



## DEPARTMENT OF MECHANICAL ENGINEERING

FACULTY DEVELOPMENT PROGRAM (VIRTUAL MODE) ON

# RECENT TRENDS & ADVANCES IN MANUFACTURING ENGINEERING

25.03.2024 - 29.03.2024



*Sri*

# SAIRAM

ENGINEERING COLLEGE

*An Autonomous Institution*

West Tambaram, Chennai - 44

[www.sairam.edu.in](http://www.sairam.edu.in)



## ABOUT THE INSTITUTION

**Sri Sai Ram Engineering College**, Chennai was established in the year 1995 by Philanthropist, Educationist and Industrialist, MJF.Ln.Leo Muthu, Chairman of Sapthagiri Educational Trust, a non-profitable, and non-minority institution. The college is situated among sylvan surroundings in an area of more than 100 acres at Sai LeoNagar, near the Kishkinta amusement park. The college offers eleven B.E. / B.Tech., Undergraduate Degree programmes and six Post Graduate Degree programmes. The College is ISO 21001:2018 and BVQI 9001:2015 BIS certified, NBA, NIRF ranked, NAAC 'A+' accredited and an Autonomous Institution affiliated to Anna University and approved by All India Council for Technical Education. The Institution has well-established infrastructure facilities, well equipped laboratory, Fully Air-conditioned College Library, and state of the art Indoor stadium with seating capacity of 7500 people. A well-defined vision, highly committed mission and dedicated leadership facilitate Sri Sairam Engineering College to be one of the best educational institutions in the country.

## ABOUT THE DEPARTMENT

**The Department of Mechanical Engineering** has been established in the year 1995. The Department is accredited by NBA and CII-AICTE survey of industry linked technical Institutions 2015 & 2020 has placed the Department of Mechanical Engineering in the first position at all India level. The Department has been recognised by Anna University as a Centre for Research. Students are encouraged to actively participate in professional society activities in which real time all-Terrain vehicles are fabricated through events like BAJA, EBAJA, EFFICYCLE, SOLARIS, SUPRA, GOKART, E-Bike and able to win many prizes.

## ABOUT THE PROGRAM

The focus of this FDP is recent trends and the latest advancements, methodologies, technologies, and practices adopted within the manufacturing industry. These trends and applications are continually evolving as new technologies emerge and industries strive to improve efficiency, productivity, and sustainability. Some common recent trends and applications in manufacturing which include Industry 4.0 the integration of digital technologies such as Internet of Things (IOT), artificial intelligence (AI), machine learning, big data analytics, and automation into manufacturing processes. This integration leads to smart factories where machines communicate with each other to optimize production. Additive Manufacturing (3D Printing): Additive manufacturing is a process of building three-dimensional objects by adding layer upon layer of material. This technology allows for rapid prototyping, customization, and complex geometries that traditional manufacturing methods may struggle with. It finds applications in various industries, including aerospace, automotive, healthcare, and consumer goods. Robotics and Automation: Robotics and automation play a crucial role in modern manufacturing by improving efficiency, precision, and safety. Robots are increasingly used in tasks ranging from assembly and pick-and-place operations to material handling and quality control. Advanced Materials: Advances in materials science have led to the development of novel materials with superior properties, such as lightweight, strength, durability, and resistance to corrosion. These materials find applications in aerospace, automotive, construction, and electronics industries, among others. Digital Twin Technology: Digital twin technology involves creating virtual replicas of physical assets, processes, or systems. By simulating and analyzing the behaviour of these digital twins, manufacturers can optimize performance, predict maintenance needs, and identify opportunities for improvement. Sustainable Manufacturing: Sustainability has become a key focus in manufacturing, driven by concerns over environmental impact and resource scarcity.

## MAJOR COURSE CONTENTS

- Energy Production
- Intelligent, Innovative and Integrated manufacturing
- Recent advances in additive manufacturing
- Lean manufacturing & industry 4.0
- Smart Inspection and Metrology
- 3D Printing
- Case studies on Advanced Manufacturing Engineering
- Robotics & Automation
- Green Manufacturing
- Manufacturing Entrepreneurship

**FDP on**  
**RECENT TRENDS & ADVANCES**  
**IN MANUFACTURING ENGINEERING**  
**25.03.2024 to 29.03.2024**

**REGISTRATION FORM**

1. Name :

2. Designation :

3. Institution :

4. Email :

5. Ph. No :

6. Address for Correspondence :

7. Educational Qualification :

8. Subjects taught so far :

9. No. of refresher courses/  
workshops attended :

10. Experience (in years) :

11. Teaching: Research: Industry :



### Chief Patron

**Dr. Sai Prakash LeoMuthu**  
Chairman & CEO

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**Dr. K. Porkumaran**  
Principal

**Dr. A. Rajendra Prasad**  
Dean (Student Affairs)

### Convenor

**Dr. B. Vijaya Ramnath**  
HOD - Dept. of Mech

### Organizer

**Dr. K. Venkataraman**  
Associate Professor - Dept. of Mech

### Co-ordinator

**Mr. V. Ranjith Kumar**  
Assistant Professor - Dept. of Mech

### Address for Communication

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### Registration Link :



<https://tinyurl.com/sairam-fdp-manufacturing>



**Sri SAIRAM**  
**ENGINEERING COLLEGE**  
*An Autonomous Institution*  
Affiliated to Anna University & Approved by AICTE, New Delhi

Accredited by NBA and NAAC "A+"  
ISO 21001:2018 Certified and MHRD NIRF ranked institution

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