

# Applications of AI in Wireless Communication and Sensor Networks

04<sup>th</sup> May - 15<sup>th</sup> May 2022

Organized by

E & ICT Academy, National Institute of Technology, Warangal

In association with

Dept. of ECE, RajaRajeswari College of Engineering, Bangalore

(Sponsored by Ministry of Electronics and Information Technology (MeitY), Govt. of India)



## Preamble

Electronics & ICT Academy" was set up at NIT Warangal with financial assistance from MeitY, GoI. The jurisdiction of this academy is Telangana, Andhra Pradesh, Karnataka, Goa, Puducherry and Andaman & Nicobar Islands. This academy role is to offer faculty development programme in standardized courses and emerging areas of Electronics, Information Communication Technologies, curriculum development as per with industries requirement as well as training & consultancy services for Industry, CEP for working professionals, Advice and support for technical incubation and entrepreneurial activities.

## About the FDP

The FDP on Applications of Artificial Intelligence in Wireless Communication and Sensor Networks on providing an introduction on the impacts of Artificial Intelligence in the fields of wireless communication and sensor networks. AI techniques are widely used for many applications such as Wireless Communication, Computer Vision, Natural Language Processing, Sensor networks and so on. This course will give the basics and research areas of AI with applications to wireless communication & sensor networks. It will help to upgrade the expertise and capabilities of the faculty members of various engineering institutions in India. Experts cover a range of contemporary computing topics and provide with a strong theoretical basis, as well as develop critical analysis and practical skills. This FDP aims to impart knowledge and train on fundamentals of engineering aspects of AI and insights in recent wireless Communication & sensor networks applications using AI.

## Major Course Contents

- Introduction to AI and its applications and Challenges
- AI fundamentals for Wireless Communications
- AI basics for Sensor networks
- AI for 5G systems
- Limitations of AI in wireless Communications
- AI for sensor networks
- Sensor Data Analytics
- Research directions for Security in sensor networks
- Research issues and case studies in wireless sensor networks
- Hands on sessions using Python/MAT lab

## Faculty Conducting this Program

The program will be handled by the faculty members from NIT Warangal. In addition, academicians from IITs/NITs/IITs are invited to deliver lectures in this program. Speakers from industries are also expected to deliver the sessions as part of the course.

## Eligibility

The program is open to the faculty of Engineering Colleges, MCA, MBA Colleges and other allied disciplines in Telangana, Andhra Pradesh, Karnataka, Goa, Puducherry, Andaman and Nicobar Islands. Industry personnel working in the concerned allied discipline can also attend.

## Registration Fee Particulars

Faculty and Research Scholars	Rs. 750/-
Industry Participants	Rs. 2250/-

## Online Transfer Details

Account Name: Electronics & ICT Academy NIT W  
Account No: 62423775910  
IFSC: SBIN0020149  
Bank and Branch: State Bank of India, NIT (R&E) Warangal

Venue: Virtual Mode through Google Meet

## How to Apply

The interested participants are informed to register initially through the following <https://forms.gle/8H48rjKggMJfampU9> However, they are required to submit a filled in form of application in the prescribed format duly signed and sponsored by appropriate authorities. It is also mandatory to send the scanned application form and demand draft through email to [rangaiah77@yahoo.com](mailto:rangaiah77@yahoo.com) and send the hard copy of the same to the below given address. Selection will be intimated only through mail.

## Selection Criteria

Selection will be done based on *first-cum-first-serve* basis and the confirmed candidates will be notified immediately. Maximum number of participants will be 50 (fifty), additionally 10 participants from industry are allowed to participate. The list of selected participants will be notified through their personal *e-mail* ids. In case a candidate is not selected, the demand draft will be sent back. A test will be conducted at the end of the course. Candidates will be issued satisfactory certificates on successful completion of the course along with grade. Reservations are followed for selecting candidates as per GOI norms.

## Important Dates

Last date for submission of application	02.05.2022
Selection-list intimation at 5PM	02.05.2022

## About NIT Warangal

National Institute of Technology (formerly Regional Engineering College), Warangal is the first among 17 RECs setup as joint venture of the Government of India and the state government. Over the years the college has established itself as a premier Institution imparting technical education of a very high standard leading to the B. Tech degrees in various branches of engineering and M. Tech. and Ph.D. programs in various specializations. All B. Tech and M. Tech programmes of NIT Warangal are NBA accredited.

## About RAJARAJESWARI COLLEGE OF ENGG

RajaRajeswari College of Engineering (RRCE) established in the year 2006 under the shelter of Moogambigai Charitable and Educational Trust. RRCE is recognized by AICTE, New Delhi and is affiliated to Visvesvaraya Technological University (VTU), Belagavi, Karnataka. The Institute offers eight UG courses (ECE, CSE, ISE, EEE, AI&ML, Robotics & Automation, Civil Engg., Mechanical Engg.) and three PG courses Computer Science and Engineering, Master of Business Administration and Master of Computer Applications, also 9 Research Centers. The college has unique well equipped laboratories, digital library and sports facilities along with other amenities.

Department of ECE has started in the year 2006-07 with a sanctioned intake 60 students. In the year 2013-14, the intake of students increased from 60 to 120. The department offers UG and PhD programs under VTU. The program accredited by NBA. Theoretical Knowledge is supplemented with ability to analyze, design and provide technical solutions that have real life value. We are also collaborating with industries such as Karnataka Hybrid Micro Devices, P-Think & Win global Tech, Bangalore. Our student projects are proposed for VGST/ KSCST Project funding. All the activities are held through professional societies like IEEE, ISTE, IETE or Departmental club.



## APPLICATION FORM

1. Name: \_\_\_\_\_
2. Designation: \_\_\_\_\_
3. Institution: \_\_\_\_\_
4. Email: \_\_\_\_\_
5. Mobile No.: \_\_\_\_\_
6. DD No./Transaction No.:  
Date: \_\_\_\_\_  
Bank: \_\_\_\_\_
7. Address for Correspondence: \_\_\_\_\_
8. Educational Qualifications with specialization: \_\_\_\_\_
9. Subjects taught so far: \_\_\_\_\_
10. No. of refresher courses/workshops attended: \_\_\_\_\_
11. Total Experience (in Years):  
\_\_\_\_\_ Teaching:  
\_\_\_\_\_  
Research: \_\_\_\_\_  
Industry: \_\_\_\_\_

12. Do you belong to SC/ST: YES/NO  
(If yes, please specify clearly and attach a photocopy of the caste certificate)

## DECLARATION

The information provided is true to the best of my knowledge. If selected, I agree to abide by the rules and regulations of the FDP and shall attend the course for the entire duration. I also undertake the responsibility to inform the coordinator in case, I am unable to attend the course.

Place:

Date:

Signature of the applicant

## SPONSORSHIP CERTIFICATE

Dr./Mr./Ms.....  
is an employee of our Institute/Organization and is hereby sponsored to participate in the Online FDP on **APPLICATIONS OF WIRELESS COMMUNICATION & SENSOR NETWORKS** - *sponsored* by Electronics & ICT Academy i in association with Department of Electronics and Communication Engineering, RajaRajeswari College of Engineering, Bangalore during 4<sup>th</sup> - 15<sup>th</sup> May 2022.

Place:

Date:

Signature of Head of Institution  
(With seal)

## FDP Coordinator from NITW

**Dr. V.V. Mani**  
Associate Professor, Department of ECE  
NIT Warangal  
Telangana- 506004  
Email id.: [vvmani2000@gmail.com](mailto:vvmani2000@gmail.com),  
[vvmani@nitw.ac.in](mailto:vvmani@nitw.ac.in)

## FDP Convener from RRCE

**Dr. Rangaiah L**  
Professor & Head  
Dept. of ECE  
RajaRajeswari College of Engineering  
Bangalore - 74  
Email: [rangaiah77@yahoo.com](mailto:rangaiah77@yahoo.com)  
[rangaiah@rrce.org](mailto:rangaiah@rrce.org)  
Mobile: 9741681862



## APPLICATION FORM

1. Name: \_\_\_\_\_
2. Designation: \_\_\_\_\_
3. Institution: \_\_\_\_\_
4. Email: \_\_\_\_\_
5. Mobile No.: \_\_\_\_\_
6. DD No./Transaction No.:  
Date: \_\_\_\_\_  
Bank: \_\_\_\_\_
7. Address for Correspondence: \_\_\_\_\_
8. Educational Qualifications with specialization: \_\_\_\_\_
9. Subjects taught so far: \_\_\_\_\_
10. No. of refresher courses/workshops attended: \_\_\_\_\_
11. Total Experience (in Years):  
\_\_\_\_\_ Teaching:  
\_\_\_\_\_ Research:  
\_\_\_\_\_ Industry: \_\_\_\_\_
12. Do you belong to SC/ST: YES/NO  
(If yes, please specify clearly and attach photocopy of the caste certificate)

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Place: \_\_\_\_\_

Date: \_\_\_\_\_

Signature of the applicant

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Place: \_\_\_\_\_

Date: \_\_\_\_\_

Signature of Head of Institution  
(With seal)

