

**Report on  
Semiconductor devices and SciLab software Demonstration  
BEST Society Activity**

Name of the Activity: Semiconductor devices and SciLab software Demonstration.

Date and Time: 14<sup>th</sup> December, 2024 from 9:30am to 1:30pm.

Nature of Beneficiaries: 11 Students of BSc MECs I yrs.

Organized by: Department of Physics & Electronics BVC in collaboration with BEST Society.

The objectives of this activity is to guide, support and develop the student community in Science and Technological streams, in this regard dept. of physics electronics conducted ahands-on session for students at ILM Science Academy, Narayanguda, Hyderabad on 14th December, 2024, eleven students from BSc MECS I yr took part in this activity. Mr. B.SatyanandRetd. Scientific Officer (HCU), demonstrated the Diode and LDR Characteristics - Hardware Experiments. Mr T.Sanjay, Technical Associate – Pentagram Technologies, Secretary BEST Society demonstrated the SciLab software, students expressed that the session was very informative.





SciLab Demonstration by Mr T Sanjay



Practice problems given by Mr T Sanjay



LDR Characteristics Expt setup  
Demonstration to students by Mr T  
Sanjay



Diode characteristics experiment Demonstration by  
Mr B. Satyanand Retd. Scientific Officer (HCU),

Report on  
**Career Guidance in Defence Services**

**Target Group:** Students of Physical Sciences groups

**Number of students:** 220

**Title:** Career Guidance in Defence Services

**Guest speakers:** Session 1: **Capt.(IN) Sunil Shankar – Navy**

Session 2: **Gp. Capt. C. Suresh - IAF**

Session 3: **Col. Anuj Tyagi - Army**

**Coordinators:** Ms. Prasanna, Head, Department of Physics and Electronics;  
Mr. Jalaj Pandey, Assistant Prof., Department of Computer  
Science

**Venue:** Vivekananda convention centre, CDM, Sainikpuri

**Date:** 16/11/2024

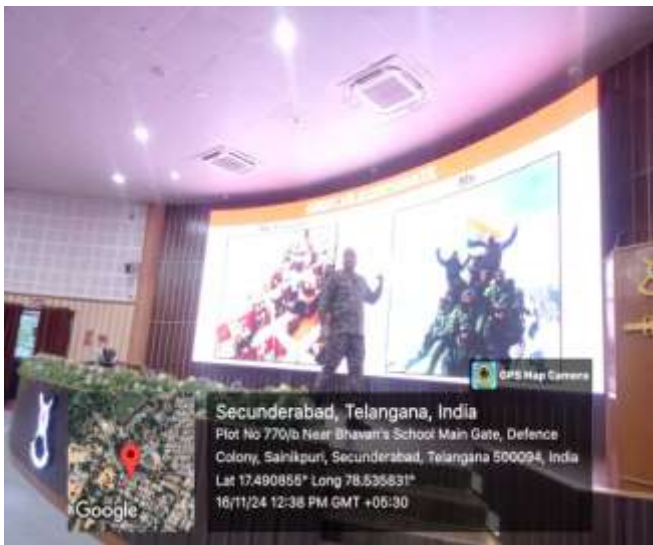
The Department of Physics and Electronics has arranged for a series of Guest Lectures titled “Career Guidance in Defence Services” on 16/11/2024 at The College of Defence Management, Sainikpuri, Secunderabad.

The first session of the lecture series was delivered by Captain (IN) Sunil Shankar of the Navy, who introduced students to life at sea and provided an overview of maritime service, highlighting career opportunities in navigation, engineering, communications, and logistics.

Group Captain C. Suresh of the Indian Air Force conducted the second session. He provided an overview of aviation's cutting-edge training and opportunities, emphasizing the precision and teamwork required for roles such as pilots, aerospace engineers, air traffic controllers, and IT specialists. His talk also covered various modes of recruitment into the defence services.

The final session was conducted by Colonel Gonte R.D. of the Army, who described a career in the Army as an honourable opportunity to serve the nation. He encouraged students to develop leadership, discipline, and resilience—key qualities required for various roles in the Army, including combat positions, engineering, logistics, and medical support. According to him, a career in the Army is challenging and fulfilling, offering opportunities to build physical and mental endurance.

