

## **DBT STAR COLLEGE SCHEME**

The DBT Star College Scheme is a flagship program of the Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India. It was launched in 2008 with a very specific and noble goal: to improve the quality of science education at the undergraduate level by focusing on "learning by doing."

The scheme moves away from rote learning and focuses on Inquiry-Based Learning. It recognizes that while many colleges have good theoretical teaching, they often lack the resources to provide intensive, individual practical training. The "Star" status is awarded to colleges that show the potential to become centers of excellence in science.

### **2. Key Objectives**

- **Strengthening Infrastructure:** Providing funds to buy multiple copies of equipment so that every student can perform experiments individually rather than just watching a demonstration.
- **Enhancing "Hands-on" Exposure:** Increasing the number of practicals and introducing "out-of-syllabus" experiments that are more relevant to modern industry and research.
- **Interdisciplinary Approach:** Breaking the silos between departments. For example, a Botany student might use Physics equipment to study plant physiology, or a Chemistry student might work on a Zoology-based biochemical project.
- **Early Research Mindset:** Encouraging students to take up Minor Research Projects. This gives them a taste of real-world scientific problem-solving early in their careers.

### **3. Support Provided by DBT**

The scheme typically provides financial assistance in two phases:

1. **Strengthening Component:** Initial funding for 3 years to upgrade labs and buy equipment.
2. **Star Status:** If the college performs exceptionally well, it is elevated to "Star Status," which brings higher prestige and further funding.

### **4. Impact on Students**

- **Reduced Dropout Rates:** Students find science more engaging when they are active participants.

- **Better Career Prospects:** Graduates from "Star Colleges" are often better prepared for PG entrance exams (like IIT-JAM, GAT-B) and industry roles because of their superior technical skills.
- **Networking:** The scheme funds visits to national research labs (like CSIR, ICAR, or IITs) and guest lectures by top scientists.

### **Strengthening of M.G.P.G. College with DBT Star College Scheme**

**Mahatma Gandhi P.G. College is proud to announce that it has been awarded the prestigious Star College Scheme grant by the Department of Biotechnology (DBT), Government of India by order number HRD-11011/21/2024-HRD-DBT on dated 24/04/2025.**

**This scheme is a testament to our commitment to excellence in science education. It is designed to provide academic and physical infrastructure for achieving excellence in teaching and unique exposure to experimental science at the undergraduate level.-**

### **Participating Departments**

**The scheme currently supports the strengthening of the following four science departments:**

- 1. Department of Botany**
- 2. Department of Zoology**
- 3. Department of Chemistry**
- 4. Department of Physics**

### **Vision & Objectives**

**The primary goal of the Star College Scheme at MGPG College is to transform undergraduate science education from traditional "lecture-based" learning to "inquiry-based" hands-on training.**

### **Key Objectives:**

- **Infrastructure Strengthening:** To upgrade laboratories with state-of-the-art equipment and specialized glasswares/chemicals.
- **Skill Development:** To increase the "learning by doing" component by introducing new practicals and research-oriented experiments.
- **Student Research:** To encourage undergraduate students to undertake minor research projects, fostering a culture of innovation.

- **Faculty Empowerment:** To organize workshops, seminars, and training programs for faculty members to keep them updated with the latest scientific advancements.
- **Outreach & Networking:** To conduct guest lectures by eminent scientists and organize visits to national research laboratories and industrial sites.

### **Proposed Works & Future Aims**

Under this scheme, the college has outlined a roadmap for academic enrichment:

- **Interdisciplinary Training:** Organizing joint workshops between departments to show the overlap of Physics, Chemistry, and Biology.
- **Standardization of SOPs:** Developing Standard Operating Procedures for all lab experiments to ensure high-quality scientific training.
- **Community Extension:** Using our scientific resources to benefit the local community through soil testing, water analysis, and biodiversity documentation.
- **Resource Sharing:** Providing students access to a central pool of modern instruments like Spectrophotometers, PCR machines, and Digital Micro-imaging tools.

DBT Star College Scheme will enhance the quality of learning and evolve original thinking through hands-on experience to experimental work and participation in summer schools. Networking will be promoted to strengthen ties with neighbouring institutions & laboratories. Special training programmes will be conducted to optimize the capabilities of faculty. The capabilities of core instrumentation resources will be raised by the procurement of new equipment and up-gradation of existing facilities. Students will get exposure to research laboratories and industries within the country. New standard operating procedures (SOPs) / kits will be devised for interested students who want to enhance their learning. Better library facilities would be provided to students and teachers.

Under the DBT Star college scheme, the four science departments carried out many activities such as outreach programmes on science in many schools both in the suburban areas in and around Shillong and also in rural areas located in different districts. Some of the activities include seminars, workshops, science exhibitions, science quizzes and practical demonstrations of simple scientific experiments performed by the students from the college. Special lectures by renowned scientists, student projects and other science-related activities were organised for the students

in the college. Study tours were also undertaken to renowned institutions outside of the state to give exposure to the students.

The College does appreciate and express gratitude to the Department of Biotechnology, Ministry of Science & Technology, Government of India, for their kind help and grant granted to the four Science Departments. Under this scheme, both students and faculty members have benefitted immensely in many various ways.

### **Message from the Coordinator**

***"Science is not just a subject to be read in textbooks; it is a process of discovery that happens at the lab bench and in the field. When we applied for the DBT Star College Scheme, our vision was simple: we wanted to move beyond the traditional 'lecture-only' method and give our students the tools to actually do science.***

***Receiving this grant is a transformative moment for the Departments of Botany, Zoology, Chemistry, and Physics. As the Coordinator of this scheme, my focus is to ensure that every student who walks through our doors gets to use modern equipment, ask difficult questions, and find the answers through their own experiments. We aren't just looking to improve our lab infrastructure; we are looking to ignite a spark of curiosity.***

***Whether it is through hands-on research projects, visits to national laboratories, or interacting with eminent scientists, we want our students to feel like active participants in the global scientific community. My goal is to see our graduates leave this college not just with a degree, but with the confidence, technical skills, and critical thinking required to lead the next generation of Indian research and innovation.***

***We are building a culture of inquiry here at Mahatma Gandhi P.G. College, and I invite all our students to make the most of these new opportunities."***

***Prof. Awanish Coordinator, DBT Star College Scheme Mahatma Gandhi P.G. College, Gorakhpur***

## **Message from the Principal**

**"At Mahatma Gandhi P.G. College, we have always believed that education is the most powerful tool for transformation. Being selected for the DBT Star College Scheme is not just an institutional achievement; it is a promise of a brighter, more practical future for our students. This recognition from the Department of Biotechnology, Government of India, serves as a validation of our long-standing dedication to academic excellence.**

**Our college has a deep-rooted history of serving the youth of this region, and this scheme allows us to take that service to the next level. We realize that for our students in Botany, Zoology, Chemistry, and Physics to truly excel in the modern world, they need more than just classroom notes—they need an environment that breathes innovation. By strengthening these four core departments, we are ensuring that our students have access to the same quality of resources and training as the best institutions in the country.**

**My vision is to see this college become a hub where young minds don't just study science, but live it. We are committed to fostering a scientific temperament that encourages students to think independently, challenge existing ideas, and contribute meaningfully to society. This grant is an investment in your potential, and we are dedicated to providing the mentorship and facilities you need to thrive.**

**I congratulate the faculty and the coordinator for their hard work in securing this status, and I encourage all our students to take full advantage of the modern labs and opportunities now available to them. Together, let us embark on this journey of excellence and discovery."**

**Prof. Anil Kumar Singh Principal**

**Mahatma Gandhi P.G. College, Gorakhpur**