# Prof. SNV. Prof. SR

# Additive Manufacturing (3D printing) [Rapid prototyping]

# Definition:

It is a process of conventing a computer Aided Design (CAD) based three dimensional model into neal product by layer wike processing of the 3-0 model.

The pracess makes use of interfaced software and hardware comparents with actuators and sensors to print the 3-D product.

# Advantages over traditional manufacturing: (subtractive manufacturing)

- · Reduces material wastage
- · Reduces the number of operations and tooling
- · Reduces the nequirement of skilled operators (48 it. avoids use of multiple machine operations).
- · Reduces production time
- · Reduce cost of production as wastage is reduced
- · Provides more freedom for designers.
- · completelparts can be produced

#### Steps in Additive manufacturing: 8 steps. Debaling netneeded

Printible 3D models can be created with a Computer Aided Design (CAD) package, through a 3D sounces on by plain digital camera and photogrammetry software. These socials can be soved in STEREOLITHOGRAPHY (STL) File format. This will be processed by software stear which converts the model into a sever of thin layers and produces G-code program to a specific type of 3D printer.

# **Mechanical Building Services Engineering Lecture Notes**

Lei Shi



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