



**NITTTR  
BHOPAL**

# NC-46/2024-2025 Digital Twin 09-09-2024 to 13-09-2024 NITTTR Bhopal



<https://erp.nitttrbpl.ac.in/poc2024/?id=regNC-46>

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## Rationale

The Program on digital twin technology is grounded in the need to equip educators with the knowledge and skills necessary to integrate this cutting-edge technology into their curriculum effectively. As industries increasingly adopt digital twins for enhanced efficiency, predictive maintenance, and innovation, there is a growing demand for proficient in these technologies. Digital twins will enable technocrats to stay abreast of the latest advancements, understand practical applications, and develop hands-on training modules. This ensures to meet industry demands, fostering a workforce adept in utilizing digital twin technology for real-world problem-solving and innovation, thereby bridging the gap between academic learning and industry requirements.

It provides a platform to exchange ideas on cutting-edge research and development and to identify future research needs in this interdisciplinary and emerging field. The course highlights the significance of digital transformation in smart factories, emphasizing the integration of intelligent models and ICT technologies. Participants will have the opportunity to engage

## Programme Outcomes

- Explain the concept of digital twins and their significance in various industries.
- Describe the architecture and components of digital twin systems, including data integration, modeling, and simulation.
- Demonstrate how to collect, integrate, and manage data from various sources to create a comprehensive digital twin.
- Utilize simulation tools to analyze different scenarios and predict system behavior under various conditions.
- Analyze real-world case studies to understand the application and impact of digital twins in various sectors, such as manufacturing, healthcare, and smart cities.
- Design and develop a small-scale digital twin project, demonstrating the practical application of the concepts learned.
- Explore the latest trends and advancements in digital twin technology.

## Programme Content

Introduction to Digital Twin Technology, Digital Twin Architecture and Technologies, Digital Twin and Agriculture, Factory Automation, Cloud Technologies for IIoT, Smart Factory, Cyber Security, Industry 5.0 and AI, Embedded AI, Digital twin Electric Vehicles, and Smart Manufacturing. Industry Live Problem Solving / Project.

## Target Group

Faculty of all disciplines

## Coordinator & Co-Faculty

Dr. Pallavee Bhatnagar

Professor

Department of Electrical and Electronics Engineering Education

[pbbhatnagar@nitttrbpl.ac.in](mailto:pbbhatnagar@nitttrbpl.ac.in)

Expert



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**National Institute of Technical Teachers' Training and Research (NITTTR)**  
(Deemed to be university under distinct category), Ministry of Education, Government of India,  
Shamla Hills, Shanti Marg, Bhopal-462002 (M.P.)

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