

## ABOUT THE AICTE

All India Council for Technical Education (AICTE) was set up in November 1945 as a national-level apex advisory body to conduct a survey on the facilities available for technical education and to promote development in the country in a coordinated and integrated manner and to ensure the same, as stipulated in the National Policy of Education (1986). AICTE was vested with statutory authority for planning, formulation, and maintenance of norms & standards, quality assurance through accreditation, funding in priority areas, monitoring, and evaluation, maintaining parity of certification & awards, the management of technical education in the country.

## ABOUT THE INSTITUTE

IPS College of Technology and Management was established in the year 2007, aiming to become the most preferred engineering college in central India for students to obtain a world-class engineering education, and develop into the leaders of tomorrow. IPSCTM endeavors to make the students technologically superior and ethically strong, who in turn, shall contribute to the advancement of society and humankind.

## ABOUT THE DEPARTMENT

Mechanical Engineering department strives for inculcating in every student - critical thinking, ability to change information into knowledge and power of analyzing things technically. The department is also actively

involved in research activities. It has qualified and experienced faculty in different field of specialization. The department has fully equipped laboratories. The department has well equipped labs with modern facilities such as equipment, measuring tools, advanced machines and latest software. The department has well modern Virtual Class Room equipped with lecture recording and video conferencing systems.

## ABOUT THE PROGRAM

Manufacturing has undergone significant transformation in recent years, driven by advancements in technology, innovation, and the need for greater efficiency in industrial processes. Industry 4.0 represents a revolutionary shift in the manufacturing sector, driven by digital transformation and advancements in automation, data analytics, and connectivity. This new era, often referred to as the Fourth Industrial Revolution, integrates cutting-edge technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), robotics, and cloud computing into the production processes. Recent advances in manufacturing focus on integrating digital tools with physical production systems, enabling real-time data collection, analysis, and decision-making. Automation and robotics have transformed labor-intensive processes, increasing speed and precision, while additive manufacturing (3D printing) has opened up new possibilities for prototyping and customized production. Furthermore, sustainable manufacturing practices are gaining traction, emphasizing energy efficiency, waste reduction, and eco-friendly materials.

## One week Faculty Development (FDP) Program (Virtual Mode)

Under  
**AICTE Training and Learning  
(ATAL)  
Academy Scheme**



On

**“Recent Advances and  
Applications of Manufacturing in  
Industries 4.0”**

From

**February 03-08, 2025**

Organized by

***Mechanical Engineering Department***



**IPS College of Technology &  
Management, Gwalior, M.P, India-474001**

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[www.ipsgwalior.org](http://www.ipsgwalior.org)



## COURSE OBJECTIVE

The objectives of this Faculty Development Program (FDP) are designed to equip educators and researchers with the knowledge and skills required to understand, teach, and apply cutting-edge technologies in the modern manufacturing landscape. Key objectives include:

- Understanding Industry 4.0 Concepts
- Exploring Recent Technological Advances
- Bridging the Gap Between Academia and Industry:
- Enhancing Teaching and Research Competencies
- Fostering Innovation and Interdisciplinary Approaches
- Promoting Sustainable and Efficient Manufacturing Practices
- Hands-on Experience with Industry 4.0 Tools
- Networking and Professional Development

## COURSE OUTCOMES

Upon successful completion of the program, participants are expected to achieve the following outcomes:

- Comprehensive Knowledge of Industry 4.0
- Ability to Integrate Advanced Technologies into Curriculum
- Improved Research Capabilities
- Increased Awareness of Sustainable Manufacturing Practices
- Strengthened Industry-Academia Collaboration
- Capability to Foster Innovation and Interdisciplinary Learning
- Contribution to Institutional Growth

By achieving these outcomes, faculty members will be better prepared to lead in the evolving landscape of manufacturing and to shape the future of engineering education in the context of Industry 4.0.

## CONTACT PERSONS

**Dr. Manoj Narwariya**  
Coordinator & Professor,  
IPS CTM, Gwalior  
Phone:9826900722



**Dr. Snehika Shrivastava**  
Co-Coordinator &  
Professor, IPS CTM,  
Gwalior  
Phone:7987274927



## IMPORTANT DATES:

Last date of Registration: January 25, 2025  
Notification about Selection: January 28, 2025  
Participants' Confirmation: January 30, 2025

## ELIGIBILITY AND REGISTRATION

The faculty members of the AICTE approved institutions, Research scholars, PG Scholars, participants from Government, Industry (Bureaucrats/Technicians/Participants from Industry etc.)

