DON BOSCO INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION

IEEE-DBIT STUDENT BRANCH

Report on "STEM ANTARIKSH" –

"Outer Galaxies_ Astronomy Education" sponsored by IEEE Bombay Section

Topic: "Outer Galaxies_ Astronomy Education"

Date: 14th September, 2023

Time: 8:00 am to 11:30 am

Venue: Karthika High School, Kurla

Organising team: 23 members IEEE Team

Participating students : 29 students of 8th grade of Karthika High School

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Date: 15th September, 2023

Time: 8:00 am to 11:30am

Venue: Mumbai Utkal English High School

Organising team: 23 members IEEE Team

Participating students : 80 students of 7th & 8th grade

Objective: Knowledge Rover, outer astronomy, Planets, space andengineering fields

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- Knowledge of Rover, Planet, Space.
- Easy demonstration of Rover.
- Increase motivation towards engineering.
- Students will get hands on experience on Rovers.

- Interesting Facts of ISRO, NASA, ASTRONOMY.

Description:

- IEEE-DBIT Student Chapter organized a workshop of "*STEM ANTARIKSH OUTER GALAXIES ASTRONOMY EDUCATION sponsored by IEEE Bombay Section* for class of 8th students on14th September, 2023.

- The IEEE-DBIT along with S.T.E.M. volunteers reached Karthika High Schoolat 8:20 AM. The event commenced at 8:34 AM

- Ms. Freda Carvalho, IEEE DBIT SB Counselor spoke to the students and introduced IEEE and it's initiatives to inspire young minds to pursue engineering courses. Mr. Umer Shaikh (IEEE-DBIT Chair) began the workshop with ice breaker questions, checking on their aspirations in the future , a few questions on gravity, blackhole and space. It was followed by the introduction of the IEEE DBIT team.

- Ms. Dibyarupa Pradhan followed next giving an introduction of Solar System. Furthermore, she gave a brief explanation of Sun, Mercury, Venus, Earth, Moon, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto. To make the workshop interactive the students who answered correctly were given chocolate and pen as reward.

- Next topic was Big Bang Theory, Gravity, Light Year. She also taught them logical and mathematical expressions. She asked some questions to keep the students interactive.
- The next speakers were Ms. Annanya Zadbuke and Ms. Khushi Shetty. They gave a beautiful introduction of Blackhole through an exciting video for better understanding. They tackled a lot of facts and fiction, they also told the students to read the facts. To make the workshop interactive the students who answered correctly were given chocolates.

- Next to follow was Ms. Zubia Sarang. Miss Zubia introduced the Achievements. Such as Sputnik, Chandrayan 1(0ct 2008),Chandrayan 3 (5th Aug 2023), Mangalyaan, Voyager 1 (Nov 2008), First-ever image of blackhole, James Webb telescope which captured a glimpse of possible first ever Dark Star, Pictures taken by Hubble Telescope, White Dwarf of stars, Juno Satellite, Zond Satellite, Aditya -L1 (2nd Sep2023). She asked some question on ISRO and NASA to students and also given the chocolates and also told the Facts of ISRO and NASA.

- Next speaker was Ms. Suhani Sawant, who introduced students to Instruments used for astronomy, such as COS & STI'S, Flyby Spacecraft, Atmospheric Spacecraft. And she told some facts and ask some questions.

- Mr. Karthik Dandelia than later introduced the Rover.
- Mr. Karthik explained about the ROVER and the recently successful landerChandrayan 3 Rover and Lander. The IEEE TEAM made some prototype of Rovers for the better understanding of the students and they showed great interest in engineering field. He explained about the hardware and software components such as Arduino, and sensor used for making the Rover re NRF Sensor, BMP Sensor, DHT Sensor, IR Sensor. He also showed some video and photos of making Rovers.

- IEEE Technical Team working on Rovers connections and kits testing and checking the Software as well as Hardware were also present. The Technical Team consisted of Mr. Mohd Raza and Mr. Girish Sangare.

