THREE DAY WORKSHOP ON
3 D PRINTING

Speaker :

Dr M V A Raju Bahubalendruni
National Institute of Technology,
Puducherry

Convenor :

Dr P.N.E. Naveen
Head of the Department

Coordinator :

Mr. K. Ramprasad
Mr. T. Krishna Kumar

ORGANISED BY

Department of Mechanical Engineering

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SETTING THE STANDARD
NSRIT STUDENT SECTION

Vision

- To train the students to be professional and competent Mechanical Engineers to take up the challenges in the society and strive continuously for excellence in education and research

Dr. P.N.E. Naveen
Head of the Department

Mission

- To provide quality education for successful career and higher studies in Mechanical Engineering
- To emphasize academic and technical excellence in the profession
- To take up consultancy and research in solving the problems related to Mechanical Engineering
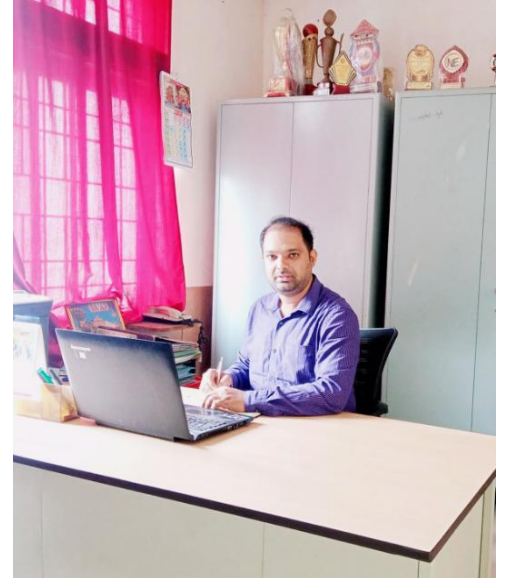
PROGRAM EDUCATIONAL OBJECTIVE (PEOs)

The PEOs are the educational goals that reflect Professional and Career Accomplishments that a graduate hould attain after 4 – 5 years of his/her graduation.

The graduates of Mechanical Engineering of NSRIT will

1. PEO #1: Continue to excel in professional mechanical related careers or chosen career path that apply 21 st century skills following ethical standards and practices contributing towards sustainable development by providing feasible and viable technical solutions catering the real-time engineering problems
2. PEO #2: Engage in experiential learning through their professional practices and adapt to changing skills sets in the pursuit of lifelong learning
3. PEO #3: Continue to demonstrate the skill sets that are very much essential to work successfully for a rewarding career in a multidisciplinary setting

What is 3D Printing ?

3D printing or additive manufacturing is a process of making three dimensional solid objects from a digital file.

How Does 3D Printing Work?

It all starts with a 3D model. You can opt to create one from the ground up or download it from a 3D library.

Examples of 3D Printing

I3D printing encompasses many forms of technologies and materials as 3D printing is being used in almost all industries you could think of. It's important to see it as a cluster of diverse industries with a myriad of different applications.
A few examples:

- – consumer products (eyewear, footwear, design, furniture)
- – industrial products (manufacturing tools, prototypes, functional end-use parts)
- – dental products
- – prosthetics
- – architectural scale models & maquettes

Types of 3D Printing Technologies and Processes

The American Society for Testing and Materials (ASTM), developed a set of standards that classify additive manufacturing processes into 7 categories. These are:
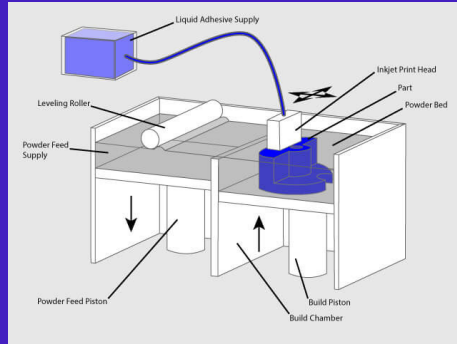
1. Vat Photopolymerisation
   a. Stereolithography (SLA)
   b. Digital Light Processing (DLP)
   c. Continuous Liquid Interface Production (CLIP)
2. Material Jetting
3. Binder Jetting
4. Material Extrusion
   a. Fused Deposition Modeling (FDM)
   b. Fused Filament Fabrication (FFF)
5. Powder Bed Fusion
   a. Multi Jet Fusion (MJF)
   b. Selective Laser Sintering (SLS)
   c. Direct Metal Laser Sintering (DMLS)
6. Sheet Lamination
7. Directed Energy Deposition
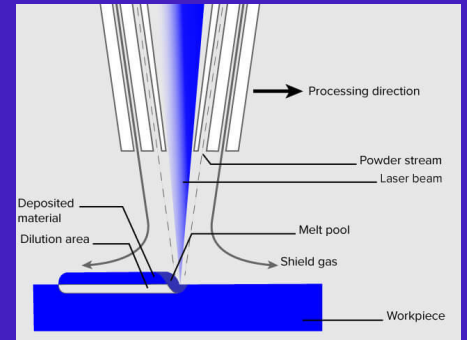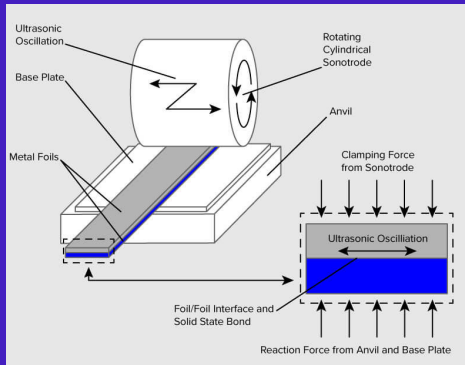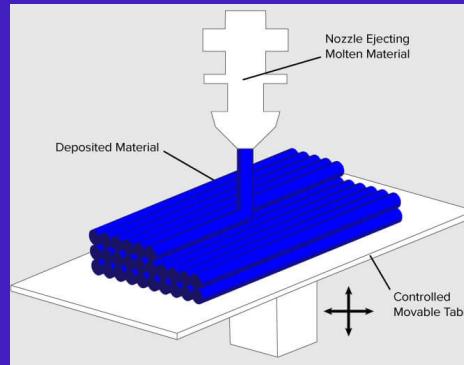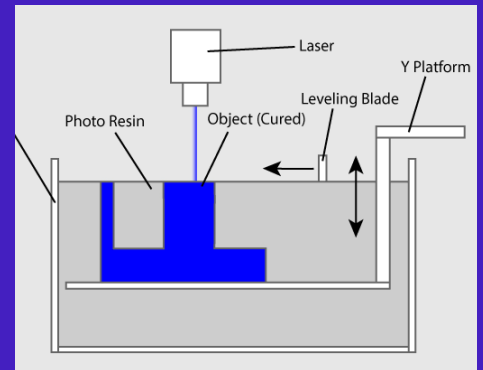

