



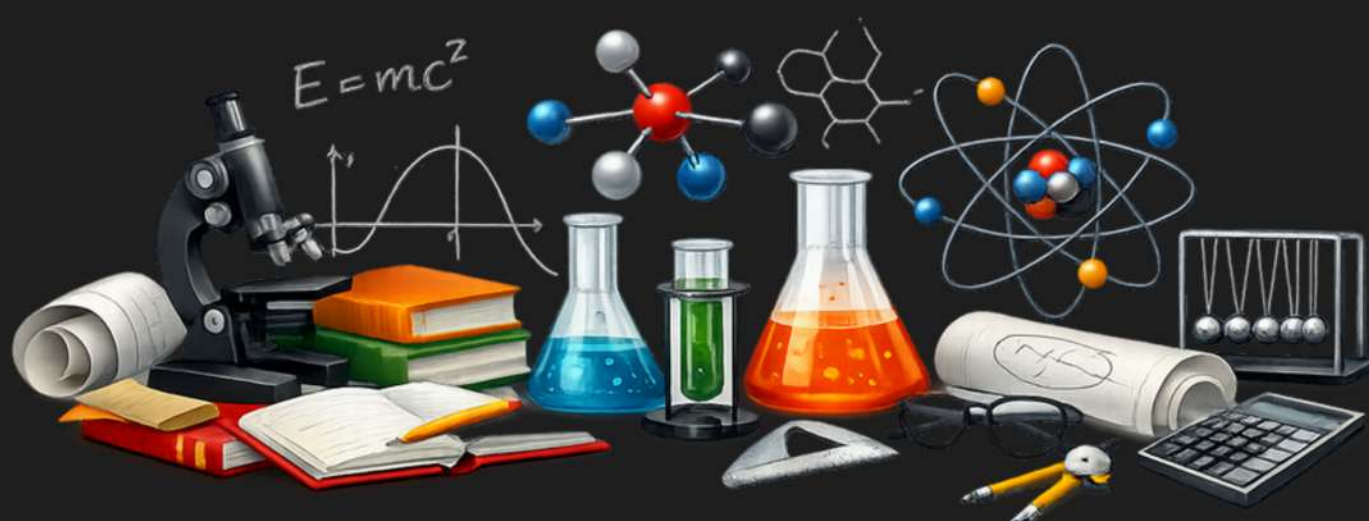
Institute of Technology (BIT)

📍 Near Lands End, Innoli, Mangalore – 574199

DEPARTMENT OF BASIC SCIENCE

INNOVISION

2026



A Newsletter showcasing the academic achievements, events, industrial visits, and milestones of the Department of Basic Science.

Institute Vision:

To be a premier institution in engineering education and research, fostering innovation, societal responsibility, and ethical leadership for a sustainable future.

Institute Mission:

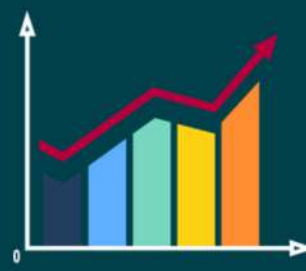
- Promote innovation and cutting-edge research to develop sustainable engineering solutions for real-world and global challenges.
- Cultivate ethical leadership and technical excellence among students to become responsible and leading engineering professionals.
- Encourage active societal engagement and industry collaboration to drive inclusive growth and environmental responsibility.



Institute Vision and Mission



Events and Workshops



Achievements



Industrial Exposure

Message from HoD

Dear Students, Faculty Members, Alumni, Industry Partners, and Readers,

It gives me immense pleasure to present this edition of the Department of Basic Science Newsletter for the academic year 2025–26.

The Department of Basic Science is committed to providing a strong foundation in **Mathematics, Physics, Chemistry, and Humanities**, empowering students with the knowledge and skills required to excel in their academic and professional journeys.



During this academic year, the department successfully organized a variety of student-centric programs under the Induction Programme, aimed at enhancing technical competence, communication skills, and overall personality development. These initiatives also helped students understand and embrace Universal Human Values, fostering ethical and responsible citizenship.

Our students have actively participated in co-curricular activities, innovation-driven initiatives, and lifelong learning opportunities, reflecting their enthusiasm and commitment to excellence. At the same time, our faculty members have continuously pursued academic and professional growth by attending Faculty Development Programmes (FDPs), publishing research papers in reputed international journals, and contributing significantly to the advancement of knowledge.

