

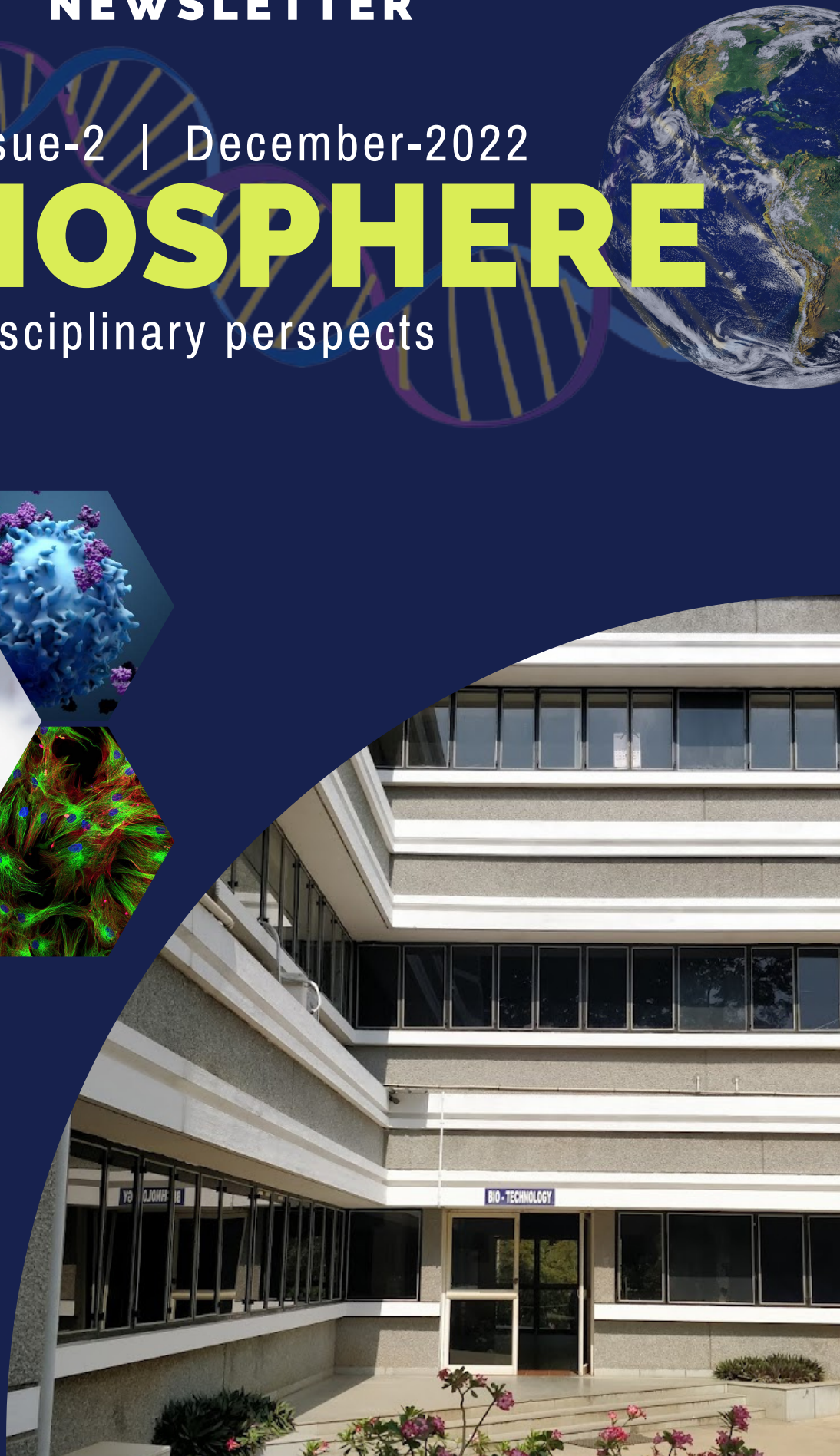
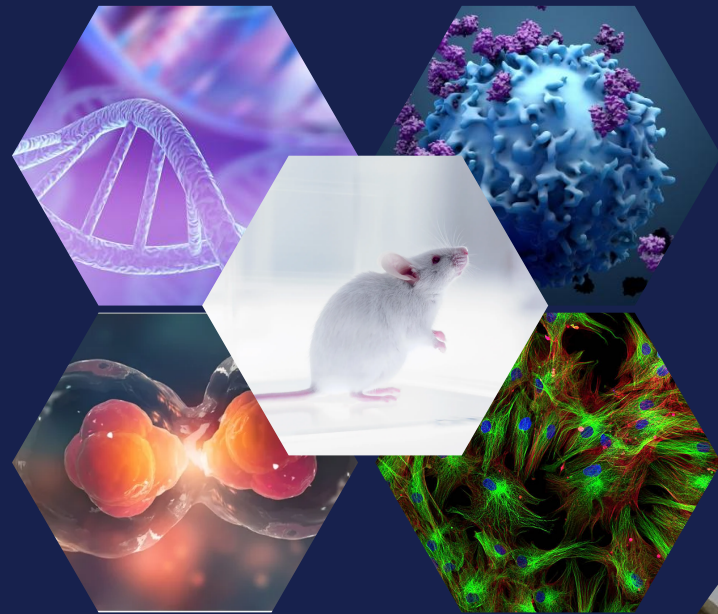
# DEPARTMENT OF BIOTECHNOLOGY