## GUIDELINES

- No participation registration fees.
- Each participants has to register online on AICTE-ATAL portal for joining the course.
- Session time will be from 6:00 PM to 9:00 PM.
- Eligible participants will be selected and approved.
- The certificates shall be issued to those participants who are registered on ATAL portal [www.aicte-india.org/atal](http://www.aicte-india.org/atal) and attend the program with **minimum 80% attendance**,
- The evaluation of each participants may be done based on online test. Participants must score minimum 70% in the test.
- It is compulsory for each participant to **fill the Feed-back form for getting certificate.**

## COURSE CONTENTS

- Manufacturing: Vision for future
- Automation and Robotics in Manufacturing
- Advanced Manufacturing for Customized Production
- Advanced Materials and Nanotechnology in Manufacturing
- Smart Sensors and Real-Time Monitoring
- Sustainable Micromachining using Bio-Organisms on Antimicrobial Surfaces
- Micro-characterization of material upon machining
- Digital Twin Technology in Micro Machining
- Sustainability and Green Manufacturing in Industry 4.0
- Advances in Electro Discharge Machining
- Bio composites for electromagnetic interference shielding applications
- Advances in Ruber Manufacturing
- Internet of Things (IoT) in Manufacturing

## TENTATIVE RESOURSE PERSONS

### Dr. Elammaran Jayamani

Discipline Leader and Faculty,  
Swinburne University of  
Technology, Malaysia



### Dr. Ankur Jain

Assosiate Professor, N-BARD,  
Hiroshima University, Japan



### Prof. V K Jain,

Former Prof., IIT Kanpur



### Prof. J Ram Kumar.

Professor, IIT Kanpur



### Dr. Mamilla Ravi Sankar

Professor, IIT, Tirupati



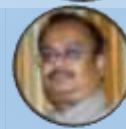
### Dr. Varun Sharma

Associate Professor, IIT  
Roorkee



### Dr. Meghanshu Vashista

Asso. Prof., IIT BHU



### Dr. Vijay Verma

Associate Professor, BIET,  
Jhansi

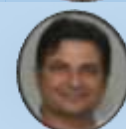


### Mr. Gopal kumar sinha

Dy. Director, MSME,  
Pondichery



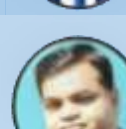
Mr. Amit Mehta, Vice President,  
Wonder cement Ltd, Kota,  
Rajsthan



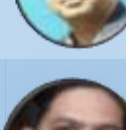
Mr. Navneet Singh Rajput,  
General Manager, TATA Motors  
Ltd, Ahmedabad, Gujrat



Mr. Rajesh Gupta, Asst. works  
Manager, Ordinance Factory,  
Institute of learning Khamaria,  
Jabalpur



Mr. O P Dwivedi  
jr. works Manager, Ordinance  
Factory, Institute of learning  
Khamaria, Jabalpur



## Chief Patron

**Mrs. Shobha Mishra,**  
Honorable Chairperson, IPS GOC

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**Dr. Arun Tyagi,**  
Director, IPS GOC

**Mr. Ashwini Mishra,**  
Working President, IPS GOC

**Mr. P. K. Ghosh,**  
CAO, IPSGOC

## Program Chair

**Dr. Anurag Garg,**  
Principal, IPS CTM

**Dr. Jyoti Mishra,**  
Dean-Academic, IPS CTM

## Coordinator

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Professor, Dept of Mechanical Engineering,  
IPS CTM

## Co-Coordinator

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Professor, Dept of Applied Science, IPS  
CTM

## Organizing secretary

**Mr. Vineet Raj Singh Kushwah,**  
Associate Professor, Dept. of CSE, IPS  
CTM

## Organizing Committee Members

**Mr. S. G. Mishra,**  
Head, Dept. of ME, IPS CTM

**Mr. Prem Prakash Pandit**  
Assistant Professor, Dept. of ME, IPS CTM