All the sessions were highly motivating and informative, inspiring many students to consider a career in the defence services.



**Report on**  
**Guest Lecture conducted Under Star DBT Scheme**

Subject: **IOT AND ITS APPLICATIONS**

Date: 14/09/2024 at 10:30 AM

Nature of Beneficiaries:

39 Students of BSc MECs II yr, MECs III yr, BSc MPCs IIIyrs & MSCs  
IIIyrs.

Organized by: Department of Physics & Electronics BVC

Resource Person: Mr Harish Kumar R

Designation: Embedded and IoT Trainer, Co-Founder, Embiotix Pvt Ltd.

The objective of the guest lecture is to introduce the basics of Internet of Things and their Applications so that the students get motivated to get into the field of Internet of Things by taking up projects in their curriculum.

Mr Harish Kumar gave introduction to basics of IoT - Architecture - Protocols - examples of IoT - overview of IoT Components - IoT Communication Technologies - challenges in IoT, he discussed the applications of IoT in the field of Agriculture, Home Automation, Industrial Automation and Smart Lighting. He shared some of the techniques and resources to the students to start their project works. The guest lecture was very informative.



Mr. Harish Kumar giving lecture on IoT and its Applications

# **Report on Outreach Programme**

## **BASICS OF INTERNET OF THINGS (IOT)**

**Date:** 24/8/2024

**Mode:** Offline, Room no. 51, IT Block

**Organising Departments:** Department of Computer Science in collaboration with Department of Physics and Electronics under BIIC

**Event Incharges:**

- Mrs. M Prasanna, Head, Department of Physics and Electronics
- Mrs. K Padmapriya, Asst. Professor, Dept. of Computer Science
- Mrs. M Amitha, Member- BIIC
- Mrs. N Sharon Rosy, Member- BIIC

**Participants:** Class XII Students of Bhavan's Sri Ramakrishna Vidyalaya, Sainikpuri

**No. of participants:** 30 students, 2 Faculty

**Objective of the workshop:**

To equip students with the basic knowledge of IoT and to bring about awareness of innovation among them through Arduino Programming.

The Department of Computer Science, along with the Department of Physics & Electronics under Bhavan's Institution Innovation Cell (BIIC), organized an Outreach Programme for school students on the Basics of IoT on 24th August 2024. The faculty in charge of the event were: Mrs. M. Prasanna, Head of the Department of Physics and Electronics; Mrs. K. Padma Priya, Assistant Professor, Department of Computer Science; Mrs. M. Amitha, Member, BIIC,

Department of Computer Science; and Mrs. N. Sharon Rosy, Member, BIIC, Department of Computer Science.

This Outreach Programme was primarily organized to create awareness among students about innovation through Arduino programming. The faculty in charge also served as the resource persons, briefing the students on the basic components and coding involved in Arduino programming. The session was followed by a few project demonstrations by our students, along with hands-on experience for the school students.

### **Outcome of the workshop:**

Students were enriched with knowledge about IoT, along with the simple coding and hardware involved in developing basic sensor-based devices. The event was highly interactive, engaging the students in discussions and successfully raising awareness about the importance of innovation, which could inspire school students to become future entrepreneurs. The outreach concluded with a feedback session from the students about the programme, followed by the distribution of certificates to all participants and volunteers.







**Report on**  
**One day Workshop on “Prototype/Process Design and Development”**  
**Bhavan’s Institution Innovation Cell**

**In association with**  
**Department of Mathematics & Statistics and Department of Physics & Electronics**

Date: 22/8/2024

Mode: Online, Room no. 71, Seminar Hall, Bio-chemistry Block

Speaker: Mr.Naveen Krishna Yamarthi, Executive director - OPSIT, AstraZeneca.

No. of participants: 78 students, 2 Faculty. (Boys: 42 Girls: 36)

**Organising Departments:** Department of Physics and Electronics and Department of Mathematics and Statistics under BIIC.

