

**Chief Patron:**  
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**Chairman, AITAM**

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Smt. V. SudhaPriya  
Dr. K. Ravi Kumar  
Sri T. Naga Raju  
Prof. V.V.Nageswara Rao  
Sri K. Madhu Kumar  
Sri T. Naga Seshu  
Sri. V Naga Sanketh  
Dr. K. B. MadhuSahu  
Prof. A. S. Srinivasa Rao

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**Vice Chairman, AITAM**  
**Joint Secretary, AITAM**  
**Treasurer, AITAM**  
**Director, AITAM**  
**Director, AITAM**  
**Director, AITAM**  
**Director, AITAM**  
**Director-R&D, AITAM**  
**Principal, AITAM**

**STUTI Program Coordinator**  
Prof. Balla Srinivasa Prasad  
Deputy Director, Research Activities,  
GITAM Deemed to be University, Visakhapatnam

**Institute Coordinator**  
Dr. Chappa Ramesh  
Dean IQAC, AITAM

**Convenor:**  
Dr. D. Sreeramulu, Professor, HOD-ME  
dsreeramulu.mech@adityatekkali.edu.in

**Co-Convenors:**  
Dr. P. Srihari, Asst HOD (Admin)-ME  
Dr. R. Siva Sankara Raju, Asst HOD (Placements)-ME

**Principal Advisors:**  
Dr. Duppala Azad,  
Dr. C. J. Rao  
Dr. V. Chittibabu

**Dean R & D**  
**Professor-ME**  
**Professor & CE**



## Organizing Committee

Sri D. Lokanadham  
Sri. B. Ramakrishna  
Sri M.V. Ramana  
Sri D. Ramajoginaidu  
Sri B.V.V. Prasad  
Sri D. Appa Rao  
Sri Y. Hari Babu  
Sri A. Satish Kumar  
Sri Y. Sagar  
Sri P. Devi Prasad  
Sri M. Venkatesh  
Sri. D. Bhanu Chander  
Sri. D. Raghuveer  
Sri. Menaka Atmaja Ray  
Sri. Roop Sandeep Bammidi  
Sri. P. Suman  
Sri. K. Durga Prasad  
Sri. R. Jagadeesh  
Sri. R. Pavan Kumar  
Sri. P. Raminaidu

Associate Professor  
Associate Professor  
Associate Professor  
Asst. Professor  
Asst. Professor  
Asst. Professor  
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Asst. Professor

## WHO can Attend?

- Faculty Members from Reputed colleges and Universities
- Industry Professionals from R&D/Other organizations
- Research Associates/Senior Research Professionals From Reputed Institutions

## Registration Fee

There is no registration fee for the participants

## Note:

- TA will be provided
- Participation certificate will be provided
- Accommodation will be arranged
- Limited number of participants
- Participants on first come first serve basis will be accepted

## Registration process

Aspirants are requested to fill the Google form along with sponsorship certificate in the format attached on or before 05<sup>th</sup> July 2022

**Link :** <https://forms.gle/n7vMnSwnw9bqWYx97>

## Contact:

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STUTI Program Coordinator  
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Dr. Chappa Ramesh,  
Institute Coordinator  
Phone: +91 92478 58288  
Stuti2021@adityatekkali.edu.in