## NEWSLETTER

Volume-1 | Issue-2 | December-2022

# BIOMOSPHERE

Echoing multidisciplinary perspecks



# EDITORIAL TEAM



**DR. M. SIVANANDHAM**  
Secretary, SVEHT  
Visiting Professor  
Biotechnology



**DR. E. NAKKEERAN**  
Professor and Head  
Biotechnology



**DR. K. DIVAKAR**  
Associate Professor  
Biotechnology



**DR. K. GANESH PRASATH**  
Assistant Professor  
Biotechnology



**MR. J. G. ASWIN JENO**  
Assistant Professor  
Biotechnology



## Vision

To produce higher caliber Biotechnologists to attain new heights in bioinformatics and bioprocess technology as per industrial needs and to provide leaders in the field of Biotechnology.

## Mission

- To progress the department to attain center of excellence in bioinformatics and bioprocess technologies by providing best Undergraduate, Postgraduate, Doctoral programs and R&D activities within a decade.
- To develop special skilled training programs for graduates to meet the personality characters stipulated by the industries within a period of five years.
- To build potential biotechnologists capable of dealing with new challenges and socio-ethical implications.

## B. Tech. Biotechnology

### Program Educational Objectives

**PEO-1.** To produce Biotechnology graduates who will be employable in core Biotech/Pharma industries and domain-based software services.

**PEO-2.** To produce research-oriented Biotechnology graduates who will be employable in academic/Industry sponsored research and also who will be pursuing higher studies.

**PEO-3.** To produce bioentrepreneurs.

### Program Outcomes

**PO-1. Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

**PO-2. Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**PO-3. Design / Development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**PO-4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**PO-5. Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**PO-6. The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**PO-7. Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**PO-8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO-9. Individual and team work:** Function effectively as an individual and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO-10. Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**PO-11. Project management and finance:** Demonstrate knowledge and understanding of the engineering management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO-12. Life-long learning:** Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

### **Program Specific Outcomes (PSOs)**

**PSO-1:** To make the students understand and apply the knowledge of computational systems biotechnology to design and develop biologics to meet societal needs.

**PSO-2:** To train the students to meet the requirement of bioprocess industries for developing techno-economical processes.

**PSO-3:** To empower the students with competent skill sets for bridging the gap between academia and the requirements of the healthcare industry.



## **M. Tech. Biotechnology**

### **Program Educational Objectives**

**PEO-1:** To prepare the students to excel and succeed in biotechnology research or industry through the latest state-of-art postgraduate education.

**PEO-2:** To train students with good scientific and technical knowledge so as to comprehend, analyze, design and adopt innovative and new technology that provides solutions for developing novel biotechnological products.

**PEO-3:** To create bioentrepreneurs with good communication and leadership skills, respect for authority and the life-long learning needed for a successful professional career.

### **Program Outcomes**

**PO-1:** Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

**PO-2:** An ability to write and present a substantial technical report/document.

**PO-3:** Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

**PO-4:** Ability to examine the technological problems in various domains of Biotechnology apply modern engineering tools for the prediction and modeling of complex engineering problems with a focus on sustainable development.