## FDP Coordinator from NITW

**Dr. V.V. Mani**  
Associate Professor, Department of ECE  
NIT Warangal  
Telangana- 506004  
Email id.: [vvmani2000@gmail.com](mailto:vvmani2000@gmail.com),  
[vvmani@nitw.ac.in](mailto:vvmani@nitw.ac.in)

## FDP Convener from RRCE

**Dr. Rangaiah L**  
Professor & Head  
Dept. of ECE  
RajaRajeswari College of Engineering  
Bangalore - 74  
Email: [rangaiah77@yahoo.com](mailto:rangaiah77@yahoo.com)  
[rangaiah@rrce.org](mailto:rangaiah@rrce.org)  
Mobile: 9741681862



FACULTY DEVELOPMENT PROGRAMME (FDP) ON

**Applications of AI in Wireless Communication and Sensor Networks**

04th May - 14th May 2022

Organized by  
E & ICT Academy, National Institute of Technology, Warangal

in association with

Dept. of ECE, Rajarajeswari College of Engineering, Bangalore

(Sponsored by Ministry of Electronics and Information Technology (MeitY), Govt. of India)

Date & Time	Morning Session, 10:00AM - 12:00 Noon	Lunch Break	Afternoon Session, 2:00PM - 4:00PM
04-05-22 (Wednesday)	Inauguration, Introduction to the Course V.V. Mani, NIT Warangal		Overview of Artificial intelligence driven Non-orthogonal Multiple Access Technique for 5G and beyond 5G- and Stress on Implementation of NOMA for VLC. Dr. Suseela Vappangi, VIT AP
05-05-22 (Thursday)	Intelligent Multimedia streaming in Wireless networks, Dr. Chetna Singhal, IIT Kharagpur		Lab on Intelligent Multimedia streaming in Wireless networks, Dr. Chetna Singhal, IIT Kharagpur
06-05-22 (Friday)	AI Based Channel Estimation for Intelligent Reflecting Surface (IRS) driven Wireless Communication, Dr. Debarati Sen, IIT Kharagpur		Interplay of AI and IoT Networks by Dr. Sudhir Kumar, IIT Patna
07-05-22 (Saturday)	Introduction to Machine Learning with Matlab Dr. V.V. Mani, NIT Warangal		Ensemble learning for energy resource allocation for Fiber-Wireless networks, Dr. Vivek Ashok Bohara, IIIT-Delhi
09-05-22 (Monday)	Machine Learning for Wireless Communication - Hands on Dr. V.V. Mani, NIT Warangal		AI for VLC, Matlab Coding Dr. V.V. Mani, NIT Warangal
10-05-22 (Tuesday)	Deep Learning based RF Signal Classification: Part 1 - Theory Dr. Prabhu Chandhar, Chandhar Research Labs, Chennai		Deep Learning based RF Signal Classification: Part 2 - Hands-on Dr. Prabhu Chandhar, Chandhar Research Labs, Chennai
11-05-22 (Wednesday)	Machine Learning based Intrusion Detection in IoT-MQTT Networks Dr. Prabhu Chandhar, Chandhar Research Labs, Chennai		Machine learning based localization and classification in wireless networks by Dr. Abhinav Kumar, IIT Hyderabad
12-05-22 (Thursday)	AI enabled Wireless communication technologies for IoT Applications - Dr. Prabu K, NITK Surathkal		Federated Learning over wireless networks by Dr. Gagan Raj Gupta, IIT Bhubaneswar
13-05-22 (Friday)	Machine Learning (ML)-driven Sensing for Smart Buildings Applications, Dr. Ashish Pandharipande		European/Global Standards in AI for Wireless Communication and Sensor Networks Dinesh Chand Sharma   Director – Standards & Public Policy (SESEI)
14-05-22 (Saturday)	Multiple Access Schemes for Next-generation Wireless Networks Dr. Sanjeev Sharma, IIT (BHU) Varanasi		Exam, Validictory





# RAJARAJESWARI COLLEGE OF ENGINEERING

Ramohalli Cross, Kumbalagodu, Mysore Road, Bengaluru-560074.

DEPT. OF ELECTRONICS AND COMMUNICATION ENGINEERING

ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP) ON

Applications of AI in Wireless Communication and Sensor Networks  
in Association with

E&ICT Academy, NIT Warangal

➤ **Date of FDP:** 4<sup>th</sup> to 14<sup>th</sup> May 2022

➤ **Venue:** Online

Session	Forenoon (10:00 AM to 12:00PM)	Afternoon (02:00 PM to 04:00 PM )
04-05-22 (Wednesday)	Inauguration and Introduction to the FDP <b>Dr. V. V. Mani, NIT Warangal</b>	Overview of Artificial intelligence driven Non-orthogonal Multiple Access Technique for 5G and beyond 5G- and Stress on implementation of NOMA for VLC. <b>Dr Suseela Vappangi, VIT AP</b>
05-05-22 (Thursday)	Intelligent Multimedia streaming in Wireless networks <b>Dr. Chetna Singhal, IIT Kharagpur</b>	Lab on Intelligent Multimedia streaming in Wireless networks <b>Dr. Chetna Singhal, IIT Kharagpur</b>
06-05-22 (Friday)	AI Based Channel Estimation for Intelligent Reflecting Surface (IRS) driven Wireless Communication by <b>Dr. Debarati Sen, IIT Kharagpur</b>	Introduction to Machine Learning with Matlab <b>Dr V V Mani, NIT Warangal</b>
07-05-22 (Saturday)	Interplay of AI and IoT Networks by <b>Dr. Sudhir Kumar, IIT Patna</b>	Ensemble learning for energy resource allocation for Fiber-Wireless networks <b>Dr. Vivek Ashok Bohara, IIIT-Delhi</b>
09-05-22 (Monday)	Machine Learning for Wireless Communication - Hands on <b>Dr V V Mani, NIT Warangal</b>	AI for VLC , Matlab Coding <b>Dr V V Mani, NIT Warangal</b>
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13-05-22 (Friday)	Machine Learning (ML)-driven Sensing for Smart Buildings Applications <b>Dr. Ashish Pandharipande, Technical Director-Innovation, NXP semiconductors, Netherland</b>	European/Global Standards in AI for Wireless Communication and Sensor Networks <b>Dinesh Chand Sharma   Director – Standards &amp; Public Policy (SESEI)</b>
14-05-22 (Saturday)	Multiple Access Schemes for Next-generation Wireless Networks <b>Dr Sanjeev Sharma, IIT (BHU) Varanasi</b>	Exam, Valedictory



➤ **FDP objective:**

This FDP aims at providing strong theoretical background along with practical experience in the field of computer vision and medical imaging applications and how the visualization and analysis of the images could be efficiently done with the help of computer vision and medical image analysis based algorithms. In the growing and emerging era of “Digital India” initiative, the use of computer vision becomes pertinent in the machine vision and medical imaging area since several applications of the images determine and contribute towards socio-economic status of the regions and the country as whole.

FDP will be helpful for the faculties and researchers working in the areas of AI/ML for computer vision and medical image analysis applications.

➤ **Total number of participants: 52**

➤ **Major Course Contents:**

- Introduction to Computer vision and Medical image analysis applications. Machine Learning Basics, working with data pre-processing and data visualization.
- Supervised and unsupervised learning methods, SVM classification, neural networks and applications.
- Introduction to Deep learning methods, and DL based other Architectures and its applications.
- CNN Architectures for CV and medical imaging implementation.
- Video analytics, Object detection/Tracking, segmentation, Yolo models, RCN, Unet and FRCNN.
- Biometrics detection, Human activity and face recognition.
- Medical image data processing and analysis.
- AI/ML for Biomedical imaging, CT Scan/MRI based image analysis, and medical image classifications.
- Basics of Tensor Flow/Keras/PyTorch/Jupyter and Colab.
- Working with data pre-processing and data visualization using python/MATLAB.
- Hands-on session using Python/MATLAB.
- CV and AI algorithms implementation on Hardware platform like Jetson Nano, TX2 etc. Faculty

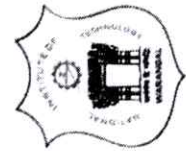












**ELECTRONICS & ICT ACADEMY**  
**NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL, (T.S.), INDIA**



RajaRajeswari College of Engineering, Bangalore


**Participation Certificate**


This is to certify that.....  
from.....  
.....


has participated in a 40-hour Online Faculty Development Programme on "Applications of AI in Wireless Communication and Sensor Networks" Sponsored by Ministry of Electronics and Information Technology (MeitY) GoI, organised by E&ICT Academy, NIT Warangal and RajaRajeswari College of Engineering, Bangalore during 4<sup>th</sup> – 14<sup>th</sup> May, 2022


She / He has successfully completed all the requirements for the completion of the programme.