## DST Sponsored National Level One week Training Program on

# Role of IoT & Machine Learning in Design and Manufacturing

## Under STUTI Program-2021 (DST/RND/STUTI/2021/18)

11<sup>th</sup> to 17<sup>th</sup> July, 2022

## Organized by



**Department of Mechanical Engineering**  
**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT**

**K. Kotturu, Tekkali-532201, Srikakulam (Dt)**

**In Collaboration with**  
**GITAM Deemed to be University, Visakhapatnam**





## About AITAM

Aditya Institute of Technology and Management (AITAM) is located at K. Kotturu, Tekkali, Srikakulam District, Andhra Pradesh in an extent of 50 acres of clean, green, serene, and picturesque area with the beauty of modern day Gurukul. AITAM offers 7 U.G programs in the disciplines of CSE, ECE, IT, EEE, ME, CE and CSE (AI&ML) along with, P.G program in MBA, and 6 disciplines of M. Tech. The total sanctioned intake is 960 in B. Tech programmes, 60 in MBA and 60 in M. Tech. AITAM: an autonomous institute approved by AICTE & Secured the status of 2(f) and 12(B) of UGC and permanently affiliated to JNTU, Kakinada. All B.Tech programs are accredited by NBA under Tier-I format and accredited by NAAC with A+ grade. It is recognized as Scientific and Industrial Research Organization (SIRO) by Ministry of Science and Technology, Government of India and received financial support under FIST Programme (SR/FST/College-033/2017, Dated 16-1-2018) of DST, New Delhi. CSE, ECE, EEE, & ME departments are recognized as research centres by JNTU Kakinada. It is an authorized technical skill development centre by AP State Skill Development Corporation, Govt. of A. P. and a consortium member in Indo-US Collaboration for Engineering Education (IUCEE). AITAM is rated one among the best self-financing colleges in the North Coastal Andhra Pradesh, as it sets up highest standards in all areas of curricular, co-curricular, extracurricular and research activities and placements.

## About the Department:

The Department of Mechanical Engineering (ME) was established by AITAM in 2004 with an initial intake of 60 students and got approval for additional intake of another 60 seats in 2011-12. A Post Graduate Program (M. Tech) in Thermal Engineering was introduced in 2011-12 with an intake of 18 seats and enhanced to 30 seats. The Department has been accredited by NBA twice

The department has well equipped state-of-the-art Laboratories such as Applied Robot control lab in collaboration with European Center for Mechatronics and Manufacturing, Germany, Automobile & Dassault systems labs sponsored by APPSDC, Siemens PLM Software Authorized Training Centre with latest software tools to train students..

Department has been sanctioned and successfully conducted two DST funded SERB conferences with File No: SB/SS/1552/15-16 and File No: SSY/2017/000448. Students of the department in the past have been placed in Various MNC's and Reputed Organisations. Some of the passed out students have also pursued/are pursuing M.Tech and Ph.D in IIT's, NIT's, prestigious Universities and Institutions. The faculty and students are associated with Various memberships of professional bodies. The Department of ME is leaping forward with strength by strength over the years.

## About FDP

The program describes significant Manufacturing Methods in conjunction with IOT and Machine Learning Technologies applicable to current industry needs. The program's aim is to enlighten the participants in real time Manufacturing environment driven by Industry 4.0. This program attempts to provide a Quantitative and Qualitative insights of the recent Manufacturing Methodologies towards Digitalization and Automation. The program will also demonstrate the recent design techniques and discuss about Structural life assessment, Structural health monitoring, Condition Monitoring and Fatigue Analysis. The realization of a conceptual design into a finished product is elaborated. Apart from Design and Manufacturing processes, advances in Analytical Processes will be covered. This FDP will introduce the conceptual techniques behind the Gas-Liquid Chromatography by demonstrating the application areas of GLC.

