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A 3-day Workshop on 'Creative Thinking, Innovation and Problem-Solving'

Recognizing the need for problem solving capability in the engineers of tomorrow, the Tomorrow's Engineers Club of MVJCE organized a 3-day Workshop on '**Creative Thinking, Innovation and Problem Solving**', from 11th to 13th March, 2019.

The workshop was inaugurated by the honourable Chief Guest Dr. B N Suresh, Chancellor and Founder Director, IIST, Thiruvananthapuram (Past President, INAE, Delhi, and Former Director, VSSC, Thiruvananthapuram), also chairman of Governing Council, MVJCE and the esteemed Resource Speaker Dr. K Sudhakar, Professor (Retd.), Department of Aerospace Engineering, IIT Bombay, on 11th March 2019, at 10:30 am, in Smt. Rajalakshmi Jayaraman Seminar Hall, MVJCE.



Inauguration of Tomorrow's Engineers Workshop on "Creative Thinking, Innovation and Problem Solving" on 11th March 2019 at Smt. Rajalakshmi Jayaraman Seminar Hall, MVJCE: Honorable chief guest Dr. B N Suresh , Chancellor and Founder Director, IIST, Thiruvananthapuram (Past President, INAE, Delhi, Former Director, VSSC, Thiruvananthapuram) inaugurating the workshop by lighting the lamp.



Inauguration of Tomorrow's Engineers Workshop on "Creative Thinking, Innovation and Problem Solving" on 11th March 2019 at Smt. Rajalakshmi Jayaraman Seminar Hall, MVJCE: Honorable resource speaker Dr. K. Sudhakar (Retd) Professor, Department of Aerospace Engineering, IIT Bombay inaugurating the workshop by lighting the lamp.

Dr. B N Suresh encouraged the students to come up with solutions for the open-ended problems that we encounter, in our day to day life. Dr. Suresh advised the students to tackle the problems in a hierarchical way. He suggested to the students to first consider the problems found in our surroundings, starting from the college itself, then to look around at a broader level, maybe at the problems in Bangalore city, and then the problems in Karnataka state.



Inauguration of Tomorrow's Engineers Workshop on "Creative Thinking, Innovation and Problem Solving" on 11th March 2019 at Smt. Rajalakshmi Jayaraman Seminar Hall, MVJCE: Honorable chief guest Dr. B N Suresh , Chancellor and Founder Director, IIST, Thiruvananthapuram (Past President, INAE, Delhi, Former Director, VSSC, Thiruvananthapuram) sharing his words of wisdom.

Dr. K Sudhakar explained about the various learning levels of Bloom's taxonomy, and also highlighted the importance of creative thinking, innovation and problem-solving skills that Engineers should possess.



Inauguration of Tomorrow's Engineers Workshop on "Creative Thinking, Innovation and Problem Solving" on 11th March 2019 at Smt. Rajalakshmi Jayaraman Seminar Hall, MVJCE: Honorable resource speaker Dr. K. Sudhakar (Retd) Professor, Department of Aerospace Engineering, IIT Bombay sharing his knowledge and expertise

Nearly 300 students from various engineering disciplines were present on the day of inauguration, for the keynote session by the honourable Chief Guest Dr. B N Suresh and the learned Resource Speaker Dr. K Sudhakar.

The main agenda of this workshop was to provide a platform to the engineers of tomorrow, and motivate them to showcase their innovative skills in ideating solutions for day to day societal problems. The brief details of the three-day workshop are as follows.

