Institute of Technology, Madras.

## PROFESSIONAL CHAPTERS

Don Bosco College of Engineering conducted NPTEL awareness program for the first year engineering students. The awareness program was held in online mode through Google meet. The Google meet and was coordinated by Mrs. Vaishali Parakhi (NPTEL Coordinator of Science and Humanities Department). Mrs. Vidhya, NPTEL SPOC, gave an overview of the registration and enrolment to NPTEL Online Certification Courses using SWAYAM App and portal. She also highlighted the benefits of taking NPTEL courses. Students were given an idea regarding NPTEL Certificates, fee waiver benefit for SC, ST and low-income students. The importance of Domain courses, mentor was also discussed. NPTEL course Registration & Exam enrolment form video was shared with the students.

## FACULTY INITIATIVES

### DEPARTMENTAL CAFÉ



The department had its first café session for this semester via online mode through Google Meet. The meet was hosted by Ms. Steefni Ema Cruz, Co-ordinator of the Departmental Café at 3.30pm. She then introduced the Resource person for the evening, Prof. Kala R. Nayak. Prof. Kala began her session by giving the basics of Probability. She said that probability is the formal study of uncertainty in day-to-day life. She said that there are different approaches to probability. For most of human

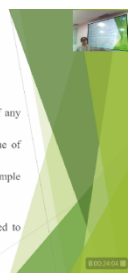
history, probability, the formal study of the laws of chance, has been used for only one thing: gambling. She informed that probability is also used in decision making in Business studies, Game Theory, Quality Control in Industry, Study of Genetics and also telecom Engineers to calculate density of telephone traffic, among many other usages. An event, she said, is a combination of likely outcomes. Some of the events are mutually exclusive events, independent events, exhaustive events, favorable events and equally likely

Contd...

- ▶ **Event:** An outcome or combination of outcomes.  $A \cup B$
- ▶ **Sure Event, Impossible Event**
- ▶ **Mutually Exclusive Events:** Events are Mutually Exclusive if happening of any one of them excludes the happening of all others in the same experiment.
- ▶ **Independent events:** Events are Independent events if happening of any one of them is not affected by and does not affect the happening of any one of others.
- ▶ **Exhaustive Events:** their union must cover all the events within the entire sample space.
- ▶ **Favourable event:** Outcomes which result in the happening of an event.
- ▶ **Equally likely events:** Events are equally likely if none of them is expected to occur in preference to other.

$$A = \{2, 4, 5\} \quad B = \{1, 3\}$$

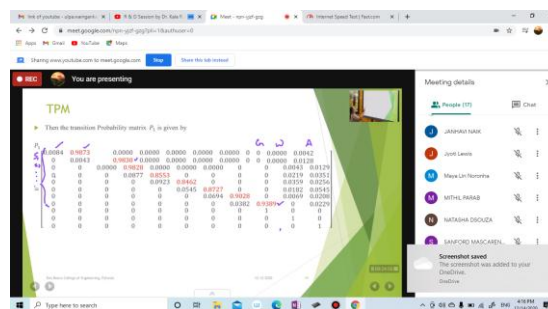
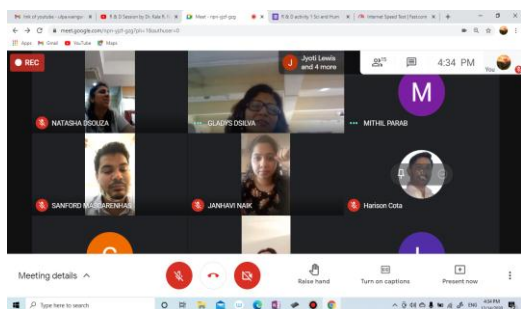
$$C = \{6\}$$



events. To further explain the concepts, Prof. Kala R. Nayak solved many probability questions and even gave some to be solved by the participants on their own. On a whole, it was a fruitful session.

## DEPARTMENT R & D SESSIONS

The R & D Cell (Department of Science & Humanities) of Don Bosco College of Engineering had its first activity on December 14, 2020 from 3.30 pm to 4.30 pm. The resource person was Prof. Kala R. Nayak, HOD of Science and Humanities and Registrar of the college. She spoke about the model built by a reducible discrete Markov chain with eight transient states and three absorbing states which estimates the expected time the student spends in a particular study program. She concluded the session by saying that the model enables the prediction of future probability of student who repeat specific semester, withdraw or graduate.



