SRI MANAKULA VINAYAGAR
ENGINEERING COLLEGE
(AN AUTONOMOUS INSTITUTION)

DEPARTMENT OF BIOMEDICAL ENGINEERING

BIODREAMS CLUB

ANNUAL REPORT

ACADEMIC YEAR:2025-26

SUBMITTED BY

/Mrs S.SUGUNA

ASSISTANT PROFESSOR

FACULTY COORDINATOR

Preface

The Technical Club **Bio Dreams**, established in 2020 under the Department of Biomedical Engineering, serves as a structured platform to promote technical proficiency, innovation, and professional growth among students. The club is committed to complementing academic learning with practical exposure and collaborative engagement involving faculty members, alumni, peers, and industry experts.

Bio Dreams organizes a wide range of activities including technical seminars, workshops, mini project development, technical quizzes, aptitude and logical reasoning sessions, programming skill enhancement programs, and theme-based events such as Engineers' Day and Water Day celebrations. These activities are systematically planned and executed by students, thereby fostering leadership qualities, teamwork, organizational skills, and effective communication.

Through its consistent efforts and student-driven initiatives, Bio Dreams contributes significantly to the holistic development of students and prepares them to meet the evolving demands of the biomedical engineering profession.

Faculty Coordinator
Mrs. S. Suguna

HoD/BME
Dr. A. Vijayalakshmi

Director Cum Principal
Dr. V.S.K. Venkatachalapathy

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ABOUT THE INSTITUTE

Sri Manakula Vinayaga Educational Trust was founded to provide quality and affordable education to the weaker sections of society. The trust established Sri Manakula Vinayagar Engineering College (SMVEC) in 1999. SMVEC is an autonomous institution affiliated to Pondicherry University. It offers 13 undergraduate, 8 postgraduate and 11 Research programs in engineering. SMVEC has been accredited by NAAC with “A” grade and NBA. The institution is also accredited by TATA consultancy services. The college has a good placement record with students getting job offers from top companies in India and abroad. SMVEC students have won many awards and accolades for their academic achievements. To be globally recognized for excellence in quality education, innovation and research for the transformation of lives to serve the society.

Vision

- To nurture the cornerstone of excellence in engineering education and drive innovation by seamlessly integrating the fundamentals of Science and Humanities

Mission

M1: Quality Education : To provide comprehensive academic system that amalgamates the cutting edge technologies with best practices.

M2: Research and Innovation : To foster value-based research and innovation in collaboration with industries and institutions globally for creating intellectuals with new avenues.

M3: Employability and Entrepreneurship : To inculcate the employability and entrepreneurial skills through value and skill based training.

M4: Ethical Values : To instill deep sense of human values by blending societal righteousness with academic professionalism for the growth of society.

Department of Biomedical Engineering

The Department of Biomedical Engineering is a distinguished department committed to delivering high-quality Undergraduate, Postgraduate, and Doctoral programs. The B.Tech Biomedical Engineering program is designed to equip students with strong foundations in engineering principles and medical sciences, enabling them to address real-world healthcare challenges. The department consistently strives for academic excellence, research advancement, and strong industry interaction, producing graduates who are highly valued in hospitals, medical device industries, research organizations, and healthcare technology sectors.

The department actively contributes to the national vision of advancing healthcare technology by fostering innovation, ethical responsibility, and a deep commitment to societal well-being. With a focus on emerging medical technologies and interdisciplinary collaboration, it aims to meet the evolving demands of the global healthcare industry.

Vision

To promote academic excellence and innovative research in Biomedical Engineering, preparing graduates to meet global healthcare needs with technical competence and ethical professionalism.

Mission

Academic Excellence:

To impart strong theoretical knowledge and practical skills in Biomedical Engineering to address contemporary healthcare challenges.

Research and Innovation:

To promote interdisciplinary research and innovation in emerging areas of biomedical technology for societal benefit.

Employability and Entrepreneurship:

To enhance technical, interpersonal, and entrepreneurial skills to develop competent professionals and future entrepreneurs in the healthcare sector.

Ethics:

To inculcate the significance of human values and professional skills to serve the society.

ABOUT BIODREAMS CLUB

The **Bio Dreams Club** of the Department of Biomedical Engineering is committed to exploring advancements in biomedical technology and healthcare innovation under the overarching theme:

“Innovating Healthcare through Engineering Excellence and Compassion.”