- After giving proper details about rovers and they hardware and software components. IEEE Team Started the hands on Demonstration session with the students.

- The students were divided into 4 groups for demonstration of Rover. Each group were given 2 volunteers for explaining and the both Hardware and software and its working.

- The live working of rover, was demosnstrated -1) how the rover avoids obstacles by using the proximity sensors. 2) The Transmitting and receiver concept, where the transmitter transmits data from sensors like temperature and pressure, and were displayed through a receiver module on screen.

- Students also got to learn about rover lander , they also got an opportunity to check the components on the rover kit. Group 1 was handed by Prem and Suhaani, Group 2 Karthik and Zubia, Group 3 Dibyarupa and Raza, Group 4 Tanmayee and Prerana.

- After the demonstration sessions, Ms. Prerana Gawale informed the students about the Story of moon formation. She ended her session with some facts and some questions and chocolates for students with correct answers.

- Mr. Umer Shaikh summarized the entire session and topics which were explained during Workshop.

- Ms. Tanmayee Ahire distributed the Feedback Form to students.

- The workshop ended by a Vote of Thanks by Umer (IEEE-DBIT Chairperson).

- IEEE DBIT Team presented a rover kit to Karthika school students as well as a kit to Utkal school students.

- Here we Successfully ended the Day 1 and Day 2 of STEM ANTARIKSH.

Summary of session analysis of Day 1 in Karthika High School:

From the analysis we can determine, that the majority of the attendees were students. Most of the participants have responded that the session was relevant and well organized. The questions asked during the webinarwere answered in appropriate and satisfactory manner. The attendees agree that the overall session was valuable and informative. As reflected by the feedback, decent number of attendees felt that they can now better understand their measuring equipment and the measurement mechanics under practical conditions. Significant number of people are interested in participating in future webinars.

Feedback of session from students Day 1 in Karthika High School:

28 students attended the session. They found the session very interesting. Here is a static analysis of feedback of the session.

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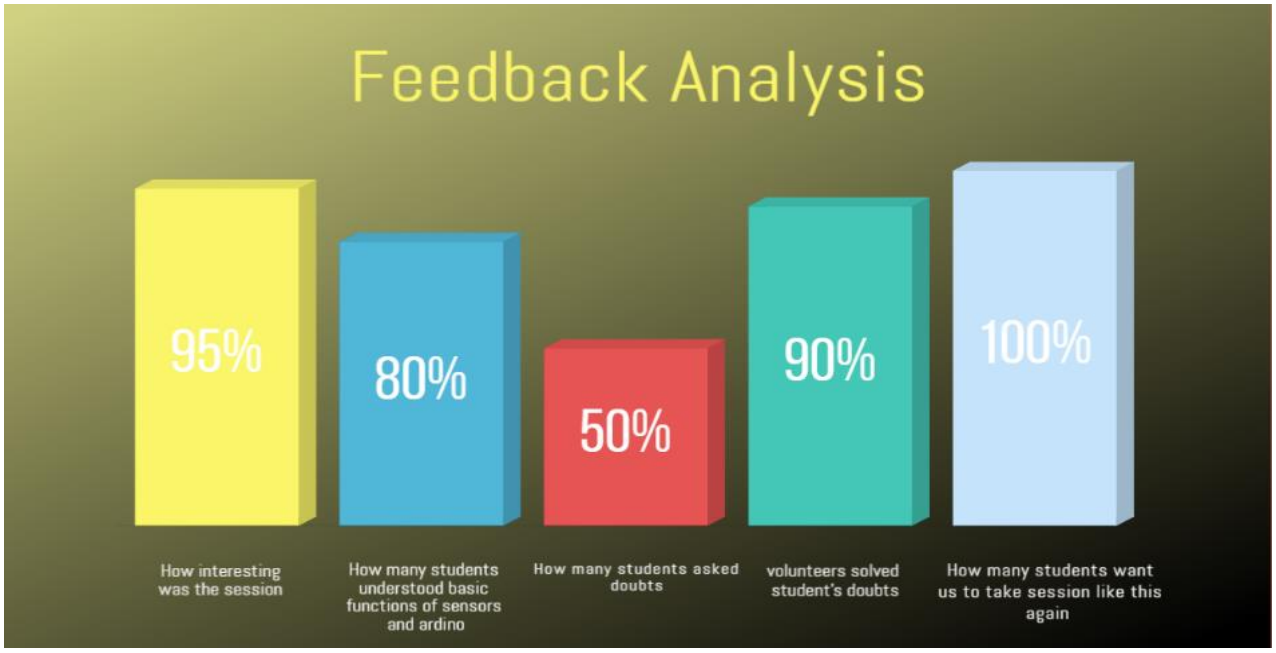

