



**Dr. M.G.R.**  
Educational and Research Institute



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Poonamallee High Rd, Vishwas Nagar, Maduravoyal, Chennai, Tamil Nadu 600095

**DEPARTMENT OF BIOTECHNOLOGY  
PRESENTS  
BIOBYTES NEWSLETTER**

**MAR 2023 - AUG 2023**

**NEWS**

**H1 A**  
**Newsletter**  
**for the**  
**Year 2023**

**BT**





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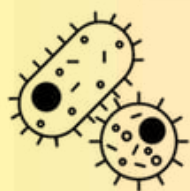
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## DEPARTMENT OF BIOTECHNOLOGY PRESENTS

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## DEPARTMENT VISION & MISSION

### VISION

To strive towards the innovative knowledge in the domain of biotechnology for the development of new processes and product useful to the society and enrich economy.

### MISSION



To impart knowledge and skills in the biological sciences to improve human health, protect environment and to enrich economy. To provide an outstanding environment to learn for facing the global need in the fields of Biotechnology. We focus on excellence in teaching and research as well as to promote entrepreneurship







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## DEPARTMENT OF BIOTECHNOLOGY

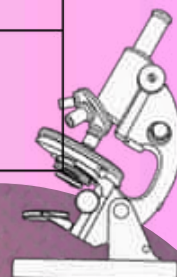
### Program Educational Objectives of the Department

#### PROGRAM EDUCATIONAL OBJECTIVES STATEMENTS (PEOs)

PEO No.	PROGRAM EDUCATIONAL OBJECTIVES STATEMENTS
PEO 1	Pursue higher studies or involve themselves in R&D activities in Biotechnology Industries and related organizations
PEO 2	Be a successful entrepreneur in creating jobs related to health science and Biomedical Society.
PEO 3	Promote ethics, sustainability, social environmental responsibility in their profession and career.

#### LIST OF PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO No.	LIST OF PROGRAM SPECIFIC OUTCOMES (PSOs)
PSO 1	Ability to apply knowledge of basic life sciences for Biotechnological innovation and promoting entrepreneurship
PSO 2	Proficiency to develop value-added Biotechnological products through implementation, design, optimization, and scale-up of Biotechnological processes.
PSO 3	Competency to promote Biotechnological research in the fields of biomedical, food and environment-related fields and also to publish papers in highly reputed journals.





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# DEPARTMENT OF BIOTECHNOLOGY

## Program Educational Objectives of the Department

### PROGRAM OUTCOMES (PO)

- PO1 Engineering Knowledge:** Apply the Knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO2 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.
- PO3 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 consideration.
- PO4 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.
- PO5 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.
- PO6 The engineer and society:** Apply reasoning informed by the contextual knowledge to access societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- PO7 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.
- PO8 Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work:** Function effectively as an individual and as member or leader in diverse teams and in multidisciplinary settings.
- PO10 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.
- PO11 Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work as a member and leader in a team to manage projects and multidisciplinary environments.
- PO12 Life-long learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.





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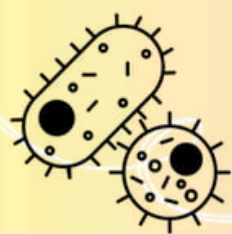
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## DESK MESSAGE

**Dr. Rajeswary Hari**  
**HOD of Biotechnology Department**

The Department of Biotechnology was started in the year 2003 with an objective of generating trained manpower in Biotechnology with disciplinary skills from Chemical engineering, Computer Science and Management Skills. Biotechnology is the application of Biology for industrial purposes such as development of vaccines, biomaterials reducing toxic waste by using microbial or enzyme based processes, development of new drugs for treating emerging and reemerging diseases, development of newer diagnostic methods for diagnosis of human diseases, development of crops with additional productivity or added advantage etc. The Research focus in our Department Involves methods to reduce environmental pollution by using micro organisms, identifying the plant products which can be used to treat diabetes, fasten the wound healing processes; understanding the role of SNP in critical gene in the development of cancer; and monitoring and understanding the mechanisms of antibiotic resistance in bacteria. The Dept. is supported by grants from the SERB, DST, DBT & CSIR .The department is motivating the students and faculties to actively involve in research programme and also to publishish articles in national and international journals & Conference The Department offers B.Tech and M.Tech Programs in Biotechnology, M.Tech in Medical Biotechnology and Ph.D programs also.



*Rajeswary Hari*  
HOD Sign



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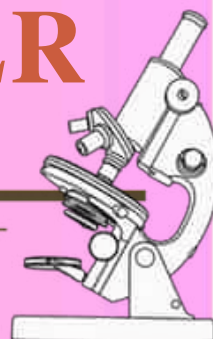
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### ACHIEVERS

**Hitarthi Sharma**  
**Btech Biotechnology**  
**[2022-26]**

Congratulations to Hitarthi Sharma from the Biotechnology Department for her impactful AKC project Floral Waste Management ! Her work addresses the pressing issue of 8 millions of tonnes of floral waste causing environmental harm in India. Securing a 2.5 lakh funding is a testament to her dedication and innovative solutions. Wishing her great success in making a lasting environmental difference!



