SNS COLLEGE OF TECHNOLOGY

Coimbatore-35.
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with ‘A+’ Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF MECHANICAL & ENGINEERING

19MEO304- 3D PRINTING

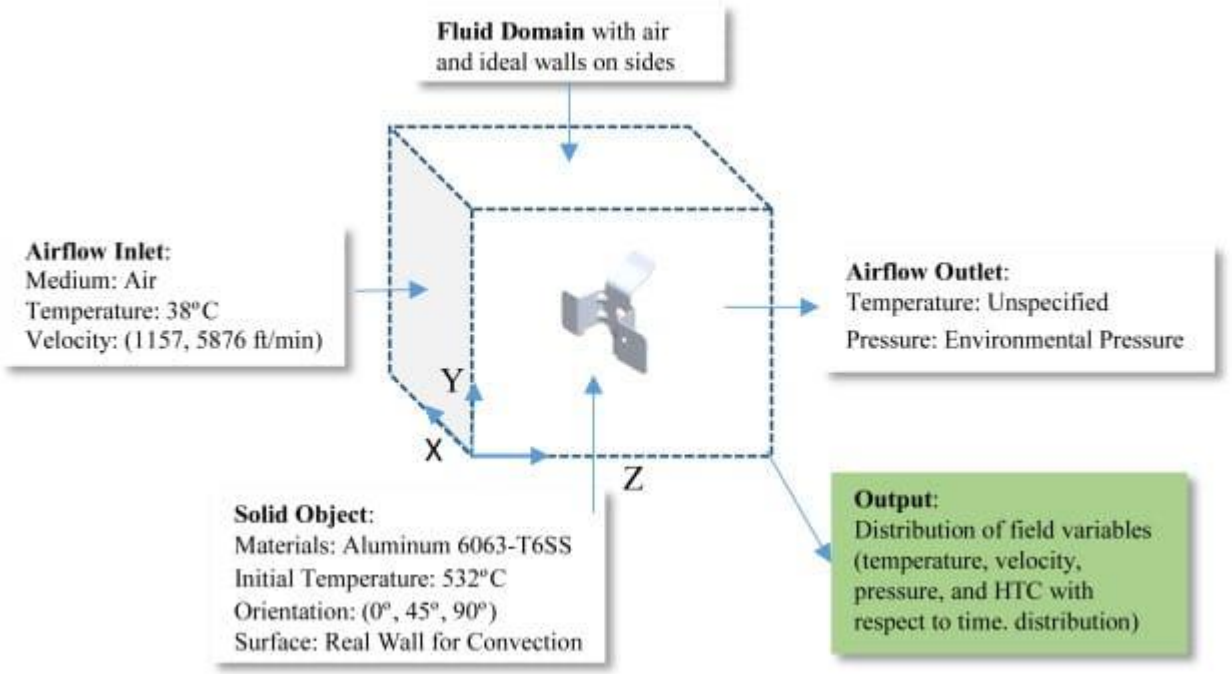
TOPIC : PART ORIENTATION AND SUPPORT GENERATION & SUPPORT STRUCTURE DESIGN

PART ORIENTATION

- Part orientation is **one of the key elements, which can have a significant effect on the quality of produced parts, support requirement, and build time on FDM**. Some researchers have developed methodologies to obtain optimum orientation for best surface finish and reduce build time and support area.

PART ORIENTATION

DIAGRAM :



SUPPORT GENERATION

- Support generation is **a critical technology in additive manufacturing (AM) process in terms of enhancing fabricating efficiency and accuracy**.

SUPPORT STRUCTURE DESIGN

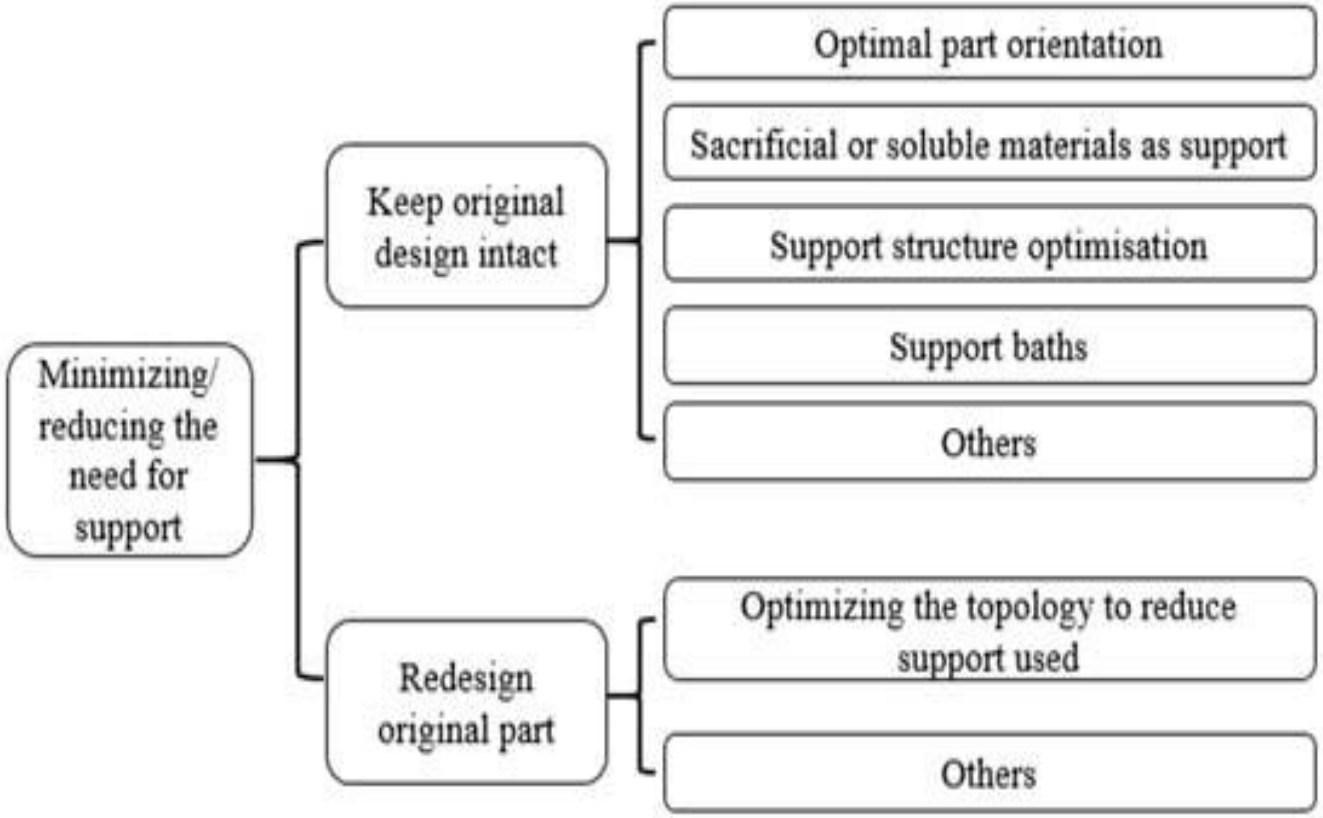
- The support structure is **the added part that supports the overhanging structure or bridge structure when slicing the model**, which needs to be removed after printing. The principle of the FDM printer is to melt and overlay the filament layer by layer.

USES OF SUPPORT STRUCTURE :

- A structural support is a part of a building or structure that provides the necessary stiffness and strength in order to resist the internal forces (vertical forces of gravity and lateral forces due to wind and earthquakes) and guide them safely to the ground.

SUPPORT STRUCTURE

DIAGRAM :



thank you