  
Dr. Rangaiah L  
Coordinator  
ARCE, Bangalore

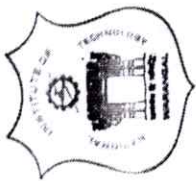
  
Dr. T. Chandrashekar  
Principal  
ARCE, Bangalore

  
Dr. V. V. Mani  
Coordinator  
NIT, Warangal

  
Prof. R.B.V. Subramaanyam  
Chief Investigator  
E&ICT Academy, NIT Warangal

  
Prof. N.V. Ramana Rao  
Director  
NIT, Warangal





**ELECTRONICS & ICT ACADEMY**  
**NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL, (T.S.), INDIA**



**and**  
**RajaRajeswari College of Engineering, Bangalore**

## *Participation Certificate*


This is to certify that.....  
**Dr R GANGADHAR REDDY, Associate professor**  
from.....  
**RAJARAJESHWARI COLLEGE OF ENGINEERING**  
has participated in a 40-hour Online Faculty Development Programme on "Applications of AI in Wireless Communication and Sensor Networks" Sponsored by Ministry of Electronics and Information Technology (MeitY) GoI, organised by E&ICT Academy, NIT Warangal and RajaRajeswari College of Engineering, Bangalore during 4<sup>th</sup> - 14<sup>th</sup> May, 2022


**She / He has successfully completed all the requirements for the completion of the programme.**

  
**Dr. Rangaiah L.**  
Coordinator  
RRCE, Bangalore

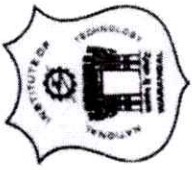
  
**Dr. T. Chandrashekar**  
Principal  
RRCE, Bangalore

  
**Dr. V. V. Mani**  
Coordinator  
NIT, Warangal

  
**Prof. R.B.V. Subramaanyam**  
Chief Investigator  
E&ICT Academy, NIT Warangal

  
**Prof. N.V. Ramana Rao**  
Director  
NIT, Warangal





**ELECTRONICS & ICT ACADEMY**  
**NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL, (T.S.), INDIA**



and  
**RajaRajeswari College of Engineering, Bangalore**

## Participation Certificate

This is to certify that.....  
**Dr.SUNITHA R, Assistant Professor**.....  
 from.....  
**RAJARAJESHWARI COLLEGE OF ENGINEERING**.....  
 has participated in a 40-hour Online Faculty Development Programme on "Applications of AI in Wireless  
 Communication and Sensor Networks" Sponsored by Ministry of Electronics and Information  
 Technology (MeitY) GoI, organised by E&ICT Academy, NIT Warangal and RajaRajeswari College of Engineering,  
 Bangalore during 4th - 14th May, 2022

She / He has successfully completed all the requirements for the completion of the programme.

**Dr. Rangaiah L**  
 Coordinator  
 ARCE, Bangalore

**Dr. T. Chandrashekar**  
 Principal  
 ARCE, Bangalore

**Dr. V. V. Mani**  
 Coordinator  
 NIT, Warangal

**Prof. R.B.V. Subramaanyam**  
 Chief Investigator  
 E&ICT Academy, NIT Warangal

**Prof. N.V. Ramana Rao**  
 Director  
 NIT, Warangal





# All India Council for Technical Education

(A Statutory body under Ministry of HRD, Govt. of India)

Nelson Mandela Marg, Vasant Kunj, New Delhi-  
110070 Website: [www.aicte-india.org](http://www.aicte-india.org)



AICTE Training and Learning (ATAL) Academy, (Online FDP)

F. No. 2-23/AICTE/ATAL-HQ/2021-22/2107

Date: 29<sup>th</sup> December, 2021

To

The Principal,  
Raja Rajeswari College of Engineering  
#14, Ramohalli Cross,  
Kumbalagodu, Mysore Road,  
BENGALURU - 560 074

**Sub: Release of a sum of Rs.93,000/- for AICTE Training and Learning (ATAL) Academy Online FDP.**

Sir,

This is to convey the sanction of the Council for payment of Rs. 93,000 /- (Rupees Ninety -Three Thousand Only) for conducting of online AICTE Training and Learning (ATAL) Academy FDP (LEAN MANUFACTURING IN INDUSTRY 4.0 SCENARIO) to RAJA RAJESWARI COLLEGE OF ENGINEERING, BENGALURU, under AICTE Training And Learning (ATAL) Academy.

This fund is being released in conformity with the terms & conditions as well as norms of the scheme as already communicated, and also being communicated in this letter.

**The instructions/guidelines to be followed by University/Institution**

**I. Release of funds and maintenance of accounts**

- The University/College/Institute shall maintain proper accounts of the expenditure out of the grants, which shall be utilized only on approved items of expenditure.
- The cost for conducting per programme will be Rs. 93,000/- as per detail given as under:

1.	Honorarium to Coordinator	Rs. 10,000/-
2.	Honorarium for Computer Operator	Rs. 2,000/-
3.	Honorarium for experts (Rs.5000 per session for total 14 session)	Rs. 70,000/-
4.	Provision for payment to Lab Attendant	Rs. 1,000/-
5.	Miscellaneous charges (petty expenses not covered above)	Rs. 10,000/-
	<b>TOTAL</b>	<b>Rs. 93,000/-</b>

Programmes having permission to change amounts under different heads with overall ceiling of Rs. 0.93 lakh being intact.

- The grant is subject to the adjustment on the basis of Utilization Certificate in the prescribed proforma to be submitted by the University/College/Institution. Further, the accounts of the institute will be open for test check by the Council or Controller & Auditor General of India or any other officer designated by them.

**II. Disbursement of funds to institutions**

The full amount of the grant sanctioned will be released as an advance to the University/Institute through electronic transfer on the account of the University/Institute after submission of mandate form

**III. Conduct of test and issuance of certificate**

- A test shall be conducted by coordinator at the end of the program.
- The certificates shall be issued to those participants who have been approved by the coordinator, attended the program with minimum 80% of attendance and scored minimum 60% marks in the test.

Regional Officer

P.T.O.....



#### IV. Submission of documents by university/institution

- a. The following mandatory relevant documents are required to be submitted by the university/institution within one month of the completion of the program:
- (i) List of candidates who have successfully completed the program on the basis of the test conducted by Program Coordinator.
  - (ii) A program completion report along with photographs, videos, media report is to be sent after the completion of workshop along with the list of participants and Utilization Certificate, Expenditure Statement etc., within one month of conduct of **AICTE Training and Learning (ATAL) Academy programme.**
- b. The amount of the grant shall be adjusted on submission of utilization certificate & detailed expenditure statement by University/Institution. On receipt of these documents, the total amount of financial assistance, admissible as per the norms, shall be worked out and grant-in-aid shall be adjusted.

#### V. General Instructions

- a. **Maximum 200 participants** may be allowed to attend online FDP. Coordinators are free to admit a smaller number of participants depending on the feasibility.
  - b. A test has to be conducted (may be online) on the last day and those who score more than 60% will be termed as successful candidates. Those who have **attendance 80% or more** and also score **more than 60% in the test** will be issued a **digital certificate.**
  - c. These **online sessions are to be recorded** as the facility is available on the software which is being used for online delivery of FDP. You are also requested to upload recording on youtube of google drive and share recording link of sessions with AICTE.
  - d. **Eligibility for Participants:**
    - (i) The faculty members of the AICTE approved institutions, Research scholars, PG Scholars, participants from Government, Industry (Bureaucrats/ Technicians/ Participants from Industry etc.)/ School Teachers and staff of host institutions.
    - (ii) Not more than 30% from Host Institution
  - e. If programme is not conducted in the financial year 2021 only, the released amount has to be returned back to AICTE.
  - f. Any extra money required to complete the programme must be borne by the institute from their own resources but the quality of the activities should not be compromised.
  - g. FDP title name, name of coordinator, Institute name is not allowed to change without permission, however scheduled dates may be changed with information to ATAL Academy cell and Regional Office.
- This Sanction Order may be treated as Offer Letter for all purposes.

Yours sincerely,

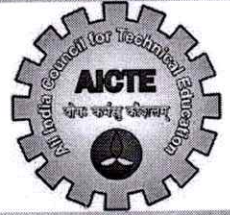
*[Signature]*  
Regional Officer  
SWRO, Bengaluru

Regional Officer  
South Western Regional Office  
All India Council for Technical Education  
Bangalore-9.

Copy forwarded for information and necessary action to:-

1. Coordinator ATAL Programme
2. ATAL Academy Cell AICTE HQ
3. Guard File





## REPORT ON

# Five Days AICTE Training And Learning (ATL) Online Faculty Development Programme on

## “Lean Manufacturing in Industry 4.0 Scenario”

AICTE File No.(Sanction letter file No.) : 2-23/AICTE/ATL-HQ/2021-22/2107 dt  
29<sup>th</sup> December, 2021.