The club serves as a dynamic platform where engineering principles intersect with medical sciences to develop solutions that enhance healthcare delivery and improve quality of life. Bio Dreams encourages students to transform theoretical knowledge into practical applications through hands-on projects, technical discussions, research activities, and interdisciplinary collaboration.

Through seminars, workshops, mini-project development, health-tech expos, and expert interactions, the club fosters analytical thinking, creativity, and problem-solving skills. By integrating innovation with ethical responsibility, Bio Dreams prepares students to become competent biomedical engineers dedicated to advancing healthcare technology and serving society.

LIST OF EVENTS

S. No	Title of the Events
01	Puzzle and Logical Reasoning
02	K-Map Knockout Rapid-fire quiz
03	Group Discussion
04	Placement Activity
05	Seminar on Biomedical Signal Processing Using Arduino

SRI MANAKULA VINAYAGAR
ENGINEERING COLLEGE
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25 YEARS

DEPARTMENT OF BIOMEDICAL ENGINEERING

SMVEC/BME/CLUB/2025-26/01 27.06.2025

CIRCULAR

This is to inform that our department **BioDreams Club** has planned to conduct technical activity for the II & III year students on **28.06.2025** (Saturday). Students are asked to utilize the opportunity to enhance their knowledge.

Year/Sem/Sec	Planned Activity	Hour	Student coordinator
II/III/A	• Puzzle Game and Logical Reasoning	4,5	1. M.Kaviya Selvi 2. M.Shibaani 3. S.Yogeshwari 4. K.Kamaleshwar 5. M.Gurubalan
III/V/A	• Aptitude and Logical Reasoning Solving	7,8	1. L. Gayathri 2. B. Madhimalar 3. S.Sujithasree 4. J. Abdul Rahman 5. S. Annamalai

Mrs. S. Suguna
Department Coordinator

Dr. A. Vijayalakshmi
HOD/BME

PHOTO GALLERY

DECISION MAKING

Students from Bio Medical Engineering formed a club name BIO DREAMERS CLUB . It conducted activities that will help the students to increase their concentration power and to increase their listening skills.

Games were conducted to enhance the competitive spirit between the students and to think creative. It helped the students to develop their decision making skills and interactive skills. The quiz/puzzle/questions were asked will help the students to develop their social skills and it will enhance their memory power.

- Total Number of Participants : 57
- Year of students: II
- Date: 27/06/2025
- Venue : 315
- Event Coordinator: Mrs.S.Suguna
- Mode of activity: Offline

Objective of the Activity:

- To enhance students' concentration and listening skills through engaging and interactive sessions.
- To foster creative thinking and analytical abilities through quizzes, puzzles, and problem-solving activities.
- To promote a healthy competitive spirit among students through structured games and team-based challenges.
- To develop decision-making and quick-thinking skills in dynamic activity-based environments.
- To improve communication, interaction, and social skills through group participation and collaborative tasks.
- To strengthen memory power and cognitive abilities through intellectually stimulating exercises.

Overview of the Activity

The BIO DREAMERS CLUB organized an interactive and engaging activity aimed at enhancing the cognitive and interpersonal skills of Biomedical Engineering students. The session included a variety of games, quizzes, puzzles, and thought-provoking questions designed to improve concentration, listening ability, and memory power.

The activities encouraged active participation and healthy competition among students, fostering creativity, quick decision-making, and analytical thinking. Through team-based challenges and interactive discussions, participants also developed better communication and social skills.

Overall, the activity provided a lively and supportive environment that contributed to the holistic development of students while making learning both enjoyable and meaningful.

Outcome of the Event

The event successfully enhanced the concentration, listening, and memory skills of the participants through structured interactive activities. Students demonstrated improved analytical thinking and quicker decision-making abilities while actively engaging in quizzes, puzzles, and competitive games.

The program fostered a healthy competitive spirit and encouraged creativity among students. It also strengthened their communication, teamwork, and social interaction skills through collaborative participation.

Overall, the event contributed to the cognitive, personal, and interpersonal development of students, making it a productive and enriching learning experience.

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DEPARTMENT OF BIOMEDICAL ENGINEERING

SMVEC/BME/CLUB/2025-26/02 25.07.2025

CIRCULAR

This is to inform that our department **BioDreams Club** has planned to conduct technical activity for the II & III year students on **26.07.2025** (Saturday). Students are asked to utilize the opportunity to enhance their knowledge.