**PO-5:** Students should be able to acquire self-management and teamwork skills to collaborate with multidisciplinary teams from academic, industry and research institutes of national or international repute, with a commitment to lifelong learning.

**PO-6:** Potential to apply biotechnological solutions by adhering to the standards of bioethics with social responsibilities.

### **Program Specific Outcomes (PSOs)**

After the successful completion of M.Tech. Biotechnology program, the students will be able to:

**PSO-1:** Demonstrate the biotechnology concepts and research approach and apply them for healthcare and industrial applications.

**PSO-2:** Possess scientific and technological skills to design and develop novel bioproducts for addressing biological and healthcare challenges.

**PSO-3:** Analyze the socio-economical needs and possess the necessary expertise to become a bioentrepreneur.

## Events Organized

### Guest Lecture

## " Production of Recombinant Proteins and Metabolites "

17<sup>th</sup> December 2022 (02.00 to 04.00 PM IST)



**Ms. Richa Srivastava, Prime Minister's Research Fellow, Bhupat Jyoti School of Biosciences, IIT Madras**

The guest lecture was conducted by Dr. K. Divakar, Associate Professor and Prof. S. Pandi Prabha, Biotechnology with Prof. V. Sumitha, Biotechnology as Organizing Secretary and Prof. M. Sivanandham, Secretary, SVEHT and Prof. E. Nakkeeran, Head of the Department, Biotechnology as Convener.

The main objective of the Guest Lecture is to provide insight into the production of various recombinant proteins and metabolites. Also, she has discussed the core concepts of proteins and their various application such as therapeutics, drug development, biomaterials, and diagnostics.

Recording R Richa Srivastava bt16d700 is presenting

### Case Study 1: Human Insulin Production

- Obtain the gene for insulin from human DNA
- Insert the gene into bacterial cells (restriction endonuclease, vector, transformation)
- Select the cells that have the desired gene
- Induce the bacterial cells to express the inserted gene to produce insulin
- The Insulin gene A subunit and B subunits are synthesised separately.
- The two strands were mixed outside the cells and bound to each other in proper fashion to form the active insulin molecule
- Collect and purify the insulin

2:44 PM | uic-phww-zdt

## Placement Update

The core and information technology companies made a swift campus drive for the B. Tech Biotechnology students of 2019-2023 Batch. The students who opted for the placements drive (Option-A), were placed with maximum CTC of 5 Lakhs PA.



**Ms. V. Vishnupriya**  
(2019-2023)



- **Placed in M/s My Captain as Business Operations Executive with CTC of 5 Lakhs PA.**



- **Placed in M/s Pick Your Trail as Management Trainee- Sales with CTC of 3.6 Lakhs PA.**



Higher Studies Update



**Ms. Leema Rose  
Sebastien (2019-  
2023)**



**MS in Food Science and Technology at RMIT University,  
Melbourne, Australia**



**Mr. K. Jhishnuraj  
(2019-2023)**



**MS in Biotechnology at Texas A&M University, USA**

## Research Activities

## Publication


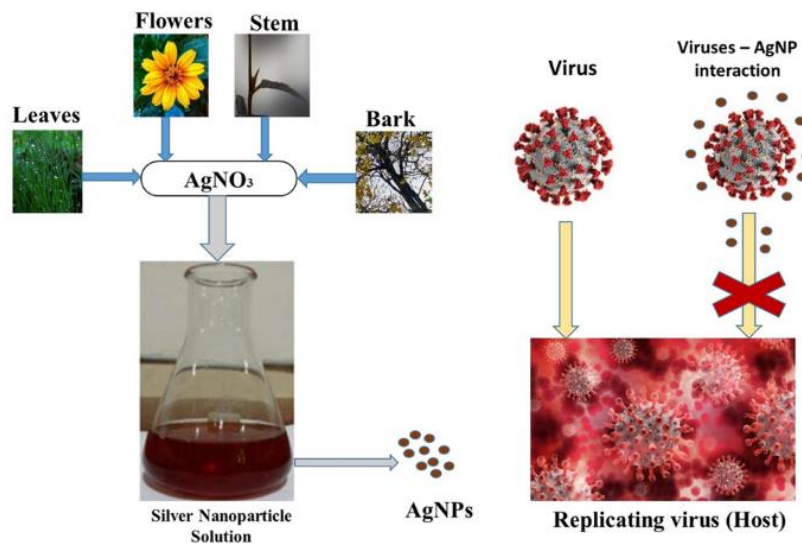


Prof. S. Pandi Prabha



Review | Published: 12 February 2022

## Multifarious global flora fabricated phytosynthesis of silver nanoparticles: a green nanoweapon for antiviral approach including SARS-CoV-2

