



**M. V. P. SAMAJ`S**

**K. T. H. M. COLLEGE, NASHIK**

**ACTIVITIES CONDUCTED UNDER**

**DBT STAR COLLEGE SCHEME**

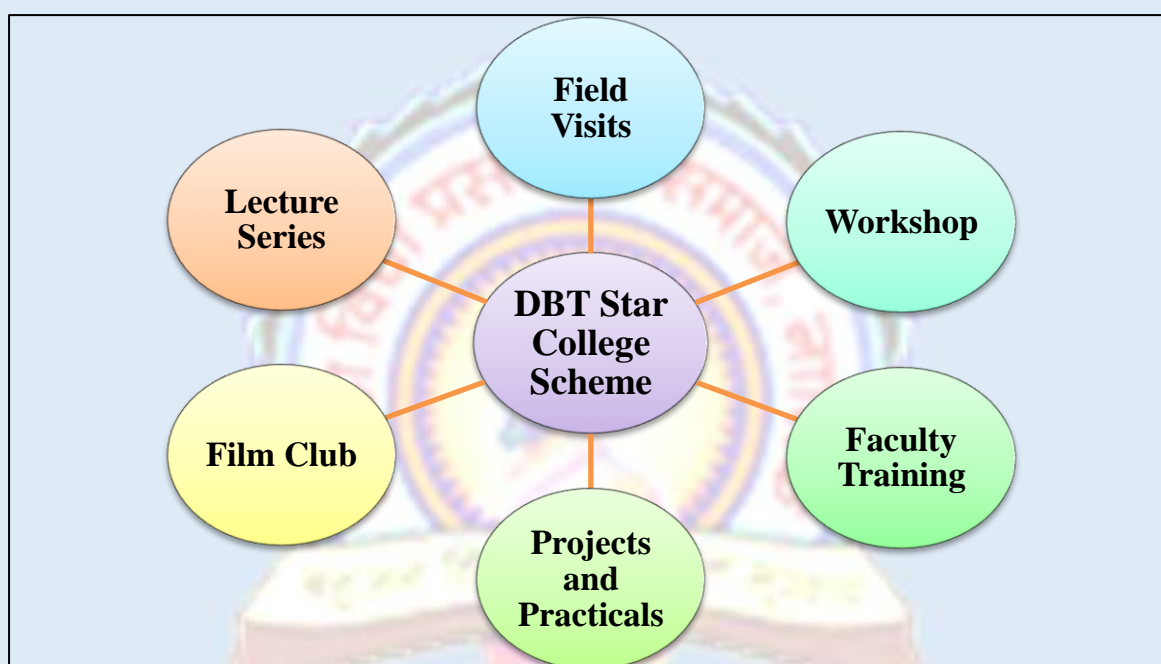
**Participating Departments:**

**Biotechnology, Chemistry, Zoology, Biotany, Microbiology,  
Physics and Electronics.**

**Program Co-ordinator: Prof. Smt. S. N. Patil**

**Principal: Dr. V. B. Gaikwad**

The M. V. P. Samaj's **K. R. T. Arts, B. H. Commerce and A. M. Science College**, Nashik was the proud recipient of "**Star college scheme**" of Department of Biotechnology, Ministry of Science and Technology from September 2014 for a duration of 5 years. The students of seven departments namely **Biotechnology, Microbiology, Botany, Zoology, Physics, Electronics, and Chemistry** of the college have been accommodated under this scheme. The college has executed the programme as best as possible as per the guidelines set by DBT. Below is the glimpse of the activities conducted under this scheme.



#### **Summary of Activities Conducted under DBT Star College Scheme**

Various activities like Projects, Practicals, Educational and industrial visits, lecture series, seminars and workshops were conducted by all seven departments under "Star College Scheme". These activities demand the inclusion of creative and interactive teaching techniques. It helped the students in critical thinking, problem solving and content focusing.

## 1. Projects and Practicals

All seven departments under "Star College Scheme" were allotted with the short term projects of 3 months duration to S. Y. B. Sc. students. For these projects, advanced learners were selected and 3 students with one faculty member for guidance were allotted per project. A total number of 35 projects were conducted by all 7 participating departments and 100 students were benefitted by this activity each year.

The seven participating departments under the "Star College Scheme" conducted an activity on practical module. In this activity, practicals were conducted other than those covered in the syllabus of T. Y. B. Sc. Saturdays were allotted to conduct these practicals. Nearly 300 students from each department were benefitted from this activity.

## 2. Workshops

The workshops for students and faculty were conducted under DBT Star College Scheme with a view to empower their technical skills and knowledge for overall development. All the participating departments organized workshops on different topics to enhance the curriculum like-

- a. The Department of Biotechnology organized a workshop on the topic 'Codonics: 4 days' Workshop on DNA extraction, PCR, RFLP and Bioinformatics'.