Year/Sem/Sec	Planned Activity	Hour	Student coordinator
II/III/A	• K-Map Knockout Rapid-fire quiz	4,5	1. M.Kaviya Selvi 2. M.Shibaani 3. S.Yogeshwari 4. K.Kamaleshwar 5. M.Gurubalan
III/V/A	• Microcontroller Quiz Set using Blookit	7,8	1. L. Gayathri 2. B. Madhimalar 3. S.Sujithasree 4. J. Abdul Rahman 5. S. Annamalai

Mrs. S. Suguna
Department Coordinator

Dr. A. Vijayalakshmi
HOD/BME

PHOTO GALLERY

PHOTO GALLERY

RAPID QUIZ:

The activity comprised two engaging technical segments: **K-Map Knockout Rapid-Fire Quiz** and **Microcontroller Quiz Set using Blookit**, designed to strengthen students' core knowledge in electronics and embedded systems.

- Total Number of Participants : 57
- Year of students: II
- Date: 25/07/25
- Venue : 312
- Mode of Activity: Offline

Objective of the Activity

- To strengthen students' understanding of Karnaugh Maps and microcontroller concepts through interactive quizzes.
- To enhance quick thinking, problem-solving, and analytical skills under a competitive environment.
- To encourage active participation, technical engagement, and collaborative learning among students

Overview of the Activity

The activity comprised two engaging technical segments: **K-Map Knockout Rapid-Fire Quiz** and **Microcontroller Quiz Set using Blookit**, designed to strengthen students' core knowledge in electronics and embedded systems.

The **K-Map Knockout Rapid-Fire Quiz** focused on testing participants' understanding of Karnaugh Maps and their ability to simplify Boolean expressions quickly and accurately. The rapid-fire format encouraged quick thinking, precision, and strong conceptual clarity under time constraints.

The **Microcontroller Quiz Set using Blookit** provided an interactive, gamified platform to assess students' knowledge of microcontroller architecture, programming concepts, and applications. The use of Blookit made the session dynamic and competitive, enhancing engagement and participation.

Overall, the activity promoted analytical thinking, technical proficiency, and a healthy competitive spirit while making learning both interactive and enjoyable.

Outcome of the Activity

- Strengthened students' understanding of Karnaugh Maps and microcontroller concepts.
- Improved problem-solving, quick reasoning, and analytical skills.
- Fostered active participation and engagement among students.

- Encouraged healthy competition and collaborative learning.
- Boosted confidence and technical proficiency in a practical, interactive setting.

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DEPARTMENT OF BIOMEDICAL ENGINEERING

SMVEC/BME/CLUB/2025-26/01 **08.07.2025**

CIRCULAR

This is to inform that our department **BioDreams Club** has planned to conduct technical activity for the II & III year students on **08.08.2025** (Saturday). Students are asked to utilize the opportunity to enhance their knowledge.

Year/Sem/Sec	Planned Activity	Hour	Student coordinator
II/II/A	• Puzzle and Logical Reasoning	4,5	1. M.Kaviya Selvi 2. M.Shibaani 3. S.Yogeshwari 4. K.Kamaleshwar 5. M.Gurubalan
III/V/A	• Group Discussion	7,8	1. L. Gayathri 2. B. Madhimalar 3. S.Sujithasree 4. J. Abdul Rahman 5. S. Annamalai

Mrs. S. Suguna
Department Coordinator

Dr. A. Vijayalakshmi
HOD/BME

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PHOTO GALLERY

PUZZLE EVENT

The activity comprised **Puzzle and Logical Reasoning** exercises alongside **Group Discussions**, designed to enhance both cognitive and communication skills of the students. The puzzle and reasoning sessions challenged participants to think critically, analyze patterns, and solve problems efficiently, fostering stronger decision-making and problem-solving abilities.

The group discussion segment provided a platform for students to articulate their ideas, engage in constructive debates, and listen to diverse perspectives, thereby improving their communication, teamwork, and interpersonal skills. Overall, the activity encouraged active participation, collaboration, and creative thinking, contributing to the holistic development of students in both technical and soft skill domains.

- Total Number of Participants : 57
- Year of students: II
- Date: 08/08/25
- Venue : 316
- Mode of Activity: Offline

Objective of the Activity

- To enhance students' analytical thinking and problem-solving abilities through puzzles and logical reasoning exercises.
- To develop effective communication, critical thinking, and idea articulation skills through group discussions.
- To promote teamwork, collaboration, and confidence in expressing thoughts in a structured environment.

Outcome of the Activity

- Improved students' analytical thinking and logical reasoning skills.
- Enhanced communication, critical thinking, and ability to articulate ideas clearly.
- Fostered teamwork, collaboration, and confidence in group interactions.
- Encouraged active participation and constructive engagement among students.
- Developed problem-solving skills applicable in both academic and real-world scenarios.