C. Karthik , K. A. Punnaivalavan, S. Pandi Prabha & D. G. Caroline*International Nano Letters* 12, 313–344 (2022) | [Cite this article](#)2361 Accesses | 2 Citations | 2 Altmetric | [Metrics](#)**Abstract:**

## Research Supervisor Recognition



**Dr. K. Ganesh Prasath, Assistant Professor**

**Dr. K. Ganesh Prasath**, Assistant Professor, Department of Biotechnology, has been recognized as a Research Supervisor of Anna University (Ref. No: 4170001) to guide the Ph.D. Scholars.

**Area of Specialization:** Microbial Genomics and Proteomics, Biofilm and Antimicrobial resistance

The Department of Biotechnology takes this opportunity to congratulate Dr. K. Ganesh Prasath and wish him all success in all his future endeavors.



**Students/ Faculty Achievements****Poster Presentation**

**Mr. M. Karthikeyan**  
(2019-2023)



**Mr. K. Ajay**  
(2019-2023)

**Mr. M. Karthikeyan and Mr. K. Ajay** of 2019-2023 batch B. Tech Biotechnology, under the guidance of **Dr. G. Karthigadevi** presented a poster entitled "Marine Polysaccharide Based Engineering Scaffolds For Tissue Engineering" in the International conference on recent advances in biotechnology and environmental science conducted VIT, Vellore during 16<sup>th</sup> – 18<sup>th</sup> December.

## Disaster Awareness and Management Training



Disaster Management Team of Sri Sathya Sai Seva Organization along with Sri Venkateswara College of Engineering has conducted “Disaster Awareness and Management Training” Program for the First Year B. Tech Biotechnology of 2022-2023 Batch on 17<sup>th</sup> December 2022, 8.30 AM to 3.00 PM. Prof. S. Pandi Prabha, Mr. M. Shanmugam (Instructor) and Mr. S. Srinivasan along with 2022-2026 B. Tech Biotechnology Students (Ms. D. Priyadharshini, Ms. L. N. Sriharini, Ms. D. Salonica D, Mr. S. Yeshwanth Kumar, Mr. V. Gopikrishnan, Mr. U. Fahir U, Mr. J. Shrihari and Ms. Purvasri Sivakumar) have attended the event.

## Best Indian Golden Personalities Award



**Dr. P.K. Praveen Kumar, Professor, Department of Biotechnology**

**Dr. P.K. Praveen Kumar** received the Best Indian Golden Personalities Award Gold Medal from the Friendship Forum, New Delhi for the contribution in the field of Functional Therapeutics: Gene Discovery and Function based Therapeutic Strategies to breast cancer, kidney cancer, ovarian cancer, liver cancer and pancreatic cancer.

## Star Summit 2022

**Dr. P.K. Praveen Kumar** participated as a peer judge for poster presentation of MBBS and MD students in STAR SUMMIT 2022 held on 02<sup>nd</sup> December 2022 at Saveetha Medical College & Hospital, Chennai.



## Internship

- **Mr. Aditya Krishnan**, B. Tech Biotechnology of Batch 2020-2024 is selected as **Bioinformatics Intern** at **M/s KyloCrone Healthcare, New Delhi**.



**Mr. Aditya Krishnan**  
(2020-2024)

## Workshop/Conference

- ✓ Ms. A. S. Swalakshana (2021-2025) and Ms. G. Varsha (2021-2025) attended a workshop entitled "Real Time PCR for Gene Expression Analysis" on 12<sup>th</sup> - 13<sup>th</sup> December 2022, Organized by the Department of Genetic Engineering, SRMIST, Chennai.
- ✓ Mr. K. Gopikrishnan (2021-2025) attended the residential programme entitled "Think Create Engineer" on 12<sup>th</sup> – 14<sup>th</sup> December 2022, Organized by PALS and completed the mini-project "Designing a Phone Casting that Absorbs Shock" at IIT Madras.