3 D Printer
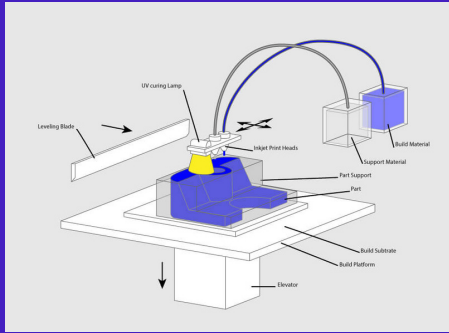
Material Jetting

Binder Jetting

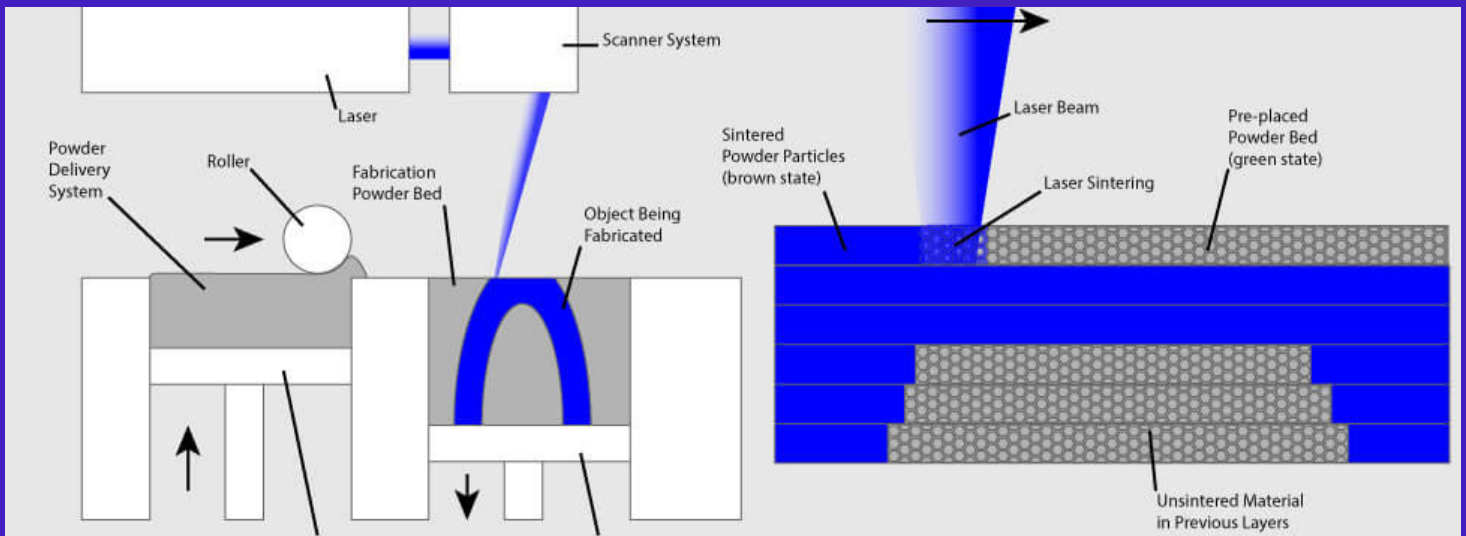**Directed energy Deposition**

Sheet Laminatiion

Fused Deposition Modeling

VAT Photopolymerisation

Selective laser sinterimg

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