Day One

Awareness was created among the participants, on the importance of problem-solving skills and the role of engineers in society. 16 Teams (with interdisciplinary participants) were formed, and they came up with various open-ended problems, in an around society. Here is a list of ideas:

1. Seed Sowing Machine for Zero till Farming
2. Thermo Electric Generator for Human Pace Maker
3. Lighting a Walk Bridge, with Pedestrian Pressure
4. IoT-Based Smart Agriculture Monitoring System
5. Solar Power by Solar Panels in our College Parking Lot
6. Eco-Friendly Buildings
7. Preserving Techniques for Agricultural Products, at Low cost
8. Increasing Efficiency of Microprocessor, by Reducing heat losses
9. Solar-operated Portable Water Purifier
10. Cattle Feed from Agricultural Waste Products
11. Pothole Detection and Enhanced Road Simulation
12. Smart Weather Monitoring System, Using IoT
13. Underground Solid Waste Management
14. Safety Measures in Deserted Places
15. Automated Cellular Concrete Pouring and Compaction
16. Smart disposal



Inauguration of Tomorrow's Engineers Workshop on "Creative Thinking, Innovation and Problem Solving" on 11th March 2019 at Smt. Rajalakshmi Jayaraman Seminar Hall, MVJCE (L to R): Honorable chief guest Dr. B N Suresh sir, Chancellor and Founder Director, IIST, Thiruvananthapuram (Past President, INAE, Delhi, Former Director, VSSC, Thiruvananthapuram), honorable Shri M J Balachandar sir, chairman, MVJCE, respected Dr. R Prabhu, dean, MVJCE, respected Dr. Nagaraj Sitaram, principal, MVJCE and senior teaching staff and non-teaching staff attending keynote session of Dr. K. Sudhakar (Retd) Professor, Department of Aerospace Engineering, IIT Bombay.



Inauguration of Tomorrow's Engineers Workshop on "Creative Thinking, Innovation and Problem Solving" on 11th March 2019 at Smt. Rajalakshmi Jayaraman Seminar Hall, MVJCE: Participants are attending keynote session of honorable resource speaker Dr. K. Sudhakar (Retd) Professor, Department of Aerospace Engineering, IIT Bombay.

Day Two

The second day of the Workshop started with a glimpse of the session that had been conducted by the honourable Chief Guest Dr. B N Suresh and honourable Resource Speaker Dr. K Sudhakar, on 11th March 2016, the day on which the Tomorrow's Engineers Club was conceptualized. Students got an opportunity to see the session that was handled 3 years back, in the MVJCE campus.

After this, the participants got an insight into the systematic approach that is needed to solve a problem. Prof. Rakesh Sharma, AP, Dept. of Mechanical Engineering and Prof. Naeem Ahmed, AP, Dept. of Electronics & Communication Engineering highlighted the importance of engineering, in problem-solving. The teams were asked to find the solution for the open-ended problem that they had chosen. The teams then presented their solutions to the jury.

The challenges of sustainability and responding to climatic change, waste management, digitization, road safety etc. were the major focus areas at this 3-day Workshop.

Day Three

On the third day of the Workshop, Prof. Kavyashree C V, AP, Dept. of Computer Science and Engineering, explained to the participants, the importance of stakeholders in problem-solving. The teams identified the stakeholders for their chosen problems.

After this, Prof. Srinivasan D, ASCP, Dept. of Aeronautical Engineering, elaborated on the strategies that are necessary, to convert an idea into a market-ready product.

The Workshop concluded with the valedictory programme, where our beloved Principal Dr. Nagaraj Sitaram applauded the students, for coming up with innovative solutions for societal problems, in order to make the society a better living place. As the last item on the programme, certificates were distributed to the participants.



Tomorrow's Engineers Workshop on "Creative Thinking, Innovation and Problem Solving" on 13th March 2019 at Seminar Hall 4, MVJCE: Prof. Srinivasan D, ASCP, Dept of Aeronautical Engineering, elaborating the strategies to convert an idea into a market ready product.



Tomorrow's Engineers Workshop on "Creative Thinking, Innovation and Problem Solving" on 13th March 2019 at Seminar Hall 4, MVJCE: Principal sir Dr. Nagaraj Sitaram motivating the students to ideate innovative solutions for our societal problems.

Outcome:

The participants gained a good understanding of the societal / industrial problems they intend to solve, what the available solutions are, and how to approach the solution in a systematic, efficient and sustainable manner.