OVERVIEW

- **Skill Validation:** A focused session to translate technical projects—like **Arduino-based signal processing**—into professional achievements that resonate with medical technology recruiters.
- **Industry Integration:** Connecting students with **healthcare engineering firms** to understand the specific hardware and regulatory standards (like ISO or FDA basics) required in the field.
- **Career Readiness:** Equipping participants with **mock interview experience** and portfolio-building strategies to successfully transition from academic learning to clinical and industrial roles.

SRI MANAKULA VINAYAGAR ENGINEERING COLLEGE

DEPARTMENT OF BIOMEDICAL ENGINEERING

SMVEC/BME/CLUB/2025-26/09

12.02.2026

CIRCULAR

This is to inform that our department **BioDreams Club** has planned to conduct technical activity for the I, II & III year students on **14.02.2026** (Saturday). Students are asked to utilize the opportunity to enhance their knowledge.

Year/Sem/Sec	Planned Activity	Hour	Student coordinator
II/III/A	Seminar on Biomedical Signal Processing Using Arduino	7,8	1. B. M.Kaviya Selvi 2. M.Shibaani 3. S.Yogeshwari 4. K.Kamaleshwar
I/II/A	Poster Making Competition on Life Saving Medical Devices	7,8	1. D. Geetha Roshini 2. P. Sowmiya 3. Chiranjeevi Mathan Kumar 4. V.Kabilash

Mrs. S. Suguna
Department Coordinator

Dr. A. Vijayalakshmi
HOD/BME

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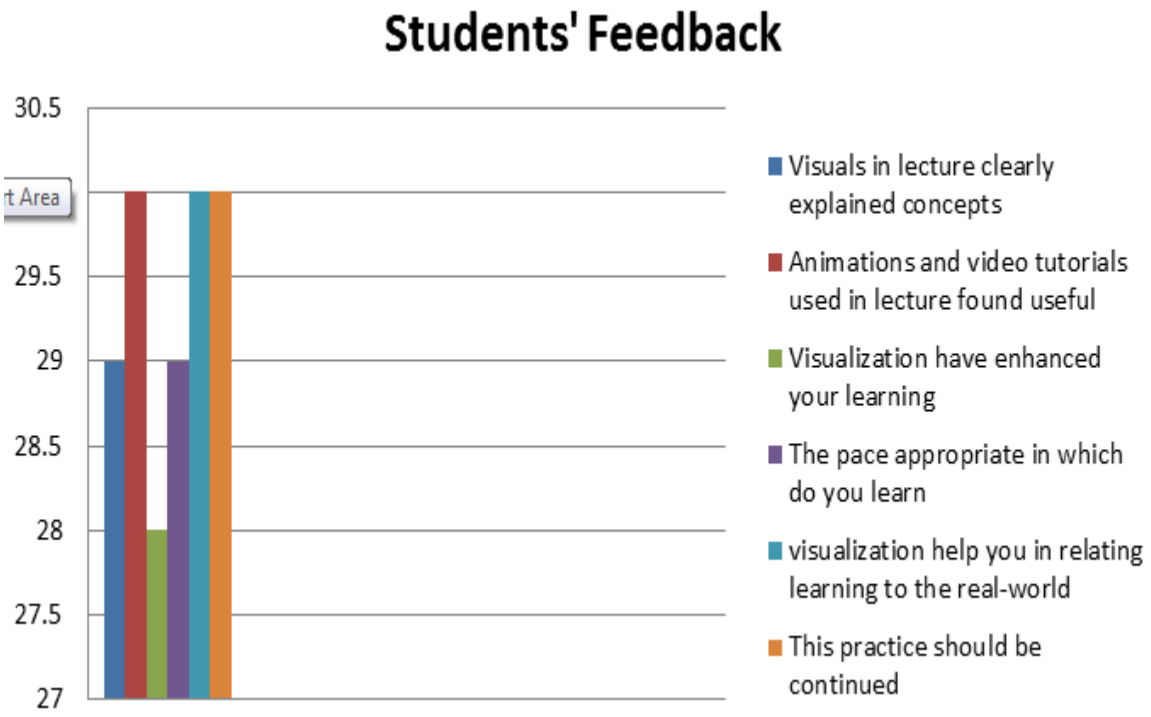
OBJECTIVE:

- To introduce students to the fundamentals and applications of **Biomedical Signal Processing** using Arduino, enhancing technical knowledge and hands-on skills.
- To foster creativity and innovation through the **Poster Making Competition** on life-saving medical devices.
- To encourage awareness of biomedical engineering advancements and inspire students to develop practical solutions for healthcare challenges.