**Staff members and student attending the workshop 'Codonics'**

- b. The Department of Electronics engaged 56 students in the workshop on ARM Microcontrollers, CPLD, Nano-science and Nanotechnology
- c. Two days Departmental Workshop was organized by the Department of Physics in Materials Science Lab in which 62 students were benefited. Also, one of the teaching faculty Dr. A. B. Rahane conducted one day workshop on “Linux Operating System & GNUPLOT”
- d. To develop the scientific mind and awareness in the students of remote areas, a workshop was organized by the faculty members of the Department of Chemistry to the schools and high school of remote areas.
- e. Each year, ZOODESK activity was organized by students of the Department of Zoology in which around 200 students had participated
- f. The Department of Microbiology organized a workshop on the Solar Lamp Making having 80 participants.

### **3. Film Club**

The film club activity was organized at the departmental level under which movies highlighting the various scientific concepts in an innovative way were shown to the departmental students. Students learnt some fundamental concepts through the movies like-

- a. Cell- The hidden kingdom
- b. Cell – the Chemistry of life
- c. The story of Science- How did we get here
- d. DNA 1 – The Secret of Life
- e. DNA 2 – Playing GOD
- f. DNA 3 – The human race
- g. Future of energy-How we will do it?
- h. Discovering the elements and Order of the elements.



### Film Club by the Department of Biotechnology

#### 4. Industrial and Field Visits

The field and industrial visits were organized for the students under this scheme. The visits helped the students to understand research problems undertaken at industry level and the methodology followed to solve them. The students also got the opportunity to interact with the scientists and research personnel which was very fruitful experience. The visits were planned at the places like-

- a. Directorate Of Onion and Garlic Research Center (Rajgurunagar)
- b. KF Bioplants (Hadapsar)
- c. National Research Centre for Grapes (Hadapsar)
- d. Serum India Pvt. Ltd. (Pune)
- e. Jain Agro industries (Jalgaon)
- f. National Institute of Oceanography, Goa, Bondala Wildlife sanctuary, University of Goa (Goa)
- g. Water purification plant and Waste water treatment plant (Nashik)
- h. Renaissance Winery, Ozar (Nashik)



**Visit to National Institute of Oceanography, Goa by Zoology Department**



**Visit to Directorate of Onion and Garlic Research Center (Rajgurunagar)**

## **5. Faculty Training**

Various training programs were arranged to empower the faculties with recent knowledge of analytical techniques and to enhance teaching learning process at the department level. A two-day training program was organized in the Savitribai Phule Pune University, Pune Central Instrumentation facility under the faculty improvement programme where 15 faculty members each year were trained in advanced instrumentation. Faculty was demonstrated in basics and handling of instruments like SEM, TEM, AFM, Confocal Microscopy, FRET, FESEM, single crystal XRD, HD NMR, GC MS, LC MS.



**Mr. Dattaraya Ukale explaining NMR in Faculty Training Program**



**KTHM college faculty members with Dr. B.B. Nath at central instrumentation facility, SPPU**

## **6. Lecture Series**

Interdepartmental Lecture series were arranged on multidisciplinary topics. These informative and engaging series contributed significantly in knowledge enhancement of student as well as faculty-

- a. Nanotechnology lecture series by Department of Biotechnology
- b. “Biostatistics for Life Sciences” by Department of Biotechnology
- c. “Molecular symmetry and Group Theory” by Department of Chemistry
- d. One month lecture series was organised by the Department of Chemistry related to “Basics and Principles in Chemistry”
- e. “Nanomaterials characterization Techniques and Applications” organized by Department of Nanoscience and Nanotechnology,
- f. Translating Science into Business: Human Microbiome by Department of Microbiology



**Dr. Smt. S. N. Patil, Coordinator Biotech. Dept. giving an overview of the Lecture series.**



**Dr. Vijendra Anant Chaudhary, addressing the participants at Nanotechnology Lecture Series**



## 7. Science Exhibition

Department of Biotechnology, Botany and Electronics organised the Science exhibition and project/model competition for UG students which was open to all.



**BIOFEST -2020 Inauguration of Science Exhibition by Respected Principal Sir Dr. V.**

**B. Gaikwad and students explaining the models and prototypes made by them.**

### **BENEFITS OF "STAR COLLEGE SCHEME"**

- Mini Research Projects activity helps to improve the awareness of research among UG students.
- Projects conducted under scheme has helped and developed scientific temperament and team work among the students.
- Interdepartmental courses were conducted has helped the students to interact and work in another department.
- This has also enhanced their skill in fields like computer and nanotechnology.
- Helps better understanding of the subject through practical and demonstrations.
- Students are benefited by acquiring skills through workshop.
- Created awareness about non conventional energy sources among the students.
- Faculty improvement program helped in enhancing teaching learning process at the department level.

# IMPACT OF DBT STAR COLLEGE SCHEME

## ❖ Upgradation Of Existing Facilities

- Increase In Number Of Instruments
- Increase Accessibility Of Instruments To Students

## ❖ Enhancement Of Interdepartmental Activities

## ❖ Promotion Of Research Culture

- Science Exhibitions
- Projects
- Industrial And Institutional Visits
- Hands-On Exposure To Experimental Work

## ❖ Benefit To Faculty

- Training Programs For Faculty

## ❖ Inclination Of Students Towards Life Sciences

- Higher Percentage Of Admission In M.Sc.