NETAJI SUBHASH ENGINEERING COLLEGE
Techno City, Garia, Kolkata – 700 152

IQAC Annual Report 2020-2021

The academic year 2020-2021 has been a year of remarkable achievements for Netaji Subhash Engineering College (NSEC), despite the ongoing challenges posed by the COVID-19 pandemic. Through the innovative use of digital platforms, strong collaborations, and a commitment to research and development, the institution continued to excel in all aspects of academia, student support, and industry engagement. Below is a detailed overview of the key accomplishments:

1 Academic and Research Initiatives
International Conferences and Seminars:
In September 2021, NSEC successfully hosted the 1st IEEE International Conference for Convergence in Engineering in association with IEEE Kolkata Section, IEEE PES, and IEEE COM SOC. The conference was held virtually from September 5th to 6th and featured a series of keynote addresses, plenary sessions, workshops, and technical discussions. A total of 52 sessions were conducted, with participation from global experts in the field of engineering.

Furthermore, multiple webinars and seminars were organized, including a session on "Energy Efficiency in Smart Buildings Through IoT Sensors" by Prof. Bikash C. Pal, Imperial College London, and "Dynamic Estimation and Control of Power Systems" by Prof. Sivaji Chakravorti, Director, NIT Calicut.

Research and Publications:
NSEC maintained a strong focus on research, with faculty and students actively contributing to advancements in various fields. Faculty members published 82 research papers, while students collaborated on 12 publications. Additionally, NSEC faculty successfully filed 03 patents and published 05 patents during the academic year. These accomplishments highlight the institution's commitment to fostering a research-driven academic environment.

Mentorship and Innovation:
NSEC was selected as a Mentor Institution under the Mentor-Mentee Programme for 2021-22 by the Ministry of Education's Innovation Cell (MoE) in collaboration with AICTE and IIC. The Institution also received recognition for its outstanding contribution to innovation, receiving a 5-star rating in IIC 2.0 and a 3.5-star rating in IIC 3.0.

In terms of student innovation, the National Innovation Contest 2020, organized by MoE's Innovation Cell, saw students from the Electronics and Communication Engineering (ECE) Department securing Rs. 2 lakhs in funding for their innovative product, "Energy Saver".

Patents and Research Projects:
The College continued to focus on research and innovation through multiple R&D projects. In addition to the patents published by faculty, a number of R&D projects were submitted for

funding, further enhancing the institution's role in contributing to societal progress through applied research.

2. Student Achievements
Competitive Examinations:
NSEC students have consistently performed well in national competitive exams such as GATE. In 2021, a significant number of students from the batch ranked among the top ranks in the GATE exam, with two students from the Biomedical Engineering Department securing positions within the top 100 ranks. A few students are now pursuing M.Tech at IITs and NITs, reflecting the high level of academic competence at NSEC.

Additionally, Mayukh Das, a student from the Mechanical Engineering Department, was awarded both the NPTEL EVANGELIST and the NPTEL Motivated Learner awards in 2020 for completing the highest number of courses (18) in a single session.

Industry Collaborations and Placements:
NSEC maintained a robust placement record, with significant industry tie-ups enhancing the employability of students. The Programming Proficiency Committee was established to improve the coding skills of students across various programming languages like C, C++, Java, and Python. Additionally, several training programs in cybersecurity, hacking, and other industry-relevant areas were conducted with the help of industry experts, alumni, and in-house faculty members.

The institution also signed MOUs with top organizations like NASSCOM, Great Learning, GTT Foundation, and TCS, contributing to the training and placement of students. Through these partnerships, students gained insights into the latest industry trends and acquired critical skills to enhance their employability.

3. Infrastructure Development
In response to the growing demand for e-learning tools, NSEC made significant investments in enhancing its infrastructure. The institution ensured that majority of classrooms were equipped with computers, LCD projectors, webcams, and Wi-Fi connectivity, providing a seamless online learning experience. Several laboratories were also upgraded to support virtual experiments and simulations, allowing students to continue their practical learning in a virtual environment.

Furthermore, Zoom and G-Suite were adopted as the primary platforms for digital teaching, with each department equipped with audio-video recording facilities for the creation of instructional content.

4. Faculty Achievements and Development
The faculty at NSEC made significant strides in their academic and research endeavors. Notably, Prof. Kaushik Dutta from the Electronics and Communication Engineering (ECE) Department completed a Post-Doctoral research assignment at the University of Central Florida, USA. During his 6-month stay, he successfully completed six research projects and published three papers under the supervision of Prof. Raj Mitra.

5. Industry-Institute Interaction and Community Engagement
The institution continued to foster strong relationships with the industry and society through various initiatives:

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Corporate Social Responsibility (CSR) activities were carried out by the NSEC Rotaract Club, including initiatives like "Sneher Porosh" (Blanket donation drive) and "Annakut" (Ration distribution to Seba Old Age Home).

Skill enhancement activities were organized by the Career Development Cell and Placement Cell. Notably, programs such as GATE Tutor programs, Aptitude skill training, and Soft Skill development were conducted in association with organizations like Accenture, EPAM, and NASSCOM to further augment the employability skills of students.

6. Conclusion

The academic year 2020-2021 has been an extraordinary year for NSEC, where the institution navigated the challenges of the pandemic and continued to deliver high-quality education, foster innovation, and enhance industry linkages. With an emphasis on research, student support, and infrastructural upgrades, NSEC has laid a solid foundation for future growth and excellence in the years to come. Through its ongoing efforts, NSEC aims to maintain its position as a leader in engineering education, fostering a culture of innovation, research, and societal impact.

Roy
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Prof. (Dr.) SUKUMAR ROY
Co-ordinator-IQAC
Netaji Subhas Engineering College
Techno City, Garia
Kolkata-700 152