



Vidya Pratishthan's Kamalnayan Bajaj Institute of Engineering and
Technology, Baramati- 413133
Department of Mechanical Engineering

Date: 13th January 2020.

“Technology Awareness Program”

3D Printing & 3D Modelling for school students

(11th std VPEMS CBSE Baramati)

Event Agenda:

- To spread technology awareness among school-children and encourage them to undertake engineering programs.
- To introduce children to the revolutionary / state-of-the-art technologies in 3D Printing.
- To facilitate children to learn the 3D modelling, and 3D printing through hands-on sessions.
- To demonstrate children real life applications of 3D printing.

Event Speakers:

- Dr. S. M. Bhosle (Asso. Prof. of Mech Engg)

Supporting Staff:

- Mr. Akshay Bhapkar (Asst. Prof. of Mech.Engg.)
- Mr. Prasad Galande (Asst. Prof. of Mech Engg.)
- Dr. C. B. Nayak (Asso. Prof. of Civil Engg Dept.)

Target Audience:

- 11th Std school student from VP's new English medium school Baramati.
- 19 students.

Date: 13th January 2020

Venue: Mechanical Engineering Conference Hall & CAD Lab

Resources: 3D printer, computers, Google Sketchup, Microphone, Speaker etc.

Brief Report:

The event was organized under technology awareness program for school students to provide the information about electronics engineering and the career opportunities in this branch. Event

inauguration was done by Principal Dr. R. S. Bichkar and a accompanying teacher from VPEMS School as guest. The first session was conducted by Dr. S. M. Bhosle on 3D Printing technologies, Mechanical Engineering and related career opportunities. The second session on 3D Modelling using Google Sketchup was jointly conducted by Dr. S. M. Bhosle, Prof. kshay Bhapkar, Prof. Prasad Galande, Dr. C.B. Nayak. Last session was conducted by Dr. Bhosle on what is Product Design using Solid Modeling using Solid-works Software at the end several drones developed by students were demonstrated by department students.

Syllabus:

Sr No.	Topic	Duration
1	Overview of 3D Printing Applications	15 min
2	Basic 3D Printing Technologies: Fused Deposition Modelling (FDM), Selective Laser Sintering (SLS), Stereolithography (SLA)	30 min
3	Basics of 3D Printing Mechanisms	30 min
4	Hands on Training on 3D Printer	30 min
5	3D Modelling using Google Sketchup	30 min
6	3D Printing applications in development of Drones	30 min
7	Demonstration of Drones and Hands on Flights	15 min

Photo Gallery:









Institute Social Responsibility (ISR) - Technology Awareness Workshop on 3D Printing

About ISR Workshop:

3D printing is a new technology. Basically, it is the process to building objects by depositing layer upon layer. 3D Printing systems uses data computer-aided-design (CAD) software to create 3D model of the object to be printed in precise geometric shapes. 3D printing synonyms are Additive Manufacturing, Rapid Prototyping. 3D Printing is used to build physical models, prototypes, patterns, and production parts with materials like plastics, metal, ceramic, glass and composite materials in manufacturing industries. In recent years, 3D printing has developed to perform crucial roles in many applications in manufacturing, medicine, electronic, food industry, architecture, jewelry and custom design.

This technology awareness workshop is a one of kind 3 hour workshop, where the school-children will be trained to use 3D Printing. Mode of workshop will be technology overview presentations followed by demonstration under the guidance of our faculty and undergraduate student volunteers.

Objectives:

1. To spread technology awareness among school-children and encourage them to undertake engineering programs.
2. To introduce children to the revolutionary / state-of-the-art technologies in 3D Printing.
3. To facilitate children to learn the 3D modelling, and 3D printing through hands-on sessions.
4. To demonstrate children real life applications of 3D printing.

Outcomes: After completion of this workshop,

1. Students will be able to use 3D printing.
2. Children will understand 3D modelling.
3. Students will get fascinated and motivated about engineering technologies.

Syllabus / Contents:

Module 1: Introduction to 3D Printing

Introduction 3D modelling techniques, Introduction to 3D-printing process.

Module 2: Overview of 3D Printing Technologies

Introduction to various 3D printing processes, Basics of physical processes. Introduction to Metal 3D Printing with Laser Engineered Net Shaping and Selective Laser Melting.

Module 3: Hands-on-Training

- FDM 3D printer for printing PLA material.
- Google Sketch-up software for 3D design.

Module 4: Demonstration of Applications

Examples of 3D Printing in fields of Medical, Aerospace and Satellite communication. 3D Bio-printing, 3D printing projects and R&D activities.

Activities:

1. Fascinating short audio-visuals.
2. Demonstration of One small project
3. Quiz / Test
4. Lecture session & Handouts
5. Group activity
6. Opportunity to win prizes / Certificate

Program Details:

Date: 13th January 2020

Time: 9 am to 12 noon or 2 to 5pm

No. of Seats: 40

Who can attend:

9th to 12th std. CBSE school children

Email ID: sachin.bhosle@vpkbiet.org