OVERVIEW:

- **The Seminar:** A deep dive into capturing physiological signals (ECG/EMG) using **Arduino**, teaching participants how to transform raw human data into digital health insights.
- **The Competition:** A creative challenge for students to design posters that showcase the mechanics and impact of **life-saving medical devices** on global healthcare.
- **The Goal:** To bridge the gap between **low-cost engineering** and **clinical application**, fostering the next generation of biomedical innovators.

STUDENT FEEDBACK

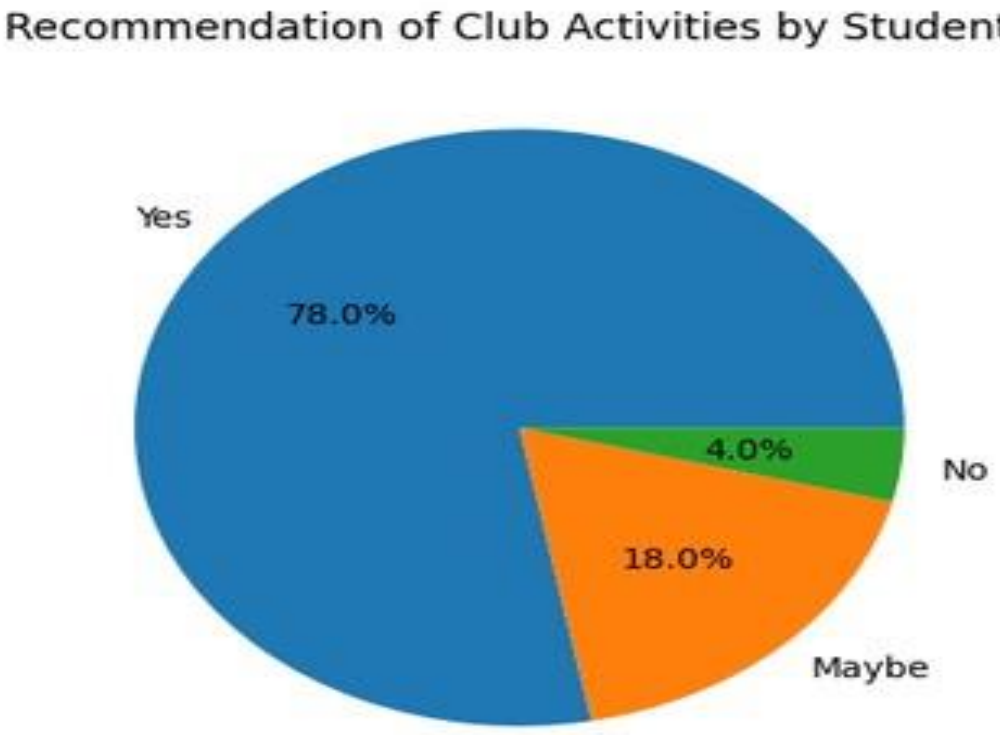


The pie chart depicts the overall satisfaction level of students regarding the BIO DREAMS CLUB activities conducted during the academic year 2024–2025. It is observed that 78% of students rated the activities as Excellent or Very Good, indicating a high level of satisfaction. Only 4% rated the activities as Average, and no negative feedback was recorded.

The bar chart represents the average ratings given by students for various effectiveness parameters. The ratings are consistently above 4.4 out of 5, highlighting the club's strong performance in event organization, hands-on exposure, skill development, and teamwork enhancement. The highest rating was observed for hands-on exposure, reflecting the practical orientation of the club activities.

STUDENT FEEDBACK

The pie chart shows that 78% of students are willing to recommend the Robotics and Automation Club activities to other students, while 18% expressed conditional interest. This clearly demonstrates the positive perception and value of the club among students



FUTURE PLAN OF ACTION

- R&D Innovation Lab: Establish a dedicated space for long-term prototyping, where members can evolve simple Arduino projects into market-ready, low-cost diagnostic tools.
- **Industry & Hospital Partnerships:** Formalize **internship pipelines** and observational visits with medical device manufacturers and hospitals to bridge the gap between classroom theory and clinical reality.
- **Global Bio-Hackathons:** Host annual **inter-collegiate competitions** focused on solving real-world healthcare challenges using signal processing, AI, and sustainable medical hardware.