The achievements showcased in this newsletter are a testament to the dedication, hard work, and collaborative spirit of our faculty and students.

I extend my heartfelt appreciation to all the faculty members, students, and the Newsletter Committee for their sincere efforts and valuable contributions in making this publication possible. I hope this newsletter not only highlights our accomplishments but also inspires our readers and strengthens our commitment to excellence in teaching. I wish everyone continued success in all their future endeavors.

Dr. Anjum Khan
Head of the Department
Department of Basic Science
Bearys Institute of Technology, Mangaluru

Message from faculty editor

Dear Readers,

It gives me immense pleasure to present INNOVISION 2025–2026, the newsletter of the Department of Basic Science, Bearys Institute of Technology.

This newsletter reflects the enthusiasm, dedication, and activities of our department throughout the academic year. It brings together memorable moments from the Induction Programme, workshops, industrial visits, student activities, departmental events, and other academic initiatives that have enriched the learning experience of our students.

Every milestone, whether big or small, is a step towards growth and excellence. Through this newsletter, we celebrate the collective efforts and achievements of our students and faculty while preserving the memorable moments of our department.

I sincerely thank all the faculty members, students, and contributors for their valuable support and participation. My heartfelt appreciation also goes to everyone who contributed to making this newsletter a reality.

I hope this edition keeps you informed, inspires you to learn, and reflects the vibrant journey of the Department of Basic Science throughout the year.