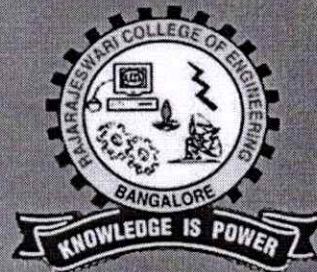
ATL FDP Application No.: 1614247559

24<sup>th</sup> – 28<sup>th</sup> JANUARY 2022

Dr.M.Karthikeyan, Professor  
Co-ordinator

*Mes*  
Professor & Head  
Dept. of Mechanical Engineering  
RAJARAJESWARI COLLEGE OF  
ENGINEERING  
Kumbalagodu, Mysore Road  
Bengaluru - 560074

Department of Mechanical Engineering  
RajaRajeswari College of Engineering  
#14, Ramohalli cross, Kumbalagodu, Mysore road,  
Bengaluru - 560 074  
Karnataka

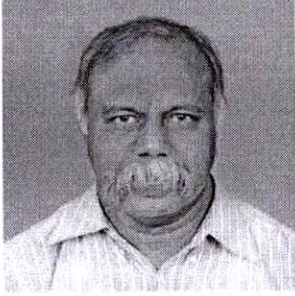






Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
On "Lean Manufacturing in Industry 4.0 Scenario" 24<sup>th</sup> to 28<sup>th</sup> January 2022.

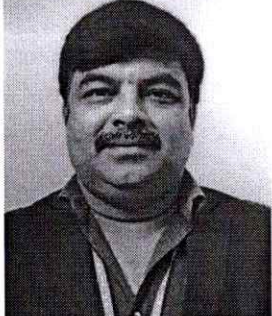
- AICTE Training And Learning (ATAL) Online Faculty Development Programme on "Lean Manufacturing in Industry 4.0 Scenario" conducted from 24<sup>th</sup> to 28<sup>th</sup> January 2022. Around 107 participants from different parts of the country participated.

The speakers for the 5- days ATAL Online FDP's on "Lean Manufacturing in Industry 4.0 Scenario" conducted from 24<sup>th</sup> to 28<sup>th</sup> January 2022 were

	<p>Dr.S.R.Devadasan, Professor Department of Production Engineering, PSG College of Technology, Coimbatore. He has obtained a Doctor of Science. He has 30 years of teaching and research experience. He has published 130+ research papers in reputed international journals.</p> <p>He has guided 20 research scholars to obtain a Ph.D.</p>
	<p>Dr.A.Murugarajan, Professor and Head of Department of Robotics and Automation at Sri Ramakrishna Engineering College, Coimbatore. He has 19 years of academic and 5 years of research experience. He has published twenty-four research papers in reputed International Journals and Conferences.</p>
	<p>Dr.V.M.M.Thilak, Associate Professor, Nehru Institute of Engineering and Technology, Coimbatore. He has 7 years of teaching experience. He has published 18+ research papers in a reputed international journal.</p>






Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
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	<p>Dr.S.Vinodh, Associate Professor, Department of Production Engineering., NIT-Trichy. His areas of Interest are Agile manufacturing, Industry 4.0, lean production, smart manufacturing, etc. He has 13 years of teaching experience. He has published 100+ research papers in reputed international journals. He has obtained Various grants from DST, CSIR, SERB, etc</p>
	<p>Dr. Raju B S, Professor and Special Officer (Evaluation), Department of Mechanical Engineering, REVA University, Bengaluru. He has 20 years of teaching experience. He has published more than 30+ research papers in reputed international journals. He has received research funding from GTRE(DRDO), VTU, VGST &amp; the Institute of Engineers.</p>
	<p>Engr. Subbiah Ranganathan (Shortly Engr.S.R.Nathan) is having 34 Years in both industrial and 2nd &amp; 3rd Party Auditing. He has served in various Mfg. Plants related to 50 types of Auto Components, Tool Room, Sheet Metal Components, Plastic components, Automotive OEM, and 250 types of chemical products. He has performed 2nd and 3rd Party Audits in more than 1100 types of organization in ISO 9001, ISO 14001, ISO 45001, ISO 13485, ISO 50001, ISO 55001, ISO 27001, ISO 22301, ISO 20000-1, MDD/93/42/EEC &amp; Schedule D &amp; Q for Saudi Aramco Contractor Assessment.</p>

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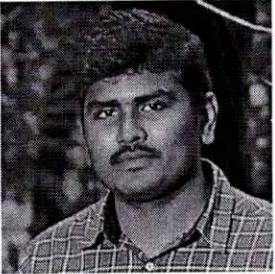



Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
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	<p>Mr. Rajeev Nambiar is an engineer by education and holds a Masters's Degree in Yoga. A Media and PR professional with a history of achieving strategic business goals and enhancing system functionality with a focus on Team-building, Communications, emerging technologies, and Digital trends. Currently Director: Institutional Programs and Teachers, The Art of Living.</p>
	<p>Dr. V.R. Pramod is working as a Professor in the Mechanical Engineering Department of NSS College of Engineering, Palakkad, India. He is specialized in Maintenance Engineering and Management. He did his PG and Ph.D. in Supply Chain Management in IIT Delhi. He produced 7 Ph. Ds. He has seven years of industrial experience and twenty-one years of teaching experience. He has published over 100+ research papers in reputed international journals. His current areas of research interest include Maintenance quality, Supply chain management, Telecom logistics, and Service management. He is specialized in maintenance management, supply chain management, and JIT.</p>
	<p>Dr. Nagaraja Jade, Senior CAE Engineer, SBD- NVH, Whirlpool of India, Pune. He has 15 years of experience in teaching and industry. He is specialized in Mechanical and Aerospace Engineering.</p>

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**Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
On "Lean Manufacturing in Industry 4.0 Scenario" 24<sup>th</sup> to 28<sup>th</sup> January 2022.**

	<p><b>Dr. N. M. Sivaram, Assistant Professor, Department of Mechanical Engineering., NIT-Puducherry. His areas of Interest are Production Engineering, Industrial Safety Engineering. He has published 12+ research papers in reputed international journals.</b></p>
	<p><b>Dr. Mahesh. V.M, Assistant Professor Department of Mechanical Engineering Sri Jayachamarajendra College of Engineering, Mysuru. He has published 15+ research papers in reputed international journals.</b></p>
	<p><b>Mr. Ramaprakash Holla, MD, Distinct Productivity Solutions, Bengaluru. He has 25 years of overall experience in the manufacturing industry. His areas of expertise are CNC machines, Jigs &amp; Fixtures, Robotics &amp; Automation, Toyota Production System, and Lean Manufacturing. Being a founder and Managing Director of Distinct Productivity Solutions, since September 2004, he is engaged in setting up an ISO9001:2008 &amp; ISO 14000 Certified manufacturing organization which is engaged in the manufacturing of precision components for Rexroth Bosch, Endries International Inc, USA, Bitzer Corporation Canada, Pramac SRL, Italy, etc.</b></p>
	<p><b>Dr. Pramodkumar S K, Associate Professor, Department of Mechanical Engineering, REVA University, Bengaluru. He has 5 years of experience in teaching and 5 years in research. He has published 25+ research papers in reputed international journals.</b></p>



**Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
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**Programme Schedule of ATAL Online FDP's on "Lean Manufacturing in Industry 4.0 Scenario"  
conducted from 24<sup>th</sup> to 28<sup>th</sup> January 2022**

Day and Date	Session-1 9.00 a.m. to 11.00 a.m.		Session-2 11.15 a.m. to 1.15 p.m		Session-3 2.00 p.m. to 4.00 p.m
Day 1 Monday, 24 <sup>th</sup> Jan 2022	Inauguration and Fundamentals of Lean Manufacturing by Dr.S.R.Devadasan Professor, PSGCT, Coimbatore.	Break 11.00 a.m. to 11.15 am	Lean Deployment in Industry Requirements by Dr.A.Murugarajan Professor, SREC, Coimbatore.	Lunch Break 1.15 p.m. to 2.00 p.m	Lean Manufacturing through Total Productive Maintenance (TPM) by Dr.N.M.Sivaram Assistant Professor, NIT-Karaikal.
Day 2 Tuesday, 25 <sup>th</sup> Jan 2022	Lean Tool Implementation by Dr.S.Vinoth Associate Professor, NIT-Tiruchi.		Smart Manufacturing -Industry 4.0 by Dr. Raju B S Professor and Special Officer- Evaluation REVA University, Bengaluru.		Case study on Lean Manufacturing by Engr. Subbiah Ranganathan (Shortly Engr.S.R.Nathan), Director, Azure Management Consultancy FZ LLC, UAE.
Day 3 Wednesday, 26 <sup>th</sup> Jan 2022	Lean Manufacturing- Industry 4.0 by Dr.S.Vinoth Associate Professor, NIT-Tiruchi.		JIT and Kaizen in Lean Manufacturing by Dr.V.R.Pramod, Associate Professor, NSSCE, Palakkad.		Stress Management by Mr. Rajeev Nambiar, Art of Living, Bengaluru.
Day 4 Thursday, 27 <sup>th</sup> Jan 2022	AI for Manufacturing by Dr Pramodkumar S K, Associate Professor, REVA University, Bengaluru.		Industry 4.0 through Agile Manufacturing by Dr.V.M.M.Thilak Associate Professor, NIET, Coimbatore		Smart Manufacturing by Dr.Mahesh.V.M Assistant Professor, SJCE, Mysuru.
Day 5 Friday, 28 <sup>th</sup> Jan 2022	Smart Sensors for Industry 4.0/ Digital Manufacturing by Dr.A.Murugarajan, Professor, SREC, Coimbatore		Industry 4.0 by Mr.Ramaprakash Holla, Managing Director, Distinct Productivity Solutions, Bengaluru. and Applications of Lean Manufacturing in industries by Dr. Nagaraja Jade, Senior CAE Engineer, SBD- NVH, Whirlpool of India, Pune.		Valedictory function, Feed back session and Assessment Test.

