



**AICTE TRAINING AND LEARNING
(ATAL) SPONSORED A ONE-WEEK
OFFLINE ATAL FDP
ON**

***"Bridging Academia and Industry: Future Skills
in Digital Manufacturing & Automation"***

23rd to 28th JUNE 2025



ORGANIZED BY

DEPARTMENT OF MECHANICAL ENGINEERING

(NBA Accredited Department)

**VIDYA PRATISHTHAN'S KAMALNAYAN BAJAJ INSTITUTE OF
ENGINEERING AND TECHNOLOGY, BARAMATI**

Approved by AICTE, New Delhi, Government of
Maharashtra, and SPPU Pune (An Autonomous Institute)

www.vpkbiet.org

COORDINATORS

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ABOUT THE VPKBIET

Vidya Pratishthan's Kamalnayan Bajaj Institute of Engineering & Technology (VPKBIET), Baramati, was established in 2001. The institute is approved by AICTE, New Delhi, DTE, Government of Maharashtra, and affiliated to Savitribai Phule Pune University (SPPU). The institute has been accredited with an A+ grade by the National Assessment & Accreditation Council (NAAC) and Civil, Computer & Mechanical Engineering from the NBA. The institute has more than 2000 students pursuing their UG and PG degrees in Engineering courses. As an Engineering Institute, we have always fostered a culture of enterprise and resourcefulness among our students. We firmly believe that a student can transform himself or herself into a professional and is ready to accept higher responsibilities and excel in the global engineering world.

ABOUT THE FDP

The Faculty Development Program (FDP) on "Bridging Academia and Industry: Future Skills in Digital Manufacturing & Automation" aims to equip educators and researchers with the latest advancements in digital manufacturing, smart automation, and Industry 4.0 technologies. This program will focus on bridging the gap between academic learning and industrial applications by fostering practical knowledge in robotics, AI-driven automation, IoT-enabled manufacturing, and cyber-physical systems. Through expert lectures, hands-on sessions, and industry interactions, participants will gain insights into emerging trends, industry requirements, and skill sets essential for the future workforce. This FDP will serve as a platform for faculty members to integrate cutting-edge digital manufacturing concepts into their teaching and research, ultimately enhancing students' industry readiness and innovation capabilities.

Registration: Candidates should register through the AICTE ATAL Academy website using the link below.
<https://atalacademy.aicte.gov.in/participant/workshop>

EXPECTED OUTCOMES

After completion of this FDP, participants will be able to:

- Enhanced Understanding of Industry 4.0: Participants will gain in-depth knowledge of digital manufacturing, automation, and smart technologies shaping the future of industries.
- Bridging Academia and Industry Gap: Faculty members will develop insights into industry expectations, enabling them to align academic curricula with real-world applications.
- Hands-on Experience with Emerging Technologies: Exposure to robotics, IoT, and AI-driven automation will enhance participants' technical skills and teaching methodologies.
- Integration of Digital Manufacturing Concepts in Education: Participants will be equipped to incorporate advanced manufacturing techniques and automation tools into their teaching and research.
- Skill Development for Future Workforce.

TARGET PARTICIPANTS

Students, faculty members, researchers, professionals, technocrats, and government officers from Mechanical Engineering, Civil Engineering, Electrical Engineering, Electronics, and Telecommunications.

Convenor: Dr. M. S. Lande, HOD, Mechanical Engg.

Patron: Dr. S. B. Lande, Principal, VPKBIET, Baramati

OUR EXPERTS

Dr. A. D. Patange, ABB Global Industries Pvt. Ltd., Bengaluru
Dr. Anush Mishra, ABB Global Industries Pvt. Ltd., Bengaluru
Dr. Shital Patil, Robert Bosch Middle East, Dubai
Dr. Bubathi Muruganantham, Honeywell Ltd, Pune
Dr. N. K. Chougule, COEP Technological University, Pune
Dr. A.V. Mulay, COEP Technological University, Pune
Dr.M.D. Jaybhaye, COEP Technological University, Pune

VIDYA PRATISHTHAN'S KAMALNAYAN BAJAJ INSTITUTE OF ENGINEERING AND TECHNOLOGY, BARAMATI

Schedule of AICTE Training and Learning (ATAL) sponsored Offline ONE WEEK ATAL FDP ON

Title of the FDP: *Bridging Academia and Industry: Future Skills in Digital Manufacturing & Automation*

