



DEPARTMENT OF MECHANICAL ENGINEERING

Report on 3D printing workshop at AGPCE For Third and Final year students

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Mechanical Engineering department of Abha Gaikwad-Patil College of Engineering had organized a one day Workshop on 3D printing technology for the engineering students. The main aim was to provide students an exposure to the concepts of latest printing technology in the world. Dr. Rajesh Joshi introduce the students about the latest trends of 3D printing technology, he discuss in details the difference between the ordinary printing and the new 3D printing.

3D printing, also known as additive manufacturing (AM), refers to processes used to create a three-dimensional object in which layers of material are formed under computer control to create an object. Objects can be of almost any shape or geometry and are produced using digital model data from a 3D model or another electronic data source such as an Additive Manufacturing File (AMF) file. STL is one of the most common file types that 3D printers can read. Thus, unlike material removed from a stock in the conventional machining process, 3D printing or AM builds a three-dimensional object from computer-aided design (CAD) model or AMF file by successively adding material layer by layer.

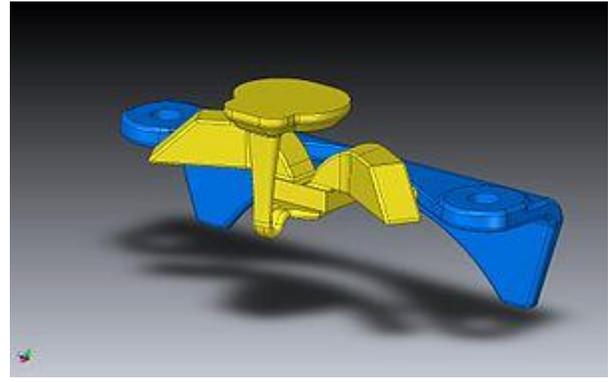


Our speaker in a lucid language which is understood by the common students. The term "3D printing" originally referred to a process that deposits a binder material onto a powder bed with inkjet printer heads layer by layer. More recently, the term is being used in popular vernacular to encompass a wider variety of additive manufacturing techniques. United States and global technical standards use the official term additive manufacturing for this broader sense, which defines seven categories of AM processes within its meaning: binder jetting, directed energy deposition, material extrusion, material jetting, powder bed.

He also demonstrated the 3D printer before the students on an actual printer. Printing a 3D model from an STL file, it must first be examined for errors. Most CAD applications produce errors in output STL files: holes, faces normal, self-intersections, noise shells or manifold errors. A step in the STL generation known as "repair" fixes such problems in the original model. Generally STLs that have been produced from a model obtained through 3D scanning often have more of these errors. This is due to how 3D scanning.

He also discussed the present scenario of 3D printing technology in the world market and how it is important to budding engineers to learn the latest technology. As of October 2016, additive manufacturing systems were on the market that ranged from Rs 60,000 to Rs 500,000 in price and were employed in industries including aerospace, architecture, automotive, defense, and medical replacements, among many others. For example, General Electric uses the high-end model to build parts for turbines. Many of these systems are used for rapid prototyping, before mass production methods are employed. Higher education has proven to be a major buyer of desktop and professional 3D printers.





More than 135 students from sixth and eighth semester took the benefit of the workshop. The students showed great interest and enthusiasm in understanding about the working of different designs can be possible on 3D printer which is not possible on ordinary printer. The inaugural function was graced by Chairman of GPG Dr. Mohan Gaikwad, Treasurer of GPG Prof. Sandip Gaikwad, Dr. Rajesh Joshi the Chief Guest and speaker for the workshop and Vice Principal Prof. Pragati Patil who was inspiration behind arranging the workshop. Convener Prof. Ajay Mahawadiwar gave the convener's speech and motive behind the workshop and memento was handed over to Dr. Rajesh Joshi by the hands of Dr. Mohan Gaikwad. Prof. Gaurav Nagdeve proposed a vote of thanks.