Prof. Tasmiya Tahmeen

Faculty– Department of Basic Science

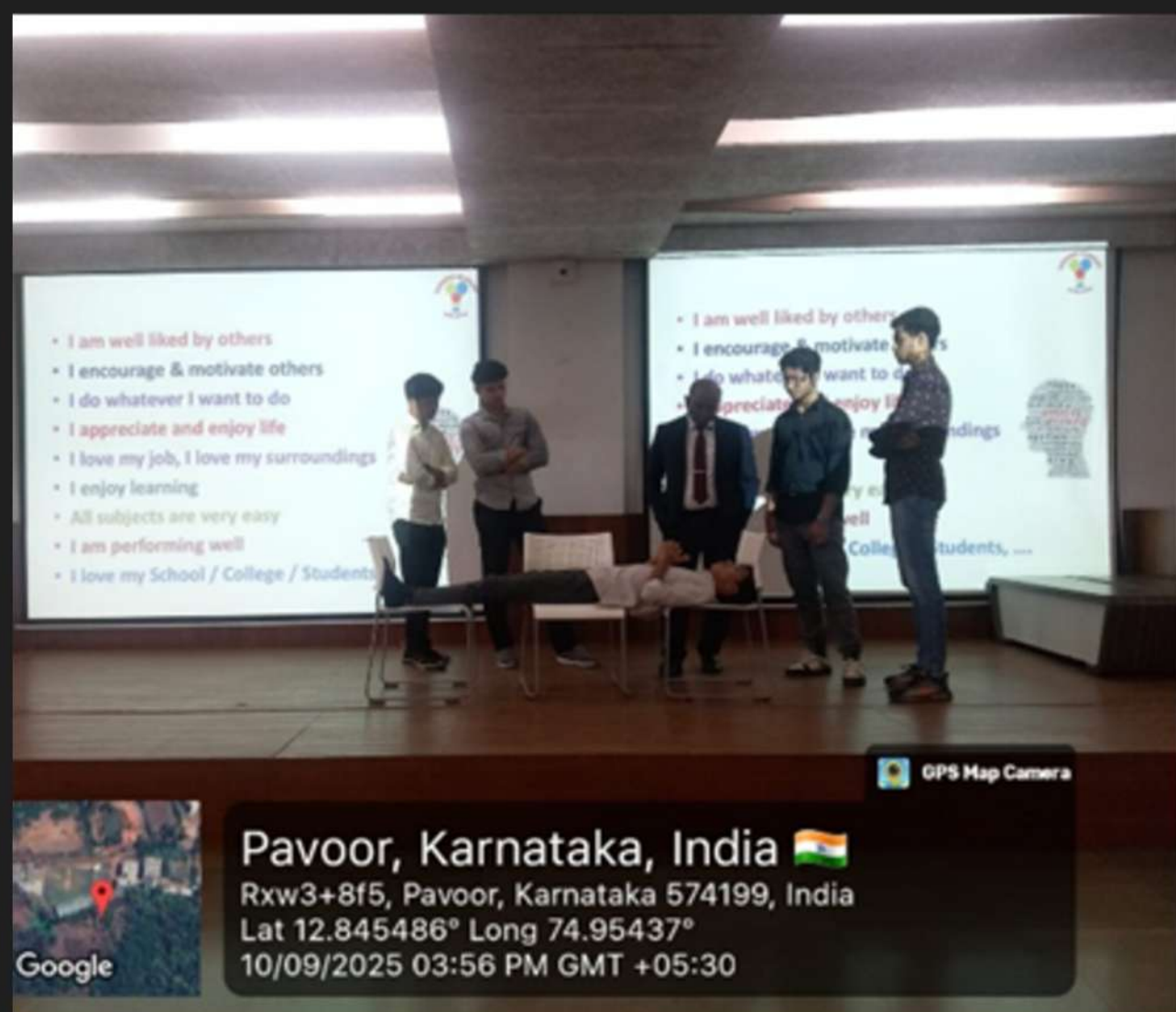
Induction Programme

The Student Induction Programme 2025–26 featured a series of insightful sessions by distinguished resource persons, equipping students with the knowledge and skills to begin their engineering journey with confidence. The programme introduced students to **VTU & BIT** regulations, encouraged them to identify their aspirations and set meaningful goals, and emphasized the importance of **smart habits, discipline, communication skills**, and **Universal human values**. Sessions on **Outcome-Based Education (OBE)**, **scholarship opportunities, placement support**, and **MOOC/NPTEL courses** familiarized students with academic expectations and learning resources. The programme concluded with inspiring talks on creativity, innovation, and lifelong learning, motivating students to develop a holistic approach towards their academic and professional growth.

★ Featured Session

Mind Mapping: Unlocking Creativity Through Visual Thinking

As part of the Student Induction Programme 2025–26, the Department of Basic Science organized an inspiring session on "Mind Mapping", delivered by Dr. Surfraz Hashim, Principal of P.A. Degree College. The session introduced students to the concept of mind mapping as an effective tool for organizing ideas, enhancing creativity, and improving memory and learning. Dr. Hashim explained how visual thinking helps simplify complex information and encourages structured problem-solving. He also demonstrated how mind maps can be used for brainstorming, note-taking, project planning, and exam preparation.



A highlight of the session was the hands-on activity "My Engineering Journey," where students created colorful mind maps reflecting their aspirations and goals. The interactive exercise sparked enthusiasm and creativity, while Dr. Hashim provided valuable feedback to help students strengthen their visual thinking skills. The session concluded on an inspiring note, encouraging students to embrace innovative learning techniques and develop a creative approach to their engineering education.

Mindfulness: Cultivating Focus and Well-being



As part of the Student Induction Programme 2025–26, an enriching session on "Mindfulness" was conducted by Mr. Ankith S. Kumar, Counsellor, NMAM Institute of Technology, Karkala. The session introduced students to mindfulness as a powerful practice for enhancing focus, managing stress, and maintaining emotional well-being.

Through practical examples and guided activities, Mr. Ankith explained how mindfulness helps improve concentration, emotional resilience, and decision-making.

Students participated in breathing and grounding exercises, learning simple techniques to stay calm, present, and focused in their daily lives. He encouraged them to incorporate mindfulness into their academic routine to develop self-awareness, manage challenges effectively, and maintain a healthy balance between studies and personal life.