**Objective of the workshop:**

- To enhance Knowledge on how to develop Prototype: overcome challenges and planning the strategies
- Bhavan’s Institution Innovation Cell in association with Department of Mathematics & Statistics and Department of Physics & Electronics organized a Workshop on 22<sup>nd</sup> August 2024. The guest speaker was Mr.Naveen Krishna Yamarthi, Executive director - OPSIT, AstraZeneca and was an alumni of BVC. The topic for the workshop was “Prototype/Process Design and Development”. The faculty coordinators for the workshop were Mrs T Sai Santoshi, Member BIIC, Department of Physics & Electronics and Mrs K. Srilatha, Member BIIC, Department of Mathematics & Statistics.
- The main objective of this workshop was to enhance the knowledge on how to develop a Prototype: overcome challenges and planning the strategies, mainly for the students of Physical Sciences.
- The guest speaker gave an overview about how to develop a prototype with different stages of it, like identifying the correct problem so that we can come up with a correct prototype. He emphasized on timely marketing and contingency plans to get a perfect outcome. The speaker focused on being persistent and calm as the success rate is below 8% in the beginning. He also briefed about his work on developing a prototype to treat leukemia patients using digital technology.
- **Outcome of the workshop:** Students were enriched with the knowledge of prototype design and development. The event was an interactive session and the participants

were engaged in discussion on various stages of developing and marketing a prototype. This workshop concluded with Guest speaker's own experiences while developing various prototypes.



**Report on**  
**The Fourth State Plasma Exhibition**  
**Organised by Dept. of Physics & Electronics in association with**  
**Institute of Plasma Research Department of Atomic Energy, Government of India.**

The Fourth State Plasma Exhibition was organized as part of a scientific outreach program by the Institute of Plasma Research (IPR), under the Department of Atomic Energy, Government of India. The event was hosted by Department of Physics & Electronics, Bhavan's Vivekananda College of Science Humanities & Commerce, Hyderabad from August 12<sup>th</sup> to 14<sup>th</sup>, 2024. The primary aim of the exhibition was to promote scientific curiosity and understanding of plasma, the fourth state of matter, among students and the general public.

The outreach program spanned three days, witnessing a huge turnout of participants. A total of 1706 students from various schools, undergraduate (UG), and postgraduate (PG) colleges across Hyderabad and nearby areas attended the exhibition. The diverse audience included students, faculty members, and scientific enthusiasts, all eager to engage with plasma science and its multifaceted applications. The exhibition featured several interactive and educational components, which included Live Plasma Demonstrations, Presentations on Plasma Applications, Hands-on Experiments, Plasma Art and Science Displays

The students participated enthusiastically in all activities. Special sessions were conducted for different educational levels to ensure that the content was understandable and engaging for all. The UG and PG students were particularly interested in the applications of plasma in research and industry, while school students were captivated by the live demonstrations and hands-on experiments.

The event successfully sparked curiosity among young students, many of whom expressed a desire to learn more about plasma science and its future possibilities. Teachers and faculty members noted the effectiveness of the demonstrations in making complex scientific concepts accessible. The event also fostered interest in pursuing careers in science and research among students.

The Fourth State Plasma Exhibition was a resounding success, with high levels of participation and engagement from both students and faculty. The collaboration between Bhavan's Vivekananda College and the Institute of Plasma Research has set a strong precedent for future scientific outreach programs.





## Report on

### Guest Lecture on Unleashing the Future: Harnessing the Power of AI

**Resource Person:** Prof. Rani Hemamalini, HoD, Electrical and Electronics Engineering (EEE) and Director of the Internal Quality Assurance Cell (IQAC), St. Peter's Institute of Higher Education & Research, Chennai Tamil Nadu.

Date: 09-08-2024

Target Group: UG Students - BSC Physical Sciences & Life Sciences.

Total Number of Participants: 90

On 09-08-2024, the Department of Physics & Electronics, Bhavans Vivekananda College, Secunderabad organized a highly informative guest lecture titled "Unleashing the Future: Harnessing the Power of AI." The event was conducted on an online platform. A Total of 90 BSC Students attended the session.