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Some picture of the event taken on 14th September in Karthika High School:

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A rover kit is presented to Karthika school teacher

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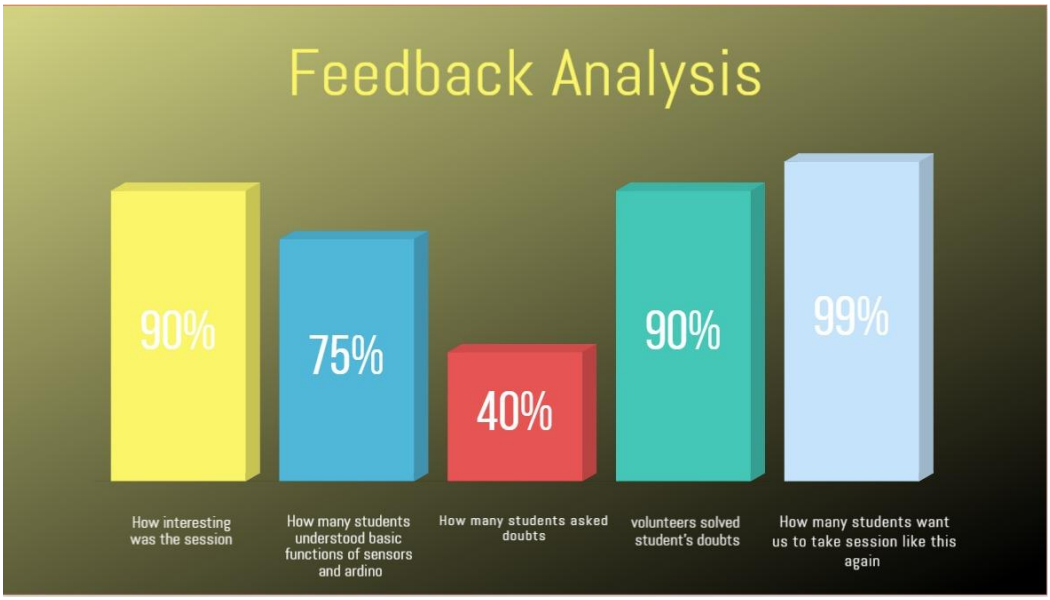
Summary of session analysis of Day 2 -15th September in Utkal High School:

From the analysis we can determine, that the majority of the attendees were students. Most of the participants have responded that the sessionwas relevant and well organized. The questions asked during the webinarwere answered in appropriate and satisfactory manner. The attendees agree that the overall session was valuable and informative. As reflected by the feedback, decent number of attendees felt that they can now better understand their measuring equipment and the measurement mechanics under practical conditions. Significant number of people are interested in participating in future webinars.

Feedback of session from students Day 2 -15th September in Utkal High School:



78 students attended the session. They found the session very interesting. Here is a static analysis of feedback of the session.

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Some picture of the event Day 2 -15th September in Utkal High School:

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<u>Report Prepared by</u>: Ms. Tanmayee Ahire, IEEE DBIT Student Volunteer

Feedback Analysis Prepared by: Mr. Aryan Arde & Mr. Narayan Dalvi IEEE DBIT Student Volunteer

<u>Report Approved by</u>: Prof. Freda Carvalho, IEEE-DBIT Student Branch Counselor