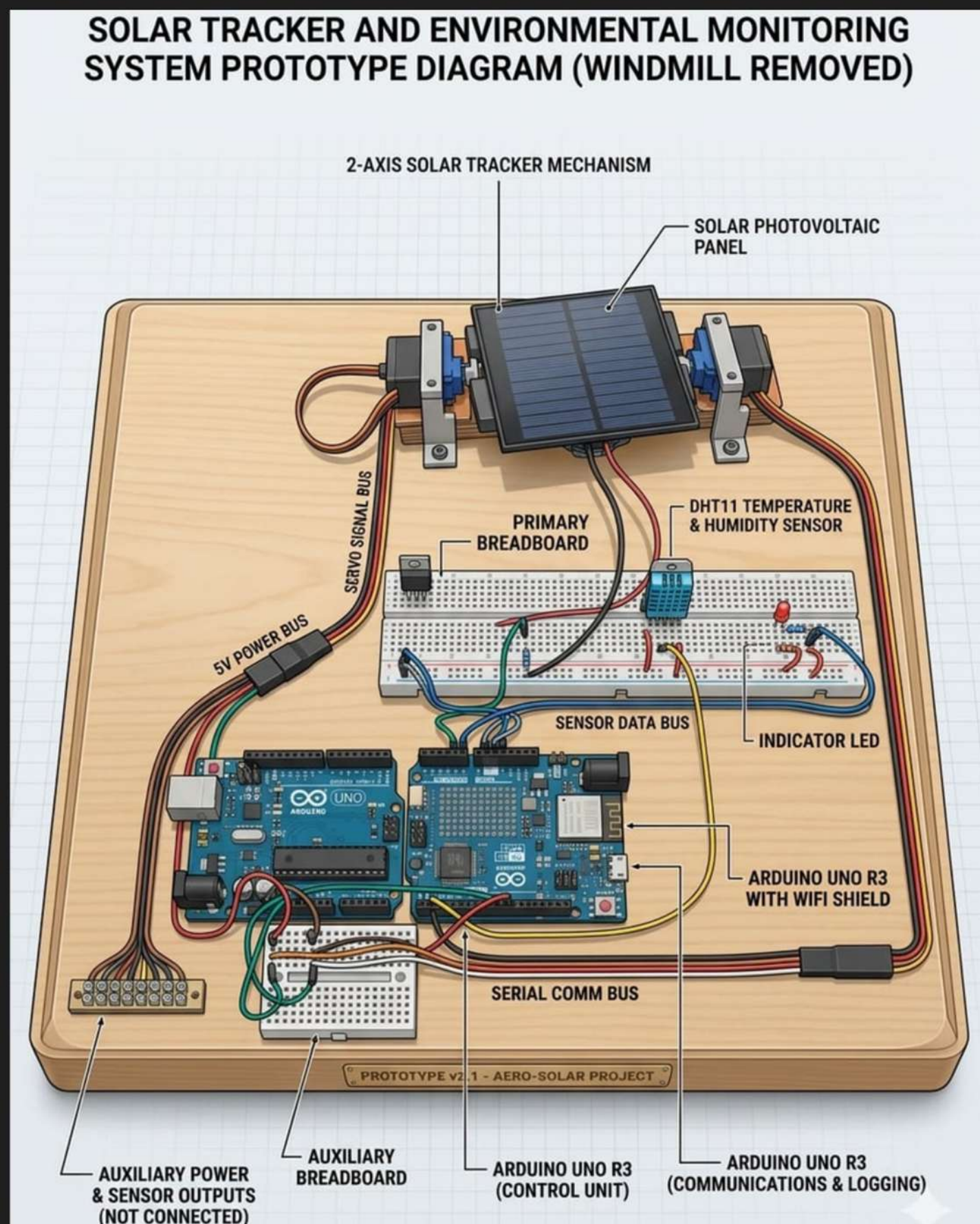
The session concluded on a reflective note, inspiring students to recognize that academic excellence and mental well-being go hand in hand, and equipping them with valuable practices for a successful engineering journey.



Achievements

Innovative Project Showcase & Sports Achievements

AERO-SOLAR vX.1: Intelligent Dual-Axis Solar Tracking System



The Department proudly showcases AERO-SOLAR vX.1, an innovative student project that demonstrates the application of automation and renewable energy technologies. The prototype features a dual-axis solar tracking system that automatically aligns a solar panel with the direction of maximum sunlight using LDR sensors, SG90 servo motors, and an Arduino Uno R4 WiFi. It also monitors environmental conditions through a DHT11 temperature and humidity sensor. Unlike conventional fixed solar panels, the system continuously adjusts its position throughout the day, maximizing solar energy capture and improving overall efficiency. Developed as a cost-effective and intelligent solution, the project integrates embedded systems, IoT, and automation to promote sustainable energy practices.

The project reflects the students' creativity, technical skills, and commitment to developing innovative solutions for real-world challenges. It also lays the foundation for future advancements in AI-enabled solar tracking and smart renewable energy systems.

Project: AERO-SOLAR vX.1

Category: Renewable Energy & Embedded Systems

Technologies Used: Arduino Uno R4 WiFi, LDR Sensors, SG90 Servo Motors, DHT11 Sensor, IoT & Automation.