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**Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
On "Lean Manufacturing in Industry 4.0 Scenario" 24<sup>th</sup> to 28<sup>th</sup> January 2022.**

The AICTE Training and Learning (ATAL) Academy online mode of FDPs are commenced on 24th Jan 2022 is inaugurated by the Prof.S.G.Dhande, Former Director IIT Kanpur & Padmashri Awardee, be the Chief Guest for the 'Inaugural Ceremony' of ATAL FDPs on 24<sup>th</sup> January 2022 from 11:00 a.m. to 11.30 a.m (IST).

Prof. Anil D. Sahasrabudhe, Chairman, AICTE will be the Guest of Honour for the event.

Being a distinguished academic leader, Prof.S.G.Dhande has shared his expertise and views on evolving trends, disruptive technologies, changing job scenarios, academia-industry linkage, and translating research into impactful applications to the participants.

**All India Council For Technical Education**  
**AICTE Training and Learning (ATAL) Academy**

**Chief Guest**  
**Guest of Honour**

**Inaugural Ceremony**  
**08 ATAL FDPs**  
**24<sup>th</sup> JAN**  
**11:00**

**Prof. S. G. Dhande**  
Former Director, IIT Kanpur

**Prof. Anil D. Sahasrabudhe**  
Chairman AICTE

**Mamta R. Agarwal**  
Adviser-I  
AICTE

IIPM, IIT Kanpur, IIT Bombay, IIT Madras, IIT Delhi, IIT Roorkee, IIT Guwahati, IIT Jodhpur, IIT Patna, IIT Varanasi, IIT Bhubaneswar, IIT Gandhinagar, IIT Hyderabad, IIT Kharagpur, IIT Mandla, IIT Palakkad, IIT Ravi, IIT Tirupur, IIT Tiruvananthapuram, IIT Vadodra, IIT Gandhinagar, IIT Hyderabad, IIT Kharagpur, IIT Mandla, IIT Palakkad, IIT Ravi, IIT Tirupur, IIT Tiruvananthapuram, IIT Vadodra

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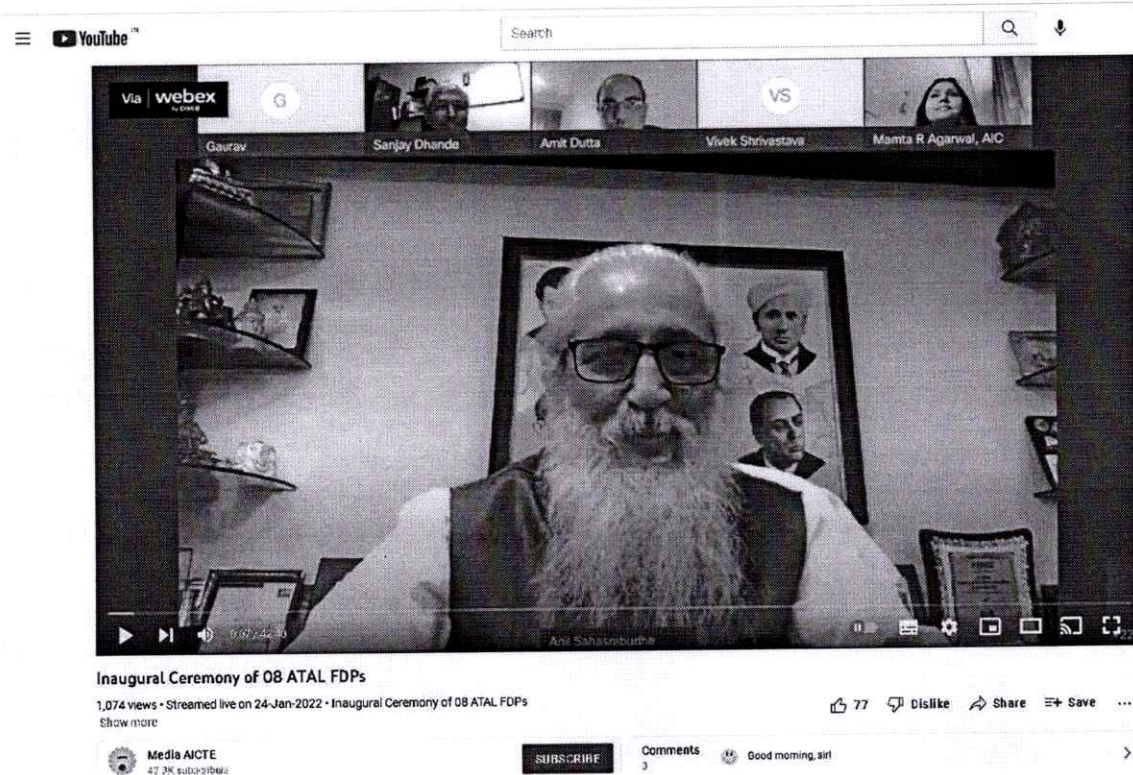
**Invitation of the Inaugural Ceremony of 08 ATAL FDPs starting from 24<sup>th</sup> January 2022.**

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**Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
On "Lean Manufacturing in Industry 4.0 Scenario" 24<sup>th</sup> to 28<sup>th</sup> January 2022.**



**Prof. Anil D. Sahasrabudhe, Chairman, AICTE addressed the coordinators and the participants**



**Prof.S.G.Dhanda, Former Director IIT Kanpur & Padmashri Awardee inaugurate the ATAL Online FDP and addressed the coordinators and the participants**

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**Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
On "Lean Manufacturing in Industry 4.0 Scenario" 24<sup>th</sup> to 28<sup>th</sup> January 2022.**

**List of participants attended the ATAL Online FDP on Lean Manufacturing in Industry 4.0 scenario**

Sl. No	Name as per the registration in the AICTE ATAL portal	Designation	Name of the college
1	S Sivakumaravel	Assistant Professor	Kamaraj College Of Engineering And Technology
2	A Jhony	Assistant Professor	Bharath Institute Of Higher Education And Research
3	Abhishek Tripathi	Research Scholar	Mnnit Allahabad
4	Ambrish Singh	Assistant Professor	Allenhouse Institute Of Technology, Kanpur
5	Anbarasu P	Assistant Professor	Sri Sai Ram Engineering College
6	Anita Behra	Research Scholar	Tripura University
7	Arumugam K	Assistant Professor	Srm Valliammai Engineering College
8	Arunraj.A	Assistant Professor	M.Kumarasamy College Of Engineering
9	Barkha Gupta	Associate Professor	Modi Institute Of Technology, Kota, Rajasthan
10	Bharti Yadav	Assistant Professor	Allenhouse Institute Of Technology , Rooma
11	Bhuvanewari s	Assistant Professor	Easwari Engineering College
12	C Kumaran	Assistant Professor	C Abdul Hakeem College Of Engineering And Technology
13	Dhiyaneswaran J	Assistant Professor	Sri Krishna College Of Engineering And Technology
14	Dr Fauzia Siddiqui	Professor	Jecrc Foundation Jaipur
15	Dr M Karthikeyan	Professor	Rajarajeswari College Of Engineering
16	Dr Rishi JP	Associate Professor	Vidyavardhaka College Of Engineering Mysuru
17	Dr Rohit Sharma	Assistant Professor	Amity University Uttar Pradesh Noida
18	Dr Umang Soni	Assistant Professor	Nsut, New Delhi
19	Dr. D Arun Kumar	Associate Professor	Bharath Institute Of Higher Education And Research
20	Dr. Dibyajyoti Ghosh	Assistant Professor	Vellore Institute Of Technology, Vellore



**Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
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21	Dr. N. Manikandan	Associate Professor	P.S.R. Engineering College, Sivakasi
22	Dr. Rajesh Gurani	Assistant Professor	Bharat Ratna Indira Gandhi Collage Of Engineering, Solapur
23	Dr. Sharyn Prabhakar Bangera	Assistant Professor	Usha Pravin Gandhi College Of Arts, Science And Commerce
24	Dr. Vishwanath K C	Associate Professor	Rajarajeswari College Of Engineering
25	Dr.A.Balamurugan	Professor	Bharath Institute Of Higher Education And Research
26	Dr.J.Selvakumar	Professor	V.S.B.Engineering College
27	Dr.K.Ravi Kumar	Professor	Kpr Institute Of Engineering And Technology
28	Dr.M.Arasu	Hod	Psg Polytechnic College
29	Dr.M.Thilak	Associate Professor	Srm Trp Engineering College, Trichy, Tamilnadu
30	Dr.Namrata gupta	Assistant Professor	Mits Gwalior
31	Dr.P.Gopinath	Hod/Asp	K S R Institute For Engineering And Technology
32	Dr.P.K.Chidambaram	Professor	New Prince Shri Bhavani College Of Engineering And Technology
33	Dr.R.Manivannan	Professor	Avs Engineering College
34	Dr.Raghavendran C R	Assistant Professor	Easwari Engineering College
35	Dr.S.M.Udaya Krithika	Assistant Professor	Sona College Of Technology
36	Dr.S.Umamaheswari	Assistant Professor	Sathyabama Institute Of Science And Technology
37	Dr.Sankar Ganesh R	Assistant Professor	M.Kumarasamy College Of Engineering
38	Dr.Satheesha V	Associate Professor	Rajarajeswari College Of Engineering
39	Dr.V.Muthuraman	Professor	Vistas,Chennai
40	Durairaj M	Asso. Professor	Peri Institute Of Technology
41	G Esvar Balachandar	Assistant Professor	Annamacharya Institute Of Technology And Sciences, Rajampeta
42	G. Mahalakshmi	Lecturer	P.A.C. Ramasamy Raja Polytechnic College, Rajapalayam
43	Gokula Krishnan S	Senior Lecture	Nandha Polytechnic College





**Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
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44	Harish Kumar Jegannathan	Assistant Professor	Academy Of Maritime Education And Training (Amet), Deemed To Be A University
45	Harish Kumar Nirala	Assistant Professor	Rajiv Gandhi Government Engineering College Kangra At Nagrota Bagwan, Distt. Kangra, Himachal Pradesh
46	Harmanpreet Kaur	Assistant Professor	Chandigarh University
47	Iti Dikshit	Assistant Professor	Maharishi Markandeshwar Deemed To Be University
48	Jeevarathinam A	Assistant Professor	Hindusthan Institute Of Technology
49	K S Madhu	Assistant Professor	Rajarajeswari College Of Engineering
50	K.Mani	Assistant Professor	Sona College Of Technology
51	K.Vignesh	Assistant Professor	Bharath Institute Of Higher Education And Research
52	Kadam Priyanka Valu	Lecturer	Guru Gobind Singh Polytechnic, Nashik
53	Kanagaraj C	Assistant Professor	P.S.R. Engineering College, Sivakasi
54	Karthick A	Assistant Professor	Arifa Institute Of Technology
55	M Sivasankaran	Assistant Professor	Dhirajlal Gandhi College Of Technology
56	M.Balakumar	Assistant Professor	Sri Venkateswara College Of Engineering
57	Mahesh Khadwal	Hod	Ct Group Of Institutions
58	Malini Tn	Associate Professor	Malinisreenivas@Gmail.Com
59	Mangesh Manohar Sanap	Assistant Professor	Indira School Of Business Studies, Pune
60	Manikandan A	Professor	Lord Jegannath College Of Engineering And Technology
61	Manoj Kumar Shanmugam	Assistant Professor	Hindusthan Institute Of Technology
62	Mathan J	Assistant Professor	K S R Institute For Engineering And Technology
63	Mr Amit	Assistant Manager	Mit Aurangabad
64	Mr G Kirubakaran	Assistant Professor	Sri Venkateswara College Of Engineering



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65	N.Ramasubbu	Assistant Professor	Government College Of Engineering Srirangam
66	Nandakumar V	Lecturer	Indira Gandhi Polytechnic College, Mahe
67	Neeraj Sharma	Associate Professor	Maharishi Markandeshwar (Deemed To Be University), Mullana
68	Nirmaladevi.S	Ap	Sengunthar Engineering College
69	Nithya N	Assistant Professor	Srm Valliammai Engineering College
70	Nomita Dey	Assistant Professor	Chandigarh University
71	P Satyanarayana Raju	Assistant Professor	Vardhaman College Of Engineering
72	P. Ravikumar	Lecturer	Excel Polytechnic College
73	P.Mageswari	Assistant Professor	Prathyusha Engineering College
74	Patil Nivrutti Vishram	Assistant Professor	Kk Wagh Institute Of Engineering Education And Research
75	Pratik Joshi	Assistant Professor	Mit-Adt University Pune
76	R Karthick	Assistant Professor	Prathyusha Engineering College
77	R. Muraliraja	Associate Professor	Vistas
78	Radhakrishna R Kumshikar	Assistant Professor	Rajarajeswari College Of Engineering
79	Rangarajan R V	Assistant Professor	Hindusthan Institute Of Technology
80	Roshan Ramesh Rathod	Assistant Professor	Wainganga College Of Engineerin And Management Nagpur
81	S R Rajabalayanan	Professor@Head	Hindustan Institute Of Technology
82	S.Arunkumar	Assistant Professor	Istas
83	Sameem Suha M	Assistant Professor	Thamirabharani Engineering College
84	Saravanan R	Assistant Professor	Kit-Kalaignar Karunanidhi Institute Of Technology
85	Sathyaprakash Anekallu	Asst.Professor	Sit Mangaluru
86	Selvarasu A	Assistant Professor	V.S.B Engineering College
87	Selvendran R	Associate Professor	Hindusthan Institute Of Technology

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**Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
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88	Shaman Gupta	Assistant Professor	Mmdu
89	Shital V. Patel	Assistant Professor	Bharati Vidyapeeth College Of Engineering
90	Shivalingaiah K	Assistant Professor	Rajarajeswari College Of Engineering, Bengaluru
91	Shriram.L	Assistant Professor	V.S.B. Engineering College, Karur, Tamilnadu
92	Sneha Bharti	Assistant Professor	Shri Guru Nanak Girls Degree College, Lucknow
93	Sony Priyanka D	Assistant Professor	Srm Valliammai Engineering College
94	Souradeep Koley	Research Scholar	Indian Institute Of Technology Roorkee
95	Sridevi.O.A	Assistant Professor	Karpagam Institute Of Technology
96	Tamil Selvam N	Assistant Professor	Veltech Rangarajan Dr.Sagunthala R&D Institute Of Science And Technology
97	Thanuj Kumar M	Associate Professor	Rajarajeswari College Of Engineering
98	Thirugnanasambanthan N	Assistant Professor	C. Abdul Hakeem College Of Engineering And Technology, Melvisharam.
99	Vasanthakumar R	Assistant Professor	K S R Institute For Engineering And Technology
100	Veeresh Tripathi	Assistant Professor	School Of Management Sciences, Varanasi
101	Venkateshwaran R	Lecture	Excel Polytechnic College
102	Vijaykumar Ns	Assistant Professor	Sri Sai Ranganathan Engineering College Coimbatore
103	N Sreenivasalu Reddy	Associate Professor	Rajarajeswari College Of Engineering
104	M Revathy	Asst. Prof.	Sri Ramachandra Institute Of Higher Education And Research
105	Aman.J.Borkar	Asst. Prof.	Delhi Skill And Entrepreneurship University
106	Vinod Kumar T	Assistant Professor	Vels Institute Of Science Technology And Advanced Studies
107	D K Sowmiya Lakshmi	Asst. Prof.	Bharath Institute Of Higher Education And Research

