Date: 10/08/2023

Report on Antariksh: Remote Sensing STEM workshop

All Indians are proud of the self-reliance and achievements of ISRO. ISRO is the dream work place of many young students. Through this STEM workshop, we would like to create curiosity among the young students about space science, satellites, and launchers. The students will learn how they can contribute to the nation's glory when they grow up as space scientists and engineers in ISRO.

Aim:

1. To make students familiar with geosciences such as geophysics, geology and remote sensing related science.
2. To make students aware the activities involved in the space exploration.
3. To deliver content alongside the standard classroom curriculum which will include books and lab assignments
4. To collaborate with IEEE in promoting space science and engineering through STEM workshops.

Goal:

Antariksh is a workshop for the pre-university students. In this workshop, students will learn basic physics principles regarding space, satellites and launchers in a fun filled manner. Students will develop their own balloons using simple microcontrollers and launch them using helium balloons. This workshop will have higher impact on students learning attainment about space, satellites and launchers by engaging them to explore and become future space scientists.

Objectives:

1. In this workshop, the students will have hands-on experience to develop small modules using microcontroller and sensors.
2. It will create excitement in the young minds and will definitely develop their curiosity and interest in the space science and satellites.

3. It will also develop skills in them so that they can use the knowledge acquired in the workshop to implement their ideas on their own and explore in future.

Implementation

We conducted the workshop on our campus as we need systems that every student should have and may not be possible in every school campus. We divided workshop into three parts:

1. Introduction about space and engineering
2. Basics satellite communication
3. Handson workshop with simple wireless modules using Arduino and making 3D encapsulation of setup using 3D printing.
4. Launch of the same using balloons and demonstration of satellite communication
5. We can also used ISRO Logo as collaborator our institute is Registered SPACE tutor.

- **Staff and Trainer Involved:**

1. Dr. Lochan Jolly - Dean, SSW
2. Ms. Anvita Birje (AP- E&TC)
3. Rotaract student Volunteers

- **Event Schedule and Attendance:**

Sr. No.	Name of School	Date	No. of students	No. of Teachers
1.	Vibgyor High, Goregaon (W)	04-08-2023	24	2

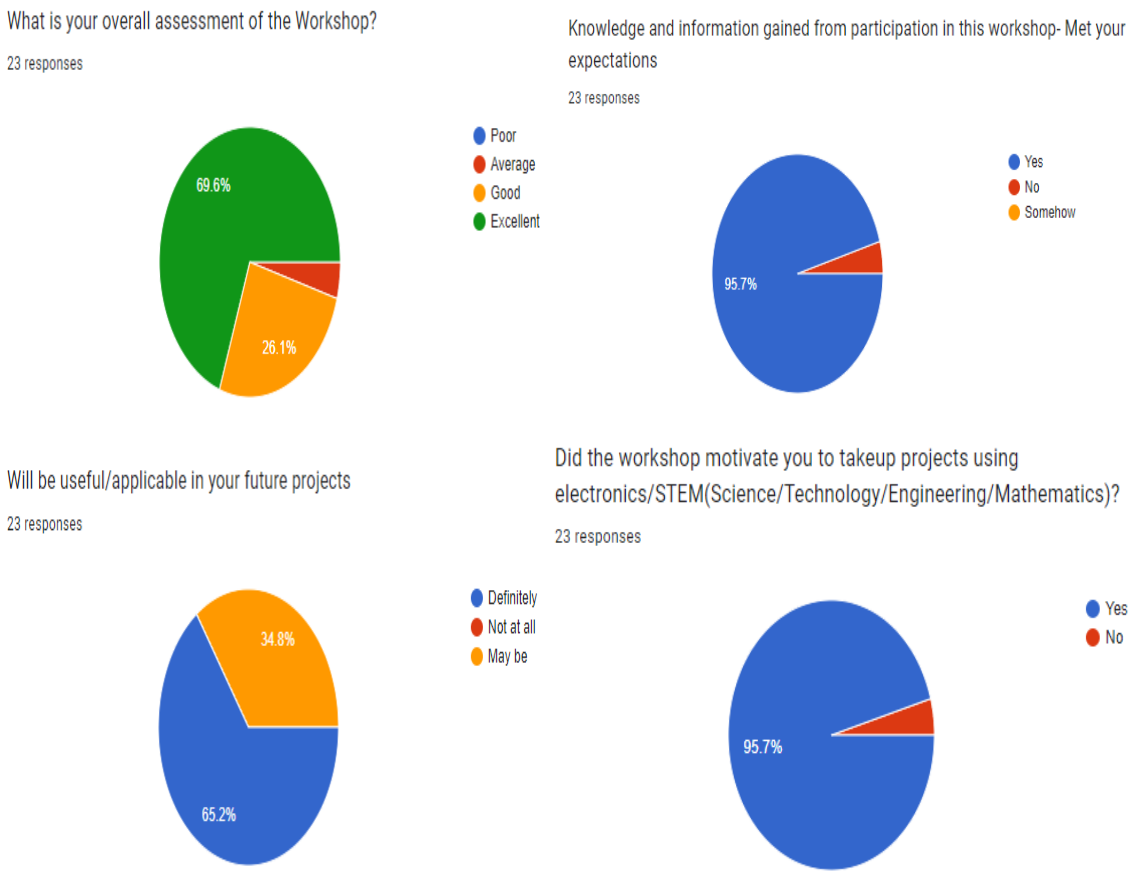
Outcomes:

1. This workshop helped students to improve experimental and design skills for simple controller-based circuits which can communicate wirelessly.
2. The workshop laid foundation of essential concepts required to design a satellite.

3. Students had the opportunity to apply and enhance their skills through hands on experience.

4. Finally, this collaboration helped students to develop interest in the field of space engineering and to perceive their higher education.

➢ Feedback Analysis:



BOMBAY CHAPTER

IEEE-TCET Student Chapter
IEEE TCET
Student Chapter code: STB62611
ieee.tcetmumbai.in

IEEE BOMBAY SECTION
Educational Activities Committee

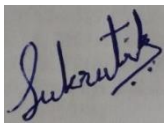
- **Glimpses:**

- **Conclusion:**

This workshop is a step towards providing platform for school children to use technology by learning science concepts. It created excitement in the young minds and will definitely develop their curiosity and interest in the space science and satellites. It also developed

skills in them so that they can use the knowledge acquired in the workshop to implement their ideas on their own and explore in future.

Prepared by,



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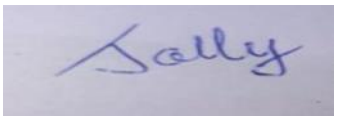
Approved by,



Dr. Lochan Jolly
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