FDP Start Date : 23/06/2025

FDP End Date: 28/06/2025

Day 1 (23/06/2025)	Day 2 (24/06/2025)	Day 3 (25/06/2025)	Day 4 (26/06/2025)	Day 5 (27/06/2025)	Day 6 (28/06/2025)
9:00 – 9:30 Inauguration					
9:30 – 12:00: Session 1 Name of the Expert: <i>Dr. Abhishek D Patange</i> Designation: <i>Data Science & AI Specialist.</i> Organization: <i>ABB Global Industries and Services Pvt. Ltd., Bengaluru.</i> Experience in Years: <i>13 Years.</i> Topic: <i>Machine Learning–Based Monitoring and Maintenance of Machining Centers</i>	9:30 – 12:00: Session 3 Name of the Expert: <i>Anush Mishra</i> Designation: <i>Data Science and AI Specialist at ABB UCMAS World Champion.</i> Organization: <i>ABB Global Industries and Services Pvt. Ltd., Bengaluru.</i> Experience in Years: <i>12 Years.</i> Topic: <i>Digital Twins for Industry 4.0 & Manufacturing Analytics.</i>	9:30 – 12:00: Session 5 Name of the Expert: <i>Dr. Shital Patil</i> Designation: <i>AI Specialist.</i> Organization: <i>Robert Bosch Middle East.</i> Experience in Years: <i>11 Years.</i> Topic: <i>Digital Twins in Smart Manufacturing.</i>	9:30 – 12:00: Session 7 Name of the Expert: <i>Dr Aarati Muley.</i> Designation: <i>Associate Professor.</i> Organization: <i>COEP Technological University, Pune.</i> Experience in Years: <i>22 Years.</i> Topic: <i>Smart Additive Manufacturing.</i>	9:00 – 1:00: Industrial visit Name of the Organization: <i>Visit to Bharat Forge Ltd.</i> Complete address with Pin code: <i>Maharashtra Industrial Development Corporation Area, Baramati, Maharashtra 413133</i> Industry Type: <i>Manufacturing</i> Area of specification: <i>Bharat Forge Limited (BFL) is an Indian multinational technology-driven global leader in metal forming. The company has transcontinental presence across eight manufacturing locations, serving several sectors including automotive, power, oil and gas, construction & mining, locomotive, marine, and aerospace.</i>	2:00 – 4:30 Session 10 Name of the Expert: <i>Dr. Bubathi Muruganantham</i> Designation: <i>Application Engineering Manager.</i> Organization: <i>Honeywell Ltd, Pune.</i> Experience in Years: <i>12 Yrs.</i> Topic: <i>AI and Machine learning in Predictive Maintenance and Quality Control.</i>
12:00 – 1:00 Article Discussion Title of the Research Paper : <i>A machine learning approach for vibration-based multipoint tool insert health prediction on vertical machining center (VMC)</i> Name of the journal: <i>Measurement Journal (Elsevier)</i> Year of Publication: <i>2021</i>	12:00 – 1:00 Article Discussion Title of the Research Paper : <i>Notifying Type-2 Error and Segregating Undefined Conditions In Health Monitoring of Milling Cutter: A Statistical and Deep Learning Approach</i> Name of the journal: <i>Journal of Vibration Engineering & Technologies</i> Year of Publication: <i>2025</i>	12:00 – 1:00 Article Discussion Title of the Research Paper : <i>Digital manufacturing of perovskite materials and solar cells.</i> Name of the journal: <i>Applied Energy (Elsevier)</i> Year of Publication: <i>2025</i>	12:00 – 1:00 Article Discussion Title of the Research Paper: <i>Digital manufacturing and supply chain: creating benefits through operations research and artificial intelligence</i> Name of the journal: <i>Annals of Operations Research</i> Year of Publication: <i>2025</i>		12:00 – 1:00 Article Summary Title of Research Article: <i>From Industry 4.0 Digital Manufacturing to Industry 5.0 Digital Society: A Roadmap Toward Human-Centric, Sustainable, and Resilient Production, Information Systems Frontier Journal, 2024. Two-Page Article Summary/per Team - (Team & Individual)</i>
1:00 – 2:00 Lunch Break					
2:00 – 4:30 Session 2 Name of the Expert: <i>Dr. Abhishek D. Patange</i> Designation: <i>Data Science & AI Specialist.</i> Organization: <i>ABB Global Industries and Services Pvt. Ltd., Bengaluru.</i> Experience in Years: <i>13 Years.</i> Topic: <i>Using Generative AI to Build Domain-Aware LLMs for Machine Tools Monitoring.</i>	2:00 – 4:30 Session 4 Name of the Expert: <i>Anush Mishra</i> Designation: <i>Data Science and AI Specialist at ABB UCMAS World Champion.</i> Organization: <i>ABB Global Industries and Services Pvt. Ltd., Bengaluru.</i> Experience in Years: <i>12 Years.</i> Topic: <i>Challenges and Future Trends in Digital Manufacturing and Robotics.</i>	2:00 – 4:30 Session 6 Name of the Expert: <i>Dr. Shital Patil</i> Designation: <i>AI Specialist.</i> Organization: <i>Robert Bosch Middle East.</i> Experience in Years: <i>11 Yrs.</i> Topic: <i>Hybrid Model for Digital Twins.</i>	2:00 – 4:30 Session 8 Name of the Expert: <i>Dr. N. K. Chougule.</i> Designation: <i>Professor.</i> Organization: <i>COEP Technological University, Pune.</i> Experience in Years: <i>26 Years.</i> Topic: <i>National Education Policy</i>	2:00 – 4:30 Session 9 Name of the Expert: <i>Dr. Mahesh Jaybhaye.</i> Designation: <i>Associate Professor</i> Organization: <i>COEP Technological University, Pune</i> Experience in Years: <i>23 Years.</i> Topic: <i>Sustainable and Green Manufacturing through Digital Technologies</i>	2:00 – 4:00 MCQ & Reflection Journal Title of Article: <i>IoT-based real-time online monitoring system for open-source FDM printers, Materials Today Proceedings, 2022.</i>
4:30 – 5:30 Hands-on training /Lab: <i>Robot Simulation and Offline Programming using RoboDK.</i>	4:30 – 5:30 Hands-on training /Lab: <i>Industrial Automation Design and Simulation with Automation Studio.</i>	4:30 – 5:30 Hands-on training /Lab: <i>Manufacturing Process Optimization using Witness Horizon.</i>	4:30 – 5:30 Hands-on training /Lab: <i>CNC Programming & Machining using SSCNC.</i>	4:30 – 5:30 Hands-on training /Lab: <i>VMC Machine Operation and Programming using SSCNC</i>	4:00 – 5:00 Valedictory Session