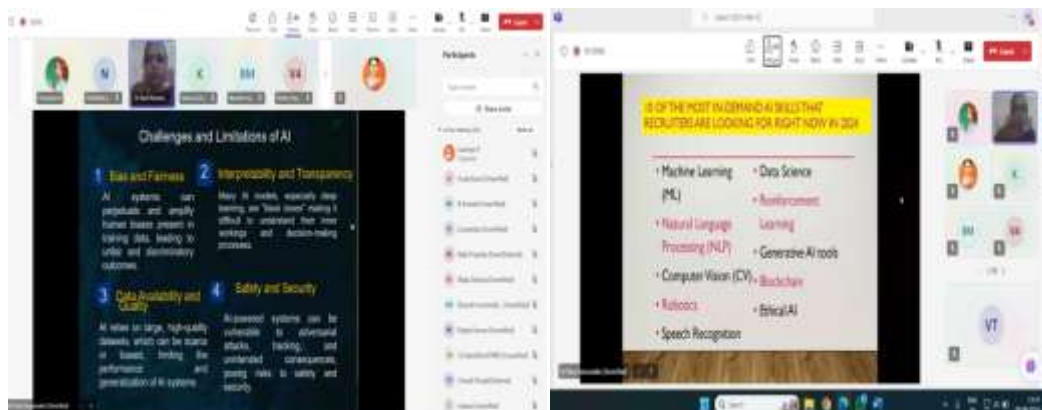
The lecture aimed to introduce participants to the vast potential of Artificial Intelligence (AI) and its transformative power in shaping the future of various industries, particularly in the Electrical and Electronics Engineering sector. Prof. Hemamalini's talk focused on the real-world applications of AI, current trends, and future possibilities.

Prof. Hemamalini began the session by explaining the fundamentals of AI, including machine learning (ML), deep learning (DL), and neural networks. She also discussed the differences between narrow AI and general AI, explaining how AI has evolved over the years. Some of the key AI applications highlighted were Smart Grids, Automation, Control Systems, Fault Detection and Predictive Maintenance. Prof. Hemamalini broadened the scope by discussing AI's implementation in sectors like Healthcare, Finance and Manufacturing.

Prof. Hemamalini concluded the lecture by predicting the future of AI, and the need for interdisciplinary skills among engineers to stay competitive in a world driven by AI.

Following the presentation, there was an interactive Q&A session where participants asked Prof. Hemamalini questions about AI's role in industries, career opportunities, and the integration of AI into academic curricula. The session was highly engaging. The session was concluded with a vote of thanks to the speaker for her time and knowledge.

The lecture served as a stepping stone for students and faculty to dive deeper into the promising field of AI and its applications in engineering.



## **Report on Orientation programme for BSc Computer Science I Years**

**Date: 06-07-2024**

**Venue: Room no 208, Seminar hall, MBA block**

The Orientation Programme for BSc Computer Science 1st-year students for the academic year 2024-25 was organized by the Departments of Mathematics & Statistics, Physics & Electronics, and Computer Science.

The primary objective of the programme was to make the students aware of the academic aspects of the college. Dr. GSVRK Choudary, Principal of BVC, welcomed the students with a delightful and enlightening speech, emphasizing the importance of learning the basics and guiding them towards choosing the right path for a bright future. Ms. Dolly Vurity, a freelance soft skills trainer, delivered a motivational speech on personality development and soft skills.

The session was followed by alumni interactions. The first interaction was with Lt. Cdr. Hem Kumar Naidu, who graduated in 2004 and now works for Amazon. He shared his experiences as a student in the college and encouraged students to participate in every activity conducted both ON and OFF campus. The second interaction continued with Mr. Shiva Narayana Dey, who graduated in 2020. He shared his positive experiences and offered tips on avoiding negative thoughts.

Finally, students were introduced to the various clubs and units of the college. The coordinators of NCC, NSS, UBA, YRC, and BSG shared information about their respective units and encouraged students to join.



Motivational talk by Ms. Dolly Vurity, a freelance soft skills trainer



Mr. Shiva Narayana Dey, alumni, interacting with students