Maharaja Agrasen Institute of Technology, Delhi
Department of Mechanical Engineering

Report on 5 Days Skill-oriented Program on
3D PRINTING - DESIGN TO FABRICATION

Department: Mechanical Engineering
Date: 19th - 23rd January, 2026
Faculty In-Charge: Ms. Surabhi Lata
Trainers: Tanmay Mathur, Rishank Dabas, Devansh Chawla, Mayank Agarwal
Supervisors: Sanskar, Prisha Sagar

A five-day skill-oriented program was successfully conducted by Additive Manufacturing Society, MAIT and 3D Space Club, Department of Mechanical Engineering, Maharaja Agrasen Institute of technology from 19th January 2026 to 23rd January 2026. The objective of the program was to create awareness among diploma students about the importance of core engineering branches, particularly Mechanical and Electrical Engineering, and introducing them to the emerging field of Additive Manufacturing (3D Printing). The workshop aimed to bridge the gap between theoretical knowledge and practical application while motivating diploma students to explore core engineering domains.

The workshop began with interactive sessions highlighting the significance of core branches in modern industries. The participants were explained how Mechanical and Electrical Engineering form the backbone of sectors such as manufacturing, automotive, aerospace, power generation, robotics, and automation. Real-world examples and career-oriented discussions were used to help students understand the relevance, scope, and future opportunities in these core fields.

The major focus of the workshop was on Additive Manufacturing, where students were introduced to the fundamentals of 3D printing technology. Detailed sessions were conducted explaining what additive manufacturing is, how it differs from conventional manufacturing methods, and why it is gaining popularity in today's industries. The applications of 3D printing in various sectors such as healthcare, automotive, aerospace, architecture, education, and product prototyping were discussed in detail.

The complete 3D printing workflow was explained step by step. Students were taught about 3D designing, where basic concepts of computer-aided design (CAD) were introduced. This was followed by an explanation of the slicing process, including the role of slicing software, selection of printing parameters such as layer height, infill density, printing speed, and support structures. The importance of material selection and printer settings was also discussed.

A major highlight of the workshop was the hands-on training session, where diploma students were given practical exposure to 3D printers. Under proper guidance, students observed and

participated in setting up the printer, loading filament, calibrating the printer, and initiating the printing process. Live demonstrations helped them understand how a digital design is converted into a physical object layer by layer.

Throughout the workshop, students actively participated, asked questions, and showed keen interest in learning new technologies. The workshop proved to be highly beneficial in enhancing their understanding of core engineering concepts and modern manufacturing techniques.

In conclusion, the five-day program was a successful initiative that effectively inspired diploma students towards core engineering branches and provided them with valuable knowledge and practical experience in additive manufacturing. The workshop helped develop technical curiosity, practical skills, and awareness of emerging technologies, making it a meaningful learning experience for all the participants.