## WORKSHOPS/SEMINARS/EXPERT TALKS ATTENDED

- Mrs. Gladys Da Silva participated in a webinar on 'Harnessing the Power of Body Language' organized by the Department of Mechanical Engineering, Don Bosco Institute of Technology on July 01, 2020.
- Mrs. Natasha D'Souza e Jaques participated in a 5-day International Conference on Recent Trends in Mathematics and its Applications to Graphs, Networks and Petri Nets (ICRTMA-GPN-2020) organized by School of Computational and Integrative Sciences, Jawaharlal Nehru University, New Delhi on July 20-24, 2020.
- Ms. Jyoti Lewis completed an online non-credit course 'Blended Language Learning: Design and Practice for Teachers' offered by University of Colorado, Boulder through Coursera on July 21, 2020.
- Ms. Jyoti Lewis completed an online non-credit course 'Teach English Now! Teaching Language Online' offered by Arizona State University through Coursera on July 24, 2020.
- Ms. Grebiana Alemao completed an Online Certificate course on 'Soft Skills' organized by Department of English, Pioneer Kumaraswamy College, Nagercoil, Tamil Nadu from July 27 – August 04, 2020.
- Mrs. Gladys Da Silva completed an online non-credit course on 'Introduction to Psychology' offered by Yale University through Coursera on July 27, 2020.
- Mrs. Gladys Da Silva completed an online non-credit course on 'Chemicals and Health' offered by Johns Hopkins University through Coursera on July 27, 2020.
- Ms. Ulpa Waingankar completed the short term training programme on 'Training of Trainers (Under TCL Project)' organized by National Institute of Technical Teachers' Training and Research, Bhopal from August 03 – August 07, 2020.
- Ms. Grebiana Alemao participated in a webinar on 'Mental Wellbeing of the First Responders of Covid-19' organized by National Institute of Disaster Management (NIDM) on August 05, 2020.
- Ms. Ulpa Waingankar attended a 2-day Online Workshop on 'Online Teaching & e-Content Development' organized by Manipal University, Jaipur on August 10 and August 11, 2020.

- Prof. Kala R. Nayak participated in a National Level Webinar on 'Statistical Inference and Related Areas (SIARA)' organized by Department of Statistics, Bangalore University, Bengaluru from August 12 – August 14, 2020.
- Prof. Kala R. Nayak completed an Online FDP on 'Discreet Mathematics, Graph Theory and Its Applications' organized by Department of Applied Sciences & Humanities in association with IQAC, Universal Engineering College, Vallivattom, Thrissur from August 17 – August 21, 2020.
- Ms. Grebrian Alemao participated in a webinar on 'Disaster and Human Trafficking – Dimensions, Challenges, Responses' organized by National Institute of Disaster Management (NIDM) on August 20, 2020.
- Mrs. Vaishali Parakhi participated in a 5-day FDP on 'Applications of Optimization Techniques in Science and Engineering Research' organized by Rajasthan Technical University, Kota and B.K. Birla Institute of Engineering and Technology, Pilani (Rajasthan) held from August 23-27, 2020.
- Prof. Kala R. Nayak participated in a 'Four Day Faculty Development Programme on Application of Mathematics in Engineering' (Series - IV) organized by Department of Mathematics, KPRIET from August 25 – August 28, 2020.
- Ms. Jyoti Lewis completed an online non-credit course 'Speak English, Professionally: In Person, Online & on the Phone' offered by Georgia Institute of Technology through Coursera on August 31, 2020.
- Ms. Jyoti Lewis attended a webinar for faculty development program on 'Use of LMS, Virtual Teaching and OBE Software for Engineering Colleges' organized by vmedulife Software Services on September 03, 2020.
- Mr. Sanford Fritz Mascarenhas participated in a 3 days online short term training program on "Application of MATLAB in Mathematics, Science and Engineering" organized by Department of Electrical Engineering, St. Vincent Pallotti College of Engineering & Technology, Nagpur from September 15 – September 17, 2020.
- Mrs. Natasha D'Souza e Jaques, Mr. Sanford Fritz Mascarenhas, Ms. Steefni Ema Cruz and Mrs. Vaishali Parakhi participated in an International Conference on Graph Labeling and Applications ICGLA-2020 organized Online by Department of Mathematics, Goa University on September 17-19, 2020.
- Mr. Harison Cota attended an Online Workshop on 'Reitveld Refinement Method' organized by UGC-DAE Consortium for Scientific Research, Mumbai Centre from September 22 – September 24, 2020.
- Mr. Harison Cota successfully completed the 12 weeks NPTEL Online Certificate Course on 'Solar Energy Engineering and Technology' with a consolidated score of 82% offered by IIT, Guwahati from September – December 2020.
- Mrs. Maya Lin Noronha successfully completed the 8 weeks NPTEL Online Certificate Course on 'Educational Leadership' with a consolidated score of 72% offered by IIT, Kharagpur from September – November 2020.
- Mr. Harison Cota participated in an Online FDP on 'Energy Engineering' organized by AICTE at Vishakarma Institute of Technology from October 5 to October 9, 2020.
- Ms. Jyoti Lewis attended a webinar on 'National Education Policy 2020 – Strategies and Framework for Autonomy' organized by National Institute of Technical Teachers' Training and Research, Bhopal on October 15, 2020.
- Ms. Jyoti Lewis attended a webinar on 'NDLI User Awareness' organized by National Digital Library of India, in collaboration with VVM's Shree Damodar College of Commerce and Economics, Goa on October 19, 2020.
- Prof. Kala R. Nayak completed an online non-credit course 'Matrix Algebra for Engineers' offered by The Hong Kong University of Science and Technology through Coursera on November 11, 2020.