**Events attended by the faculty**

- ✓ Dr. V. Sumitha participated in 5-day FDP on the theme “Inculcating Universal Human Values in Technical Education” organized by Induction Program Cell (IPC), All India Council for Technical Education (AICTE) from 14th November - 18<sup>th</sup> November 2022.
- ✓ Dr. K. Divakar participated in the 5-day FDP on the theme “Inculcating Universal Human Values in Technical Education” organized by Induction Program Cell (IPC), All India Council for Technical Education (AICTE) from 05<sup>th</sup> December 2022 - 09<sup>th</sup> December 2022.
- ✓ Mr. J. Hariharan participated in the AICTE Training And Learning (ATAL) Academy Blended/Hybrid FDP on "3D Printing in Industry 4.0" from 5<sup>th</sup> – 10<sup>th</sup> December 2022 and 12<sup>th</sup> - 16<sup>th</sup> December 2022 at B S A Crescent Institute of Science and Technology, Vandalur.
- ✓ Mr. S. Nagavignesh participated in the AICTE Training And Learning (ATAL) Academy Blended/Hybrid FDP on "3D Printing in Industry 4.0" from 5<sup>th</sup> - 10<sup>th</sup> December 2022 and 12<sup>th</sup> - 16<sup>th</sup> December 2022 at B S A Crescent Institute of Science and Technology, Vandalur.
- ✓ Dr. K. Ganesh Prasath participated in the AICTE Training And Learning (ATAL) Academy Blended/Hybrid FDP on "3D Printing in Industry 4.0" from 5<sup>th</sup> - 10<sup>th</sup> December 2022 and 12<sup>th</sup> - 16<sup>th</sup> December 2022 at B S A Crescent Institute of Science and Technology, Vandalur.
- ✓ Dr. G. Karthigadevi attended the 10 days online Training programme on “R Programming for Budding analysts” Organized by Research foundation of India & RFI-Care from 8th - 17<sup>th</sup> December 2022.
- ✓ Dr. G. Karthigadevi participated in the 5-day online FDP on the theme “Incorporating Universal Human Values in Education” conducted by UGC-AICTE from 19<sup>th</sup> – 23<sup>rd</sup> December 2022.
- ✓ Dr. P. K. Praveen Kumar presented as a course instructor in Online Certificate and Internship Course on “Computer aided drug and vaccine design” from 12<sup>th</sup> – 26<sup>th</sup> December 2022 organized by Institute of Innovations, Tiruvannamalai (Registered MSME, GoI).

- ✓ Dr. K. Vasantharaj participated in the Seven Day National Faculty Development Program (Virtual Mode) on “Integrative Approach Towards Research Techniques in Food Technology and Industries” organized by Karpagam Academy of Higher Education and Academy of Maritime Education and Training from 20<sup>th</sup> – 27<sup>th</sup> December 2022.

## Alumni Write up



**Ms. Gokila S (UG 2010-2014)**  
Senior Test Engineer  
M/s. Rails data software Pvt Ltd, Chennai

Hailing from a village, being not a product of expensive education, all I had in my mind while entering college was "it's going to be a day-mare everyday", but the learning happened unconventionally, out of books. SVCE is a place where you have people and resources to help you grow, unbeknownst to you.  
SVCE - Thank you for being the place of transformation



**Mr. TPS Baratwaj (UG 2010-2014)**  
Business Development coordinator  
M/s. Syncfusion, Chennai

SVCE was, is and will be one of the elite colleges in Tamil Nadu and the Biotechnology Department is one of the premier departments under Anna University. Our Department has state of the art facilities and gave me detailed insights on Biotechnology. Our faculties had not only taught the courses but gave hands on experience on the nuances of Biotechnology.

**DEPARTMENT OF BIOTECHNOLOGY**  
**SRI VENKATESWARA COLLEGE OF ENGINEERING**



**COURSES OFFERED**

1. B. Tech Biotechnology
2. M. Tech Biotechnology
3. M. S. (By Research)
4. Ph.D. Biotechnology

**A FEW GLIMPSES OF OUR FACILITIES**

