



**NITTTR
BHOPAL**

COE-3/2025-2026

Additive Manufacturing for Sustainability and Industry 4.0

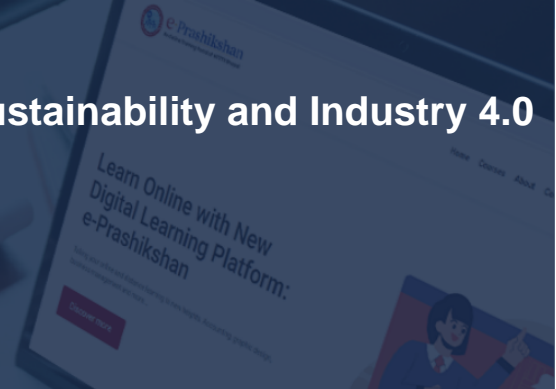
30-06-2025 to 04-07-2025

NITTTR Bhopal



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Rationale

Additive Manufacturing (AM) is a key technology in Industry 4.0, enabling sustainable and efficient production systems. By minimizing material waste and reducing energy consumption, AM promotes sustainability. It also enables the creation of complex products with improved durability and lifespan, reducing the need for frequent replacements.

In Industry 4.0, AM is applied in various sectors, including aerospace, automotive, healthcare, and consumer products. For instance, AM is used to create complex aircraft components, custom car parts, and medical devices.

The sustainability benefits of AM include reduced environmental impact, improved resource efficiency, and increased product customization. By enabling tailored products, AM reduces the need for mass production and waste.

In the context of Industry 4.0, AM enables rapid production, improved product quality, and new business models, such as product-as-a-service and pay-per-part. Overall, AM is a crucial technology for driving sustainability and innovation in Industry 4.0.

Programme Outcomes

Participants will be able to learn:

- Enhanced Knowledge of Additive Manufacturing
- Practical Skills in Additive Manufacturing
- Application of Additive Manufacturing in Industry
- Improved Sustainability Practices
- Effective Use of Industry 4.0 Technologies
- Enhanced Collaboration and Communication

Programme Content

- Introduction to Additive Manufacturing
- Additive Manufacturing Technologies
- Design for Additive Manufacturing
- Materials and Processes in Additive Manufacturing
- Sustainability and Environmental Impact of Additive Manufacturing
- Industry 4.0 and Digitalization

Target Group

Faculty of Engineering disciplines

Coordinator & Co-Faculty

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