- Ms. Jyoti Lewis completed an online non-credit course ‘Mindshift: Break through Obstacles to Learning and Discover Your Hidden Potential’ offered by McMaster University through Coursera on November 13, 2020.
- Ms. Jyoti Lewis participated in an FDP on ‘Innovation, Creativity & Startups’ conducted by Goa State Innovation Council on November 19, 20, 26 and 27, 2020.
- Ms. Jyoti Lewis completed an online non-credit course ‘Improve your English Communication Skills’ offered by Georgia Institute of Technology through Coursera on December 1, 2020.
- Prof. Kala R. Nayak completed a One Week STTP on ‘Research Methodology and Computational Techniques (RMCT-2020) Phase -1’ organized by Department of Information Technology, Yeshwantrao Chavan College of Engineering, Nagpur from December 7 – 12, 2020.
- Prof. Kala R. Nayak participated in an Online Webinar on ‘Mathematical Modelling & Number Theory’ organized by R&D Cell, Department of Science and Humanities, DBCE on December 22, 2020.
- Mr. Harison Cota was awarded the Nation Builder Award 2020 on the occasion of Teachers’ Day by the Rotary India Literacy Mission.

### **Paper Presentations/Publications**

- Mrs. Natasha D’souza e Jaques gave a session on ‘Application of Graph Theory in the Real World’ for a One day webinar on Graph Theory and its Application – An Overview organized by The Department of Computer Engineering, Government Polytechnic, Daman on July 15, 2020.
- Ms. Jyoti Lewis participated and presented a paper on English – the lingua franca: A Launching Pad for Empowerment and Employability in the First International Conference on “Continuity, Consistency and Innovation in Applied Sciences and Humanities” organized by Department of Science and Humanities, St. Martin’s Engineering College, Dhulapally, Secunderabad, T.S., India on August 13 and August 14, 2020.
- Ms. Jyoti Lewis published a paper on Education for Life: Instilling Values on an International journal named Seminar Compedium 2020 with ISBN No. 978-93-5406-616-0.
- Mr. Sanford Fritz Mascarenhas co-published a paper on ‘River Water Resource Management and Flood Control Using GIS’ in the International book ‘Recent Trends in Civil Engineering’ published by Springer LNCE, volume 105, ISBN 978-981-15-8293-6\_32 – eBook, ISBN 978-981-15-8292-9.
- Prof. Kala R. Nayak presented a paper on ‘An Undergraduate Student Flow Model’ for the R&D Knowledge Sharing Sessions organized by R&D Cell of the Department of Science and Humanities at DBCE on December 14, 2020.

## **UPCOMING EVENTS**

- SEEDS Inaugural Function – March 27, 2021
- DB3D 2021 Don Bosco - Binghamton Big Data Conference from June 21-23, 2021