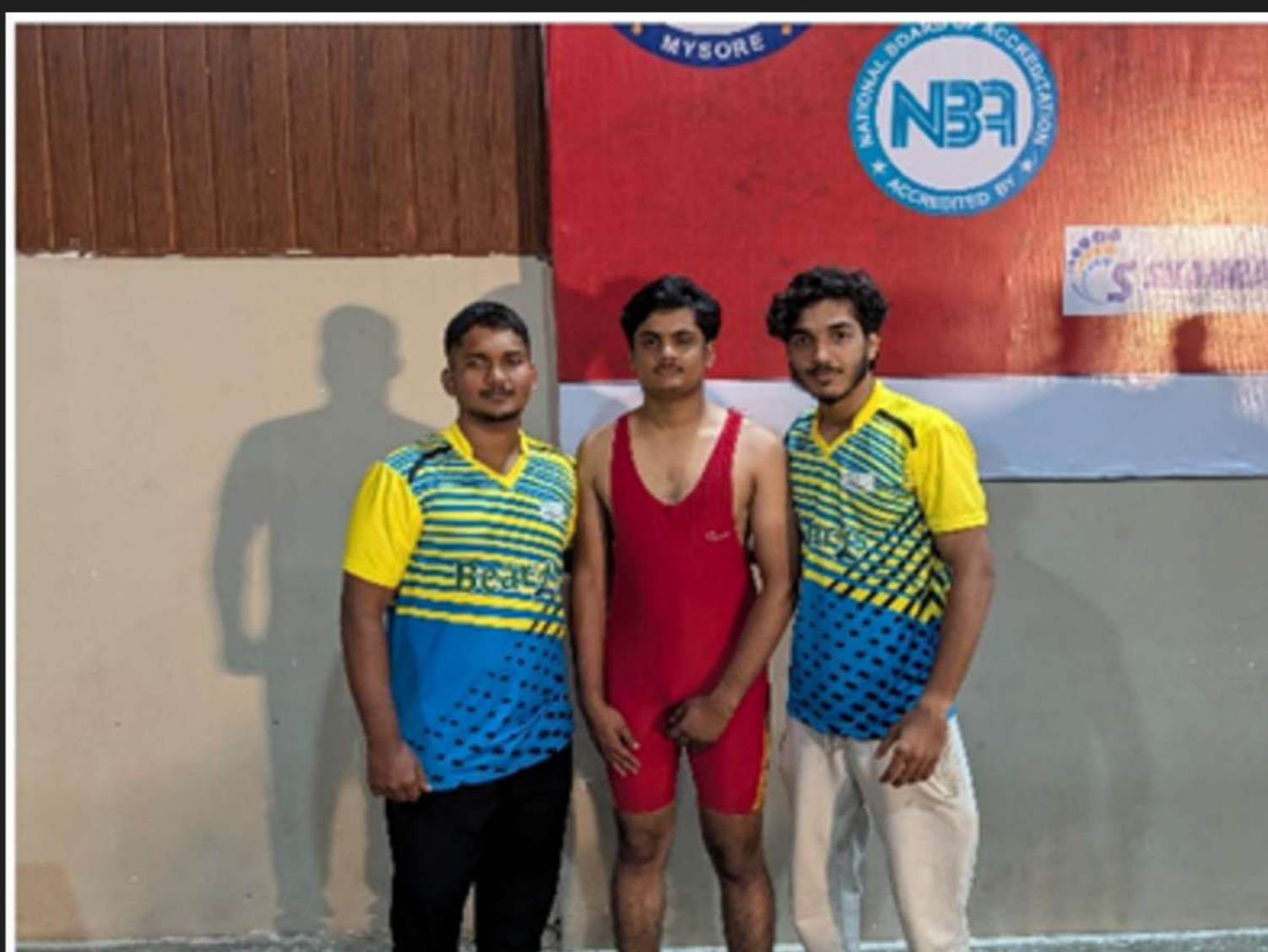
Sports Achievement

Silver Medal at VTU State Level Wrestling Championship

The Department proudly congratulates S. Abdulla Sahaad, a First-Year Electronics and Communication Engineering (ECE) student, for his outstanding achievement at the VTU State Level Wrestling & Judo Competition, held from 17–19 October 2025 at Maharaja Institute of Technology, Mysuru.



Competing in the 79 kg Wrestling category, he showcased exceptional strength, determination, and sportsmanship to secure the Silver Medal, bringing laurels to Bearys Institute of Technology. His remarkable accomplishment reflects the spirit of dedication, perseverance, and excellence, inspiring fellow students to pursue success in both academics and sports.



Faculty Achievements

The faculty members of the Department of Basic Science continued to make significant academic contributions through research and scholarly activities.

