

The Glorious Journey of Jawaharlal Nehru College under DBT Star College Scheme.....



The journey of the Aspirational District College “**Jawaharlal Nehru College**” situated 67 km west of capital city Guwahati in the state Assam is nestled in a beautiful landscape in **Jarapara at Boko**. Since its inception in the year 1964 with the Arts stream, Science stream came into existence in the year 1986 and attaining *Grant-in-Aid-Deficit* system in the year 1998 and finally provincialized in the year 2005 by the Govt. of Assam. As an ‘**Aspirational District College**’, and enrolment of tribal and backward community students, we began our journey with a handful of students. Again, due to the shortage of minimum requirement of the Laboratory equipment, gross enrolment especially in the Honours (formerly Major Course) was not adequate. It was in 2015 that the glorious journey of our college in the field of Science Education took off, when Department of Biotechnology, Govt of India selected and subsequently supported five core departments of our college viz. **Physics, Chemistry, Botany, Zoology and Mathematics** under “**DBT Star College Scheme**” — with an aim initiated by DBT in 2008 to support colleges and universities offering undergraduate education to improve science teaching across the country. Based on our proposal to DBT under the dynamic leadership of the then Coordinator of the Scheme, presently the Principal of the Institution and subsequent justification in the support of the Scheme held with Task Force at DBT head office, New Delhi, the Department of Biotechnology, Govt of India was pleased to undertake five core departments of our college for funding under Strengthening Component of the Star College Scheme in the year 2015 initially for three years for the gross development of the science education. In 2019, DBT recommended our college for awarding of **DBT Star Status** to all the same five departments for a period of three years. The college has clinched this position in entire Assam and is one of the 23 Colleges across India in receiving this prestigious recognition and subsequent financial assistance.

With the strong and valuable monetary support from DBT, all the five core science departments of Jawaharlal Nehru College upgraded with an advanced computer lab, class rooms with ICT facilities and a well-equipped departmental library for the benefit of our students as well as in-house faculties and neighboring institutions. For the benefit of the poor backward students, inspiring number of seminars, training programmes, workshops, advanced laboratory/library visit, popular talks by eminent personalities from IIT’s, Universities and Industries have been conducted. With this remarkable growth in scientific fervor, the college witnessed a significant number of students being admitted in these departments in every academic session with Honours offered to the meritorious students through screening test. All the departments are engaged in a concerted effort with meticulous planning and diligence to implement the scheme to achieve the desired goal for a continuous journey of creating excellence in the field of science education. Now, the College occupies a unique position not only in the district but also in the entire region. We the JN College fraternity are very grateful to the Department of Biotechnology, Govt of India for its continuous support for bolstering Science Education in our area as well being a trailblazer in the entire state in the inspirational growth of science education.

The success story of each department as well as the College as a whole is briefly analyzed, describing the accountability of the faculty members to achieve the goal — the “Mission and Vision” of the scheme.

Success story of DBT Star status Scheme of the participating departments: (Botany, Chemistry, Mathematics, Physics and Zoology)

Five core science departments of Jawaharlal Nehru College, Boko was brought under the DBT Star College Scheme in the year 2014-15 and then under the **DBT Star Status Scheme** since 2019. The achievement reflected in the several key aspects reveals the success story of the college under the scheme. Following are some of the notable achievements —

- 1) Existing laboratories of all the departments have been upgraded with sufficient numbers of common instruments as well as with few advanced equipment's like UV-Vis Spectrophotometer, Flame-Photometer, Bi-prism, Trinocular Microscopes with micro photography system, Laminar Flow, Incubator, Gel- Electrophoresis system, Mathematica, etc.
- 2) Organized hands on training/ workshops/Invited Talks/ summer camp/ national Seminars/ International Webinars for in house students as well as nearby institutions to enhance their bench skill in different field of the subject. Outreach programmes are also conducted in the nearby schools and colleges to growing interest of the students of the feeder institutions towards science education.
- 3) A good number of under privilege students perusing science education have been exposed with many National level Advanced Laboratories and Industries to encourage them for opting higher education in science and ignite their young minds towards research and innovation.
- 4) The college able to motivates and attracts brilliant students resulting gradual increase in the enrolment in UG Honours courses which compelled the departments to conduct screening test for admission. Thus, a gross qualitative as well as quantitative development of the department have taken place.
- 5) Faculties have been upgraded themselves by participating in specific FDPs and trainings to enhance their skill for effective mentoring. The laboratory staff are also trained to manage the laboratories properly.
- 6) Students have been trained to conduct Minor Research Project and thereby research interest have been developed among the students. A good numbers of student's projects have been carried out during the tenure.
- 7) Class room and Laboratories have been upgraded with ICT facilities by installation of Digital Interactive panel with high speed internet connection for effective teaching and learning.
- 8) Departmental libraries have been upgraded with Text books, reference books and research journals every year.
- 9) CC cameras have been installed for well surveillance of the laboratories.
- 10) Satisfactory progression of students towards higher as well as specialized skill based studies.

Summary of the success achieved by the participating departments.....

➤ Hands on training/ workshop / awareness programme organized	: 71
➤ Student projects conducted	: 126
➤ Lab/ industry/ Educational tour/field visit conducted	: 42
➤ Invited talk by renowned Academicians organized	: 48
➤ Summer training/ FDP/ Lab staff training organized	: 11
➤ National/ international Seminar/ Webinar organized	: 17
➤ Outreach programme conducted	: 04
➤ Student Exchange Programme organized	: 05

- Participation in various programme organized by DBT, Govt. of India : 03
- Special Training for competitive exam conducted (NET/SLET/Ph.D. Entrance/ Math Olympiad : 02
- Celebration of National/ International day : 10
- Developed Bioinformatics facilities and Mushroom spawn production unit by the department of Botany.
- Developed well equipped Dark room by department of Physics.
- Mathematics has started teaching advanced software like Mathematica, SageMath, R-programming etc.
- Developed training manual by different departments.
- Conducted Science Adda to celebrate Azadi Ka Amrit Mahotsav.
- Mentored nearly 7 colleges of Assam to apply under DBT Star college scheme.
- Student Progression:
 - ❖ Secured **First Class first and Second position** in the B.Sc. Mathematics final Examination under Gauhati University in 2018 and **First Class first** in 2020.
 - ❖ Two students from the department of Mathematics **qualified JAM** in the year 2019 and admitted for **M.Sc. in IIT Guwahati**
 - ❖ Biroja Boro of Mathematics department cleared **JAM in 2022** and admitted in **IIT, Bhilai**.
 - ❖ Akash Kalita of Mathematics department have qualified **GATE in 2022** and admitted for **Ph.D. at IIT Guwahati**
 - ❖ Department of Mathematics has been granted permission to open **P.G. Courses** under Gauhati University.
 - ❖ Average 40% students from each departments admitted in P.G. courses.

Glimpses of some events:

Upgradation of Laboratories:



Figure 1: Physics Laboratory

Figure 1: Maths Computer Lab with ICT facility

Figure 3: Zoology Lab



Figure 4: Botany laboratory



Figure 5: Chemistry Instrumentation Room

Events organised:



