



## UNITED NATIONS ACADEMIC IMPACT

### T K M College of Engineering

Action by students to promote innovation and reform through education



#### **Activity No: 1**

Date: 05/08/2017 - 08/08/2017

#### ***Tinkering Marathon***

UNAI TKMCE has taken up the initiative to conduct a Tinkering Marathon, at TKM Centenary Public School, as part of ATAL Tinkering Lab that was launched in collaboration with NITI Aayog and ATAL INNOVATION MISSION under Government of India.

#### **VISION**

Encourage students from the school and the surrounding communities to realise their abilities, by conducting well planned activities that can unleash the potential within themselves.

#### **MISSION**

Provide schools an exposure and develop problem-solving skills, creativity and teamwork among students.

Help the students to get an intuitive grasp of STEM (Science, Technology, Engineering and Mathematics) principles so as to make them self-confident in choosing their career paths.

#### **OBJECTIVE**

To provide opportunities for the students to showcase their potential in a fun-filled environment and create a positive attitude towards Making, Tinkering and Innovating. The focus is to bring about both powerful and impactful outcomes and contribute to an Innovative India.

This program comes under the 3rd, 5th and 6th basic principles of UNAI.

- Principle 3: A commitment to educational opportunity for all people regardless of gender, race , religion or ethnicity
- Principle. 5: A commitment to building capacity in higher education systems across the world
- Principle. 6: A commitment to encouraging global citizenship through education.

## *Initiatives*

### IDEATION TO DESIGNING:

A ‘thinking series’ session was conducted based on ideating and design thinking process to stimulate the mind of students to think outside the box and develop creative ideas. These ideas were then explored and designed. The session was handled by Sarath Shaji, a 5<sup>th</sup> Semester Student from the Mechanical Department, on 16<sup>th</sup> July. The session was organised into three phases, in which the students of 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup> and 12<sup>th</sup> students were encouraged to build up their ideas during the brainstorming phase.



### HOUR OF TINKERING:

A one hour cyclic session was organised for the students of 8<sup>th</sup>, 9<sup>th</sup> and 11<sup>th</sup>. The session was handled by Sarath Shaji, a 5<sup>th</sup> Semester Student from the Mechanical Department, on 16<sup>th</sup> July. In this session, the students were allowed to tinker and bring up their ideas to develop simple projects. The students were divided into teams of five, and were given an hour to create a project of their choice. The ideas of project brought up by the students were an extension of school curriculum, which could be technical solutions to real life issues. The projects were discussed among the students of different groups, inviting suggestions from them for the improvement of the project.



## TECHNO TALK:

A techno talk was organised based on Internet of Things (IoT), to discuss about the inventions of the millennium. The session was handled by Akhil Ajith, a 5<sup>th</sup> Semester Student from the Electronics and Communication Engineering Department, on 28<sup>th</sup> July. The talk was organised with the intention to make the students familiar with the latest technology. The basic principles and applications of IoT were introduced to the students.



## WORKSHOPS:

Workshops were organised for the students of grade 11 and 12, based on IC engine, robotics & aero modelling to engage students in developing key skills of tinkering and making.

- IC ENGINE WORKSHOP:

An IC Engine Workshop was organised for the students who were interested in the field of Mechanical Engineering Science. This workshop was handled by our volunteers Sreehari, Akhil Suresh and Harikrishnan; 5<sup>th</sup> Semester Students of Mechanical department, on 25<sup>th</sup> July. A detailed session about the basic design and structure of IC Engine, was given to the students. The students were taken to the Thermal Engineering lab at TKM College of Engineering to give a hands-on experience. The various engine parts and their working were shown to them.



- AEROMODELING WORKSHOP:

The Aeromodelling Workshop was organised for the students who were interested in aerodynamics. This workshop was handled by Ashish Damodar, a 5<sup>th</sup> Semester Student of Mechanical Department, on 27<sup>th</sup> July. A detailed session about the basic principle, design and structure of aeromodel's like gliders, quadcopters, tri-copters were given to the students. The students were asked to create their own aeroplane models using paper, and the merits and demerits of their models were discussed.



- **ROBOTICS WORKSHOP**

The Robotics Workshop was organised for the students interested in Robotics. The session was handled by Abhinand A S, a 5<sup>th</sup> Semester Student from the Electronics and Communication Department, on 29<sup>th</sup> July. A detailed session about the basic components, programming and controlling of robots using arduino were given to the students. The students were given hands-on experience on basic arduino programming.



**THANKS:**

Mrs. Saboor ; Prinicpal, TKM Centenary Public School

Mrs. Chithira ; Teaching Staff, TKM Centenary Public School

Mrs. Sijitha ; Teaching Staff, TKM Centenary Public School

Mrs. Smitha ; Teaching Staff, TKM Centenary Public School

**REGARDS**

Dr. Ayoob S ; Principal, TKM College of Engineering

Dr. Jose Prakash, HOD, Mechanical Department

Prof. Aji Kumar, Lab in Charge, Thermal Engineering Lab

Mr. Althaf M ; Focal Point, UNAI TKMCE

### SPECIAL THANKS

SARATH SHAJI (Ideation to Designing , Hour of Tinkering)

AKHIL AJITH (Internet of Things)

ASHISH DAMODAR (Aeromodelling Workshop)

ABHINAND A S (Robotics Workshop)

SREEHARI S (IC Engine Workshop)

AKHIL SURESH (IC Engine Workshop)

HARIKRISHNAN (IC Engine Workshop)

### PROGRAMME HEAD

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### COORDINATOR

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### VOLUNTEERS

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