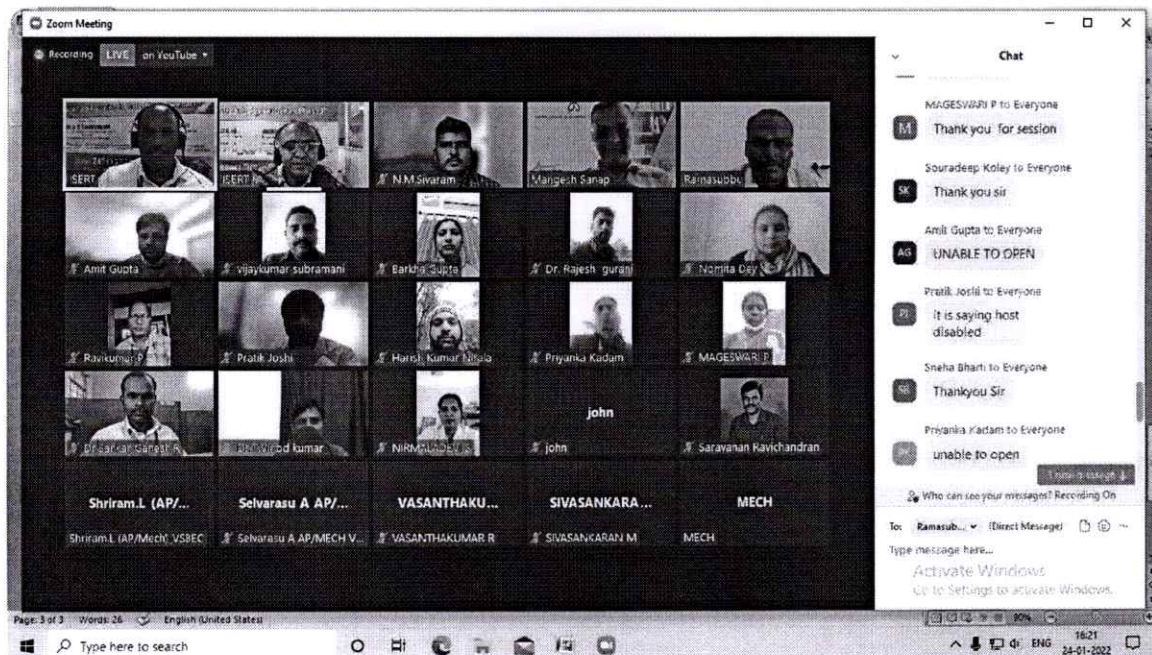
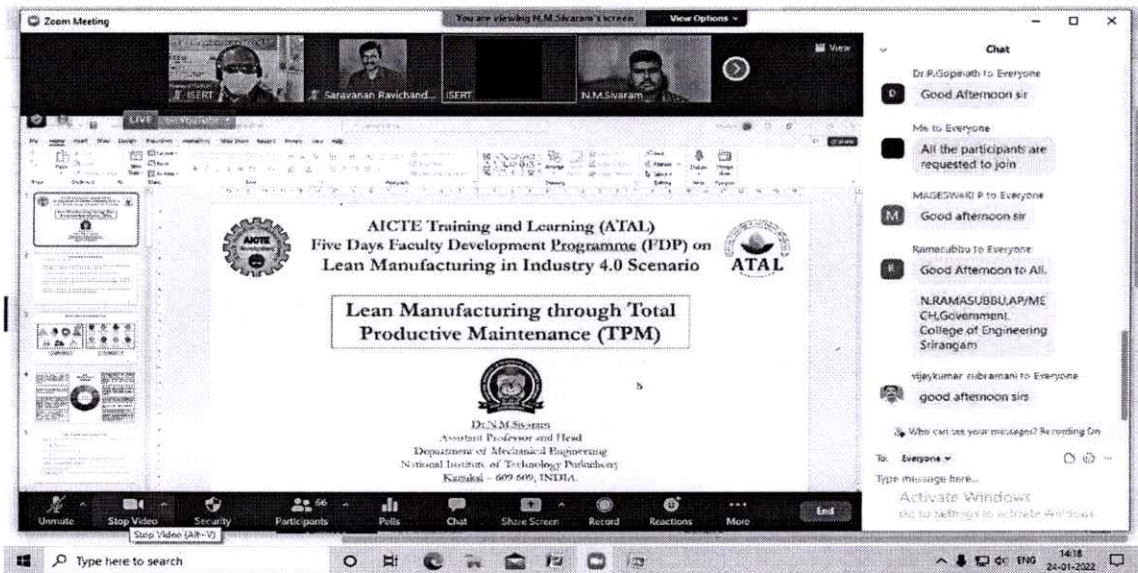
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**Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
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**24.1.2022 Day 1 Session 3, 2 p.m. to 4 p.m.**

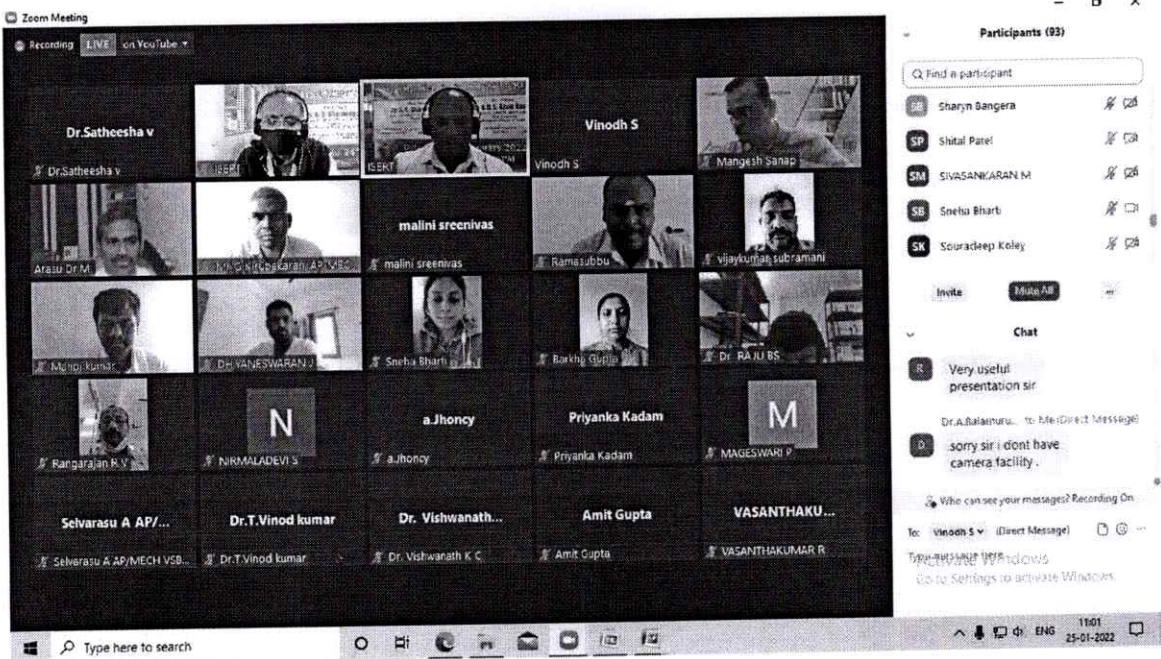
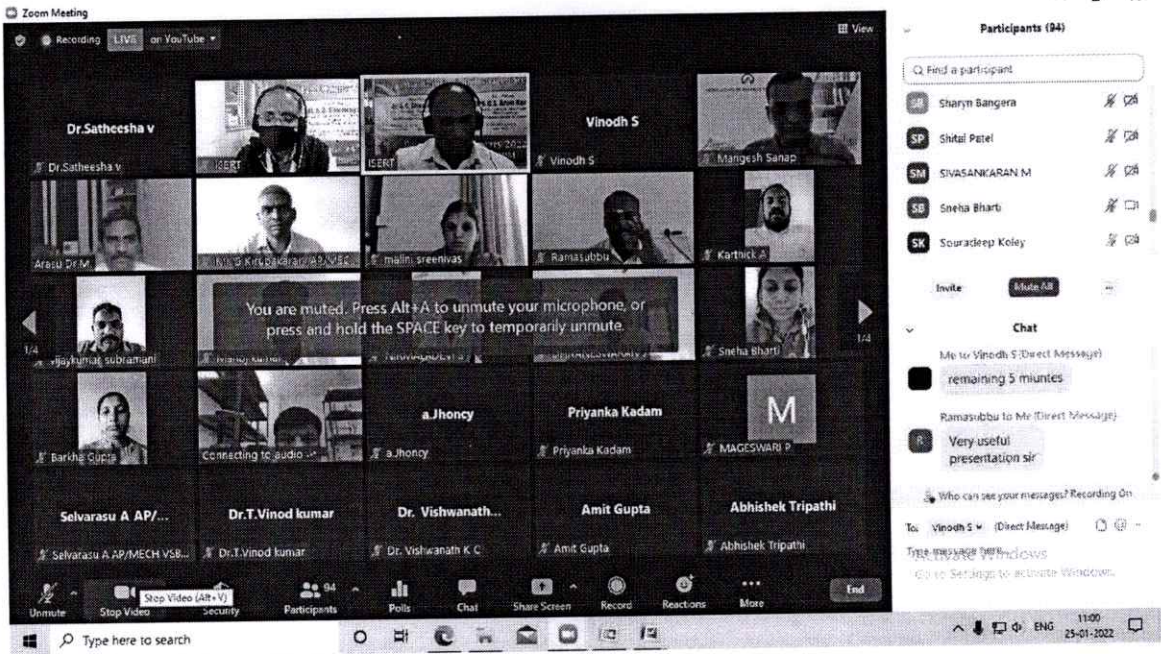
**Dr N.Sivaram, Assistant Professor and Head, Department of Mechanical Engineering,  
NIT Pudhuchery, Karikal.**