The Department is proud to highlight the research contributions of Dr. Anjum Khan, whose scholarly work was published in reputed international journals. His research on **Machine Learning Applications in sustainable construction materials and Graph Theory** was published in the IIUM Engineering Journal (2025) and the IAENG International Journal of Applied Mathematics (2026), reflecting the department's commitment to quality research and academic excellence

Dr. Anjum Khan actively participated in professional development initiatives to enhance teaching and academic practices. He attended the three-day Faculty Development Programme on "Advanced Pedagogy and Professional Growth" held at Bearys Institute of Technology (21–23 January 2025) and participated in the 28th ISTE State Level Faculty Convention held at J.N.N. College of Engineering, Shivamogga, on 23 May 2026.

We are proud to share that Dr. Anjum Khan, Head of the Department of Basic Science, has been appointed as a Member of the Board of Examiners (BoE), Visvesvaraya Technological University (VTU), for the academic year 2025–26. This prestigious appointment reflects his academic expertise and valuable contribution to maintaining the quality and standards of engineering education

Dr. Joyson Miranda, along with Dr. Vilas M. Kadrolkar, presented the research paper "Bridging the Gap: Linking ASHA Contributions to District-Level Variations in Maternal Health and SDG Progress in Karnataka" at the 10th International Conference on Economic Growth and Sustainable Development (2025).

Dr. Joyson Miranda was also honored with the Best Paper Award for presenting the paper "AI in Academic Writing: Transforming Research Efficiency and Quality" at the 6th National Conference on Management of Modern Libraries (NACML–2025), organized by Manipal Academy of Higher Education, Manipal.

Learning Beyond the Classroom: Industrial Exposure ★

Industrial Visit to Udupi Power Corporation Limited (UPCL), Udupi

To provide students with practical exposure to industrial operations and real-world engineering practices, the Department of Basic Science organized an industrial visit to Udupi Power Corporation Limited (UPCL), Udupi, on 14 May 2026. The visit offered students a valuable opportunity to explore one of Karnataka's major thermal power plants and gain firsthand knowledge of modern power generation technologies.

Students were introduced to the complete process of thermal power generation, from coal handling and boiler operations to steam turbines, generators, and power transmission. They also observed the advanced automation and control systems that ensure the efficient and reliable functioning of the plant. The visit provided valuable insights into industrial maintenance practices, safety protocols, and environmental protection measures adopted to ensure sustainable operations.



Through interactions with industry professionals, students gained a deeper understanding of the challenges and innovations involved in large-scale energy production. The experience helped them relate theoretical concepts learned in the classroom to practical engineering applications while enhancing their technical awareness and problem-solving abilities.

The industrial visit proved to be an enriching learning experience, broadening students' perspectives on the power sector and inspiring them to appreciate the role of engineering in addressing the growing energy needs of society.



Industrial Visit to Government Tool Room and Training Centre (GTTC), Mangalore



As part of experiential learning, the Department of Basic Science organized an industrial visit to the Government Tool Room and Training Centre (GTTC), Baikampady, Mangalore, on 14 May 2026. The visit provided students with valuable exposure to modern manufacturing technologies and industrial practices, enabling them to connect classroom concepts with real-world engineering applications.

During the visit, students explored various sections of the training centre and observed advanced manufacturing processes, including CNC machining, tool and die making, precision manufacturing, and conventional as well as non-conventional machining techniques such as EDM and laser cutting. They also gained insights into industrial workflow, quality control, safety practices, and the role of automation in enhancing productivity and precision.



A key highlight of the visit was the interaction with industry experts, who shared practical knowledge about emerging manufacturing technologies, engineering challenges, and the skills expected in today's industrial environment. Students also learned about the Centre of Excellence (CoE) and its contribution to skill development and industry-oriented training. The visit proved to be an enriching experience, broadening students' technical knowledge, strengthening their understanding of manufacturing processes, and inspiring them to develop the practical skills and professional competencies required for a successful engineering career.



Conclusion

This edition of "Innovision" reflects the enthusiasm, achievements, and collective efforts of the Department of Basic Science throughout the academic year. From workshops and industrial visits to student and faculty accomplishments, every milestone highlights our commitment to academic excellence, innovation, and holistic development.

As we move forward, we remain dedicated to fostering curiosity, creativity, and lifelong learning among our students. We hope this newsletter serves as a memorable record of our journey and inspires everyone to continue striving for excellence.

We sincerely thank all the faculty members, students, and contributors whose support made this edition possible.

Prof. Tasmiya Tahmeen
Faculty Editor