## Objectives:

Participants will be able to

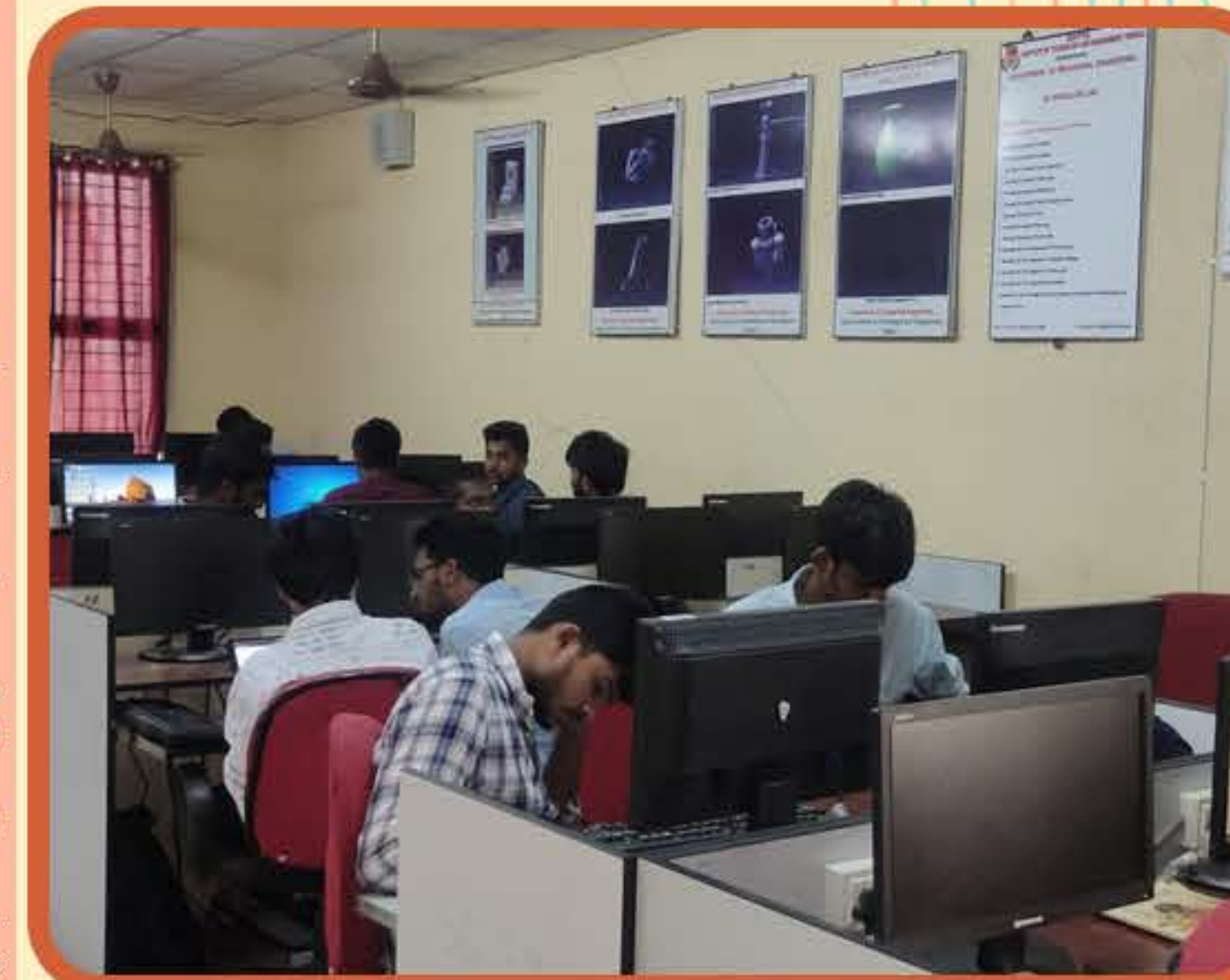
1. Understand the usage of Machine learning in Increasing the efficiency, production rate, yield and quality.
2. Describe maximization of resource utilization, Optimise the Processes and Plant Layout by integration of Product Life Cycle Tasks.
3. Explain the Importance of Predictive, Preventive, Corrective and Condition based maintenance by employing IOT Techniques.
4. Understand Safety of equipment, quality assurance, Inspection and tracking of the products, Forecasting and scheduling.
5. Operate and demonstrate various equipments like gas chromatography, CNC Machine, VCR Engine, Robotics arm Automation and all relevant softwares.