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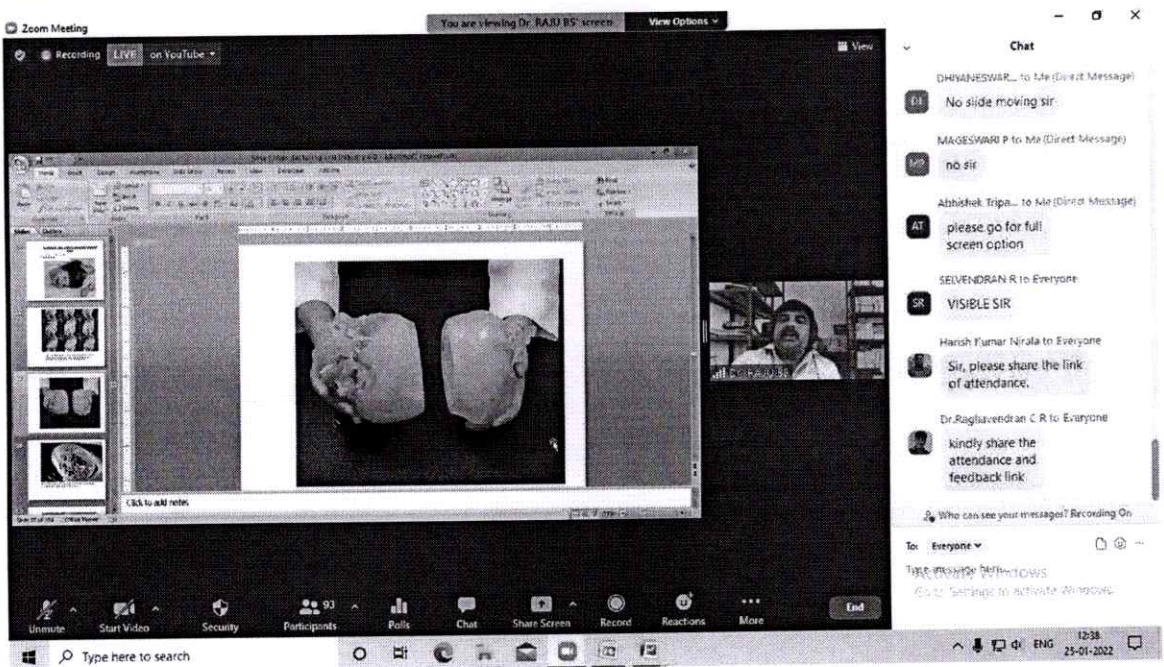
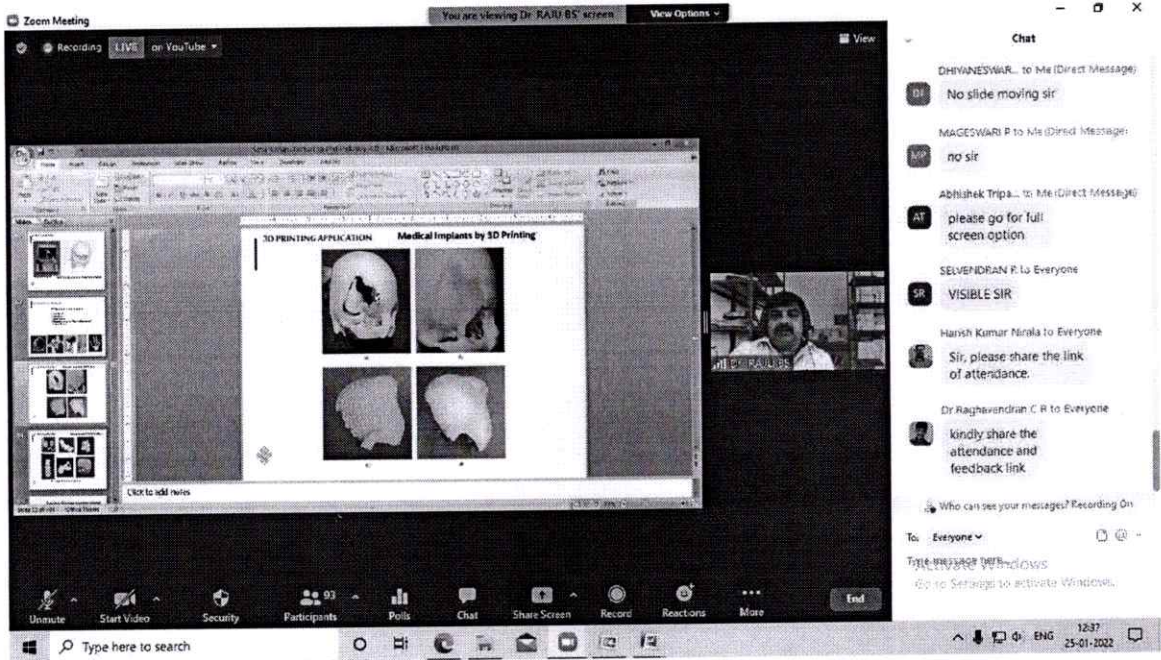
## Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme On "Lean Manufacturing in Industry 4.0 Scenario" 24<sup>th</sup> to 28<sup>th</sup> January 2022.



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**Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
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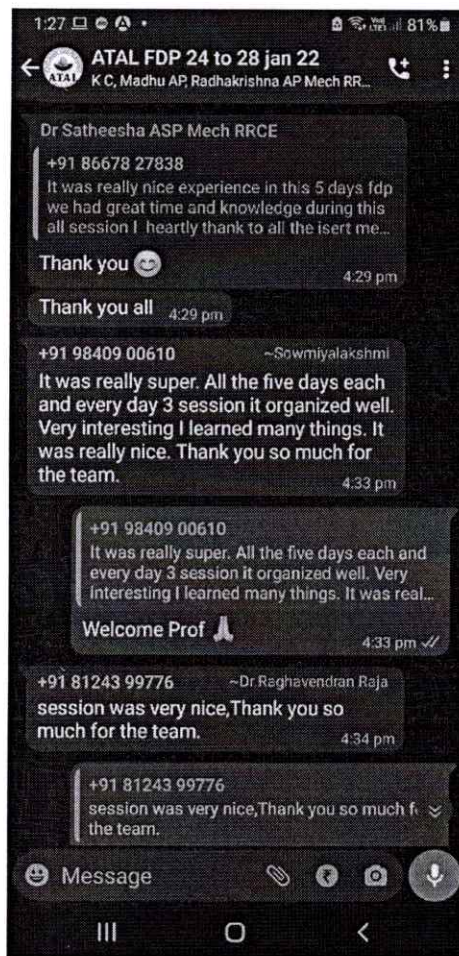
Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
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Feedback from the Participants about the Five Days AICTE Training And  
Learning (ATAL) Online Faculty Development Programme  
on

"Lean Manufacturing in Industry 4.0 Scenario"

24<sup>th</sup> - to 28<sup>th</sup> January 2022

**FEEDBACK**



YouTube Link: <https://www.youtube.com/watch?v=ywuGDj57YK8>

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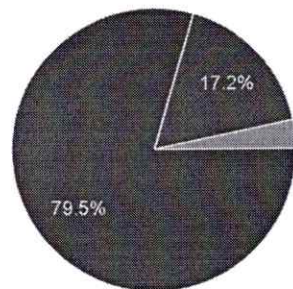
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**FEEDBACK**

Presentation Skills and content of Resource Person

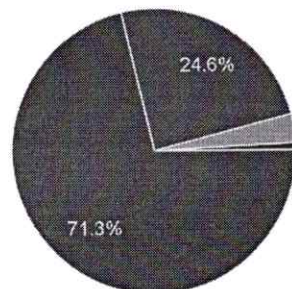
122 responses



- Excellent
- Very Good
- Good
- Satisfactory

Significance of topic covered in FDP

122 responses



- Excellent
- Very Good
- Good
- Satisfactory

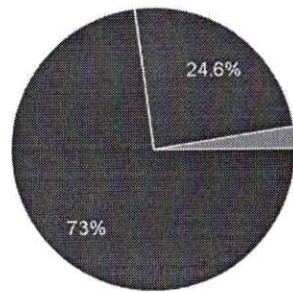
Professor & Head  
Dept. of Mechanical Engineering  
RAJARAJESWARI COLLEGE OF  
ENGINEERING  
Kumbalagodu, Mysore Road  
Bengaluru - 560074



Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
On "Lean Manufacturing in Industry 4.0 Scenario" 24<sup>th</sup> to 28<sup>th</sup> January 2022.

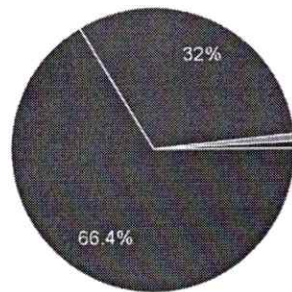
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Organisation of The FDP  
122 responses



- Excellent
- Very Good
- Good
- Satisfactory

How would you rate the session  
122 responses



- Excellent
- Very Good
- Good
- Satisfactory

Professor & Head  
Dept. of Mechanical Engineering  
RAJARAJESWARI COLLEGE OF  
ENGINEERING  
Kumbalagode, Mysore Road  
Bengaluru - 560074



**Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
On "Lean Manufacturing in Industry 4.0 Scenario" 24<sup>th</sup> to 28<sup>th</sup> January 2022.**

**Recorded Sessions of YouTube Links of  
AICTE Training And Learning (ATAL) Online Faculty Development Programme  
On  
"Lean Manufacturing in Industry 4.0 Scenario" 24<sup>th</sup> to 28<sup>th</sup> January 2022.**

[https://www.youtube.com/channel/UCy9JptooH3YR\\_WN4a6ywKDA](https://www.youtube.com/channel/UCy9JptooH3YR_WN4a6ywKDA)

Sl No	Day and Date	