Congratulations to **Sandhiya M.** from B.Tech Biotechnology for achieving the top rank in even semester II with a remarkable GPA of 9.00! [2022-26]  
Outstanding accomplishment!



Congratulations to **Angelinadithy S. A.** from B.Tech Biotechnology for securing the top rank in semester IV with an impressive GPA of 9.55!







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### STUDENT CORNER



**Sallakolusu.Venkata Swathi Btech**

**Biotechnology [2022-26]**

Sallakolusu. Venkata Swathi.... participated in International level of Karate Federation Championship( karate of Budokan) conducted in Telangana state of Hyderabad at Kotla Vijaybhaskar Reddy indoor Stadium .

**Hitarthi Sharma Btech Biotechnology [2022-26]** Hitarthi Sharma, from the Department of Biotechnology, participated in the National Seminar "Space-2.0" which was conducted by Dr MGR-ACS Technology Centre and Indian Technology Congress Association.



Sreepooja from the department of biotechnology participated in the " National Mathematics day" conducted by faculty of H&S in mathematics department won 1st prize math modeling and quiz- cash prize -₹700 each



**Sreepooja Btech Biotechnology [2022-26]**



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## EVENT CORNER



### “SARVASASTRA 2K23”

The Department of Biotechnology held the national conference “SARVASASTRA 2K23” on April 5-6, 2023. Day 1 featured addresses by Dr. Rajeswary Hari, Dr. S. Geethalakshmi, Dr. D. Viswanathan, and Dr. V. Cyril Raj. Chief guest Dr. N. Ashwin Kumar spoke on nanotechnology and microfluidics in cancer diagnostics.



Day 2 of “SARVASASTRA 2K23” included a recap by Dr. K.J. Sharmila and a talk by Ms. Madhura Ashokkumar on Alzheimer’s disease. The valedictory session featured addresses by Dr. G. Gopalakrishnan and Dr. N. Ethiraj, concluding with prize distribution and a vote of thanks to key supporters.







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## ALUMINI



### "Current Challenges for Higher Education and Work Opportunities in the UK"



### Mr. Mohammed Hashique

A seminar on "Current Challenges for Higher Education and Work Opportunities in the UK" was organized for final-year Biotechnology students in association with the Office of International Relations on July 21, 2023. Mr. Mohammed Hashique, Regional Marketing Manager – South India, SIUK, detailed opportunities for higher studies in the UK, competitive exams, university options, required scores, procedures, and extracurricular activities. He also discussed work prospects in the UK. The interactive session saw active student participation, with many questions posed about future opportunities. The seminar provided students with valuable insights into higher education and career prospects in the UK and neighboring countries.



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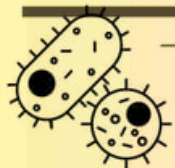
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## STAR OF H<sub>1</sub> (STUDENT)

Congratulations to the incredible team of **Amrith G. R., Prasanth E., Priya Dharshini B., Sanjay S., Suheerthana Sivahini S., and Tejaswari A.** from the Department of Biotechnology for winning 1st prize at Sarvasatra 2023 Science Expo on March 2, 2023! Your hard work and innovation, recognized by the esteemed HODs and VP, have earned this well-deserved cash prize.



## STAR OF H<sub>1</sub> (STAFF)

**Dr. P. THIRUNAVUKKARASU**

**M.Sc., M.Phil., Ph.D**

**Associate Professor Dr. MGR**

**Educational and Research Institute**

Congratulations to Dr. P. Thirunavukkarasu for being honored with the prestigious "Star Author" award in the Premium category by The Sir C. V. Raman Journal Club Mgr Publish Awards Challenge 999! Receiving a medal, certificate, cash prize, and a memento is a testament to your exceptional contributions and dedication. Well-deserved recognition!







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## RESEARCH & INNOVATIONS



**Sneha V**  
**B. Tech Biotechnology**  
**2020 - 2024**

Congratulations to Sneha V, a final-year B.Tech Biotechnology student, for her exceptional achievement in publishing a review article in the prestigious Elsevier Journal Clinica Chimica Acta (IF: 5.0, H-index: 167) in 2023! Titled "Prospectives and Retrospectives of Microfluidics Devices and Lab-on-Chip: Emphasis on Cancer," this insightful work, guided by Dr. Thirunavukkarasu Palaniyandi, explores cutting-edge advancements in microfluidic devices for cancer theranostics. The article delves into breakthroughs in medical applications, the evolution of microfluidics, and emerging platforms like organ-on-chip and lab-on-chip, highlighting their significant role in advancing cancer diagnosis and treatment. Sneha's research emphasizes the potential for more precise, tailored medication and point-of-care diagnostics, making a substantial contribution to the field. With a cumulative impact factor of 15.2, her work stands as a testament to her dedication, expertise, and academic excellence. Wishing her continued success as she embarks on her future endeavors in biotechnology and research!





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