Gas Chromatography



Mini Lathe XL turn



Design & Modelling Center



Digital UTM Machine



Robotic System-Igus Make



VCR Engine Setup



SCHEDULE FOR 7 DAY  
DST Sponsored National Level One Week Training Program on  
Role of IOT and Machine Learning in Design and Manufacturing  
Under STUTI Program-2021 - (DST/RND/STUTI/2021/18)  
**11<sup>th</sup> to 17<sup>th</sup> July 2022**

Day	Morning Session (10.00 am –12.00 pm)		Afternoon session (1.30 pm – 4.00 pm)
Day 1	Resource Person: Dr. Veeresh Kumar, Dean and HOD, Mechanical Engineering, NIT, Andhra Pradesh	LUNCH BREAK (12.00 pm – 1.30 pm)	Resource Person: Dr.Veeresh Kumar, Dean and HOD, Mechanical Engineering, NIT, Andhra Pradesh
	Topic: Digital Thread and Digital Twins		Hands on experience : Digital Thread and Digital Twins
Day 2	Resource Person: Prof. N.B.Venkateswarulu, GVP College of Engineering for Women, Visakhapatnam		Resource Person: Dr.N.B.Venkateswarulu, GVP College of Engineering for Women, Visakhapatnam
	Topic: Applications of IOT and Machine learning in Industry		Hands on experience on IOT Tools and Application of ML in Digital Manufacturing Domain
Day 3	Resource Person: Dr.D.Sreeramulu, Professor & HOD- Mechanical Engg, Aditya Institute of Technology and Management, Tekkali.		Resource Person: Dr.D.Sreeramulu Professor & HOD- Mechanical Engg, Aditya Institute of Technology and Management, Tekkali.
	Topic: Forward and Inverse Kinematics in Robotics		Hands on experience on Solving inverse Kinematics case studies using MATLAB
Day 4	Resource Person: Dr. K. Venkata Rao		Resource Person: Dr. K. Venkata Rao
	Topic: Prediction of surface quality and aerosol emissions using OGM(1,N) and ANN in Wire EDM		Hands on Practice on Online Modeling and Monitoring of Tool Condition Using Machine Learning Technique
Day 5	Resource Person: Dr. Balla Srinivasa Prasad		Resource Person: Balla Srinivasa Prasad & Dr. K V V N R Chandra Mouli
	Topic: Design and Implementation Real Time Adaptive Controller Design For CNC Milling		Hands on experience: CNC Milling with adaptive control
Day 6	Resource Person: Dr. Raja Sekhar		Resource Person: Dr. P. Srihari
	Topic: Application of		Hands on experience on Robot Actuation Systems using IOT
Day 7	Resource Person: Dr. P. S. Rao, Centurion University of Technology and Management, Odisha		Resource Person: Dr. Arun Manohar, Centurion University of Technology and Management, Andhra Pradesh
	Topic: Manufacturing Execution Systems		Hands on experience on APRISO Software

**Project Coordinator, STUTI:** Prof. Balla Srinivasa Prasad

**Institute Coordinator:** Dr. Chappa Ramesh

**Convenor:** Dr. D. Sreeramulu,

ORGANISED AT ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, K.Kotturu, Tekkali-532201, Srikakulam(Dt)

UNDER GOVT.OF INDIA'S STUTI PROGRAM -2021 (DST/RND/STUTI/2021/18)

**DST Sponsored National Level One week Training Program on  
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11<sup>th</sup> to 17<sup>th</sup> July 2022

**SPONSORSHIP CERTIFICATE**

Certified that Dr/Sri/Smt. \_\_\_\_\_ is  
a faculty of our Institute and is being sponsored hereby for attending the DST Sponsored  
National Level One Week Training Program on “Role of IOT and Machine Learning  
in Design and Manufacturing” to be conducted by the Department of Mechanical  
Engineering, Aditya Institute of Technology and Management, Tekkali in collaboration  
with GITAM Deemed to be University, Visakhapatnam Under STUTI Program-2021  
(DST/RND/STUTI/2021/18) from 11<sup>th</sup> to 17<sup>th</sup> July 2022

Signature of Sponsoring Authority

(With date and seal)