

### **7.3 Institutional Distinctiveness**

#### **7.3.1 Portray the performance of the Institution in one area distinctive to its priority and thrust within 1000 words**

#### **" Science Hub and Transdisciplinary Spoke excellence model a continuum- Star College Scheme of DBT"**

#### **Our journey with DBT towards achievement of excellence in UG science programmes**

The main objective of DBT Star College scheme is to nurture excellence in science education at the undergraduate level. The holistic development of science aims at

- Improving critical thinking and 'hands on' training by strengthening the infrastructure by upgrading existing facilities in laboratory and library
  - Devising standard curricula, e-content and Standard Operating Procedures and experimental kits
  - Organizing hands on training programmes for faculty and students
  - Networking, MoUs and collaboration with neighboring institutions, research laboratories and industry
  - Encouraging students towards higher education in science.
- Initially, five basic science departments were selected for Star College Scheme in 2012. Based on their performance, the scheme was extended to three more departments (CS, IT, BCA). In view of their excellent performance, all the eight departments were upgraded to Star Status with a significant increase in grant amount.
  - The need for real communication between different disciplines became part of the Scheme and students experienced deeper learning and started thinking out of the box resulting in “an Interdisciplinary approach”. Transdisciplinary courses like FPTM, CS with Cognitive Systems, Data Analytics, etc., were introduced, dissolving the boundaries between conventional disciplines.

#### **Strengthening academic and physical infrastructure for excellence in undergraduate teaching and training - Financial support through a grant from DBT - Rs.2.94 Crore**

#### **Management provided the infrastructure, building, furniture, smart classrooms & technology network**

- Multiple numbers of basic equipment were procured.
- Availability of equipment and expensive chemicals facilitated individual practicals & resulted in projects and publications
- Organization of FDPs and inter-departmental, intercollegiate programmes for students & faculties
- Increased library resources – with more electronic data.

## **Establishment & Upgradation of Laboratories**

- Dietetics and Food Processing, Microbiology & Molecular Biology and Computer Laboratories
- Equipment for Environmental Biotechnology, Physics and Chemistry, Bioinformatics and IoT laboratories
- E Lab: Digitization has helped create repository

With the help of DBT, **Summer Training, Internship, Industrial Visits and research Projects** in interdisciplinary fields has been undertaken at reputed labs, institutes & Industries like IIT, IISc, CSIR Labs, BITS PILANI, NBHM, ICMAM, CBNR, DRDO, ISRO, IGCAR, IARI, IISER, CFTRI, CCMP, BARC, ARCI, UPASI, Taiwan University, North Carolina University, Pasteur Institute, TNAU, IFGTB, Sugarcane Breeding Institute and IIFPT.

Students benefitted in Summer Internship	– 2196
Research projects	– <b>2377</b>
Papers presented in Seminars & Conferences	– <b>570</b>
Papers Published in National & International Journals	- <b>44</b>
Publication in <b>Scopus</b> indexed Journals	- <b>14</b>

Sequence Submission in **NCBI** Data base - 25

Intercollegiate activities– **31**

Book published with **ISBN No: 1**

Lab Manual & SOP with **ISBN No: 22**

Higher Studies – 1333

- PG programme at Anna University, NIT Trichy, BITS PILANI, IIT, IISc.
- 2 Students have completed their final semester at Singapore University.

**Placement – 1016** (Schools, Colleges, R& D Labs, Environmental Division, Bioline and testing laboratories etc.)

Non-Teaching Staff trained in Basic Computer, Trouble shooting of equipments, First Aid and Firefighting – **279**

Two SOPs of our college were published in "Life Science Protocol Manual 2018 by DBT – (one among the 19 contributing institutions and the only college in South India selected for the publication).

Three Indian patents have been filed in the areas of mobile technology, biodegradable food packaging materials and biodiesel applications.

## **Outcome & Significant Achievements**

- The scheme enhanced Enrollment in Science Courses (100%) with increased demand ratio and cut off mark for Admission and decreased dropout rate. Higher pass percentage resulted in 10% increase in PG admissions at reputed institutions
- Cluster formation of Star Colleges for sharing of knowledge through lectures, seminars, workshops - Networking with 11 Institutions
- Motivating colleges to apply for DBT STAR college scheme & guiding other colleges (20) recognized by DBT STAR
- Faculty members as resource persons for a workshop on DBT STAR Scheme for colleges in Patna and Jharkand
- Training students on the use of foldscope in collaboration with Mizoram and Assam Universities
- Students and faculty members benefited tremendously from guidance received in Advisory Committee Meetings, mentoring, Task Force Meetings and peer learning
- Orientation for school teachers to teach science with ease

## **Outreach for Societal transformation**

Popularizing science through lectures to students of schools, general public and society at large - 1439 beneficiaries.

Technology developed through the projects transferred for enhancement of the livelihood of rural community in our adopted villages

## **Rural Women Technology Park**

- Water Purification
- Community Nursery
- Multi Millet Biscuits
- Value Added Products from Banana and Coir Fibres
- Areca nut sheath bio Plates
- Bio Briquettes

## **Unnat Bharat Abhiyan, MHRD, Government of India.**

- Fish Fertilizer Training and Lake restoration at Thondamuthur, Coimbatore District

### Scheme Beneficiaries

	<b>PSGRKCW</b>	<b>Other Institutions</b>	<b>Others</b>	<b>Total</b>
Students	12503	5641		<b>18144</b>
Faculty members	1310	1090		<b>2400</b>
Non -Teaching Staff	279			<b>279</b>
Mentoring of Institutions		31		<b>31</b>
School & Public			1439	<b>1439</b>
Community			2500	<b>2500</b>

### Awards & Accolades

Young Scientist - Tamil Nadu Government

Best Teacher & Research Award – Lions club International, CTS, EET CRS, Innovative Research Developers and Publishers Group of Journals, Indian Academic Researchers Association

Outstanding Faculty in Science - Venus International Association, Chennai

Dr.APJ Abdul Kalam Award for Scientific Excellence

National Builder by Rotary Club of India

Cloud Champion in Cloud Literacy (ICT Academy)

Best coordinator (ICTAT)

Best Student Branch Award for three consecutive years (CSI).

Highest number of Skilling awards by ICT Academy

Best paper award (Student Award) -19

A marked increase in admission (15 % in undergraduate and 10% in postgraduate) vouches for the successful performance of the Institution. The college provides a 100% student centric learning environment which promotes teamwork. Innovation and invention, the hall marks of science are implemented by breaking the departmental cross walls and creating an interactive platform where basic science students interactwith Computer science students, providing them an opportunity to become partners of “Make in India”.

Skilling, re- skilling and up skilling through science deliberations have radiated to other disciplines for real-time translations and applications. The various spokes (disciplines) of the wheel (College), will, as a continuum, turn the wheels of fortune of the students, faculty members and all other stakeholders. “A scientific meaning to real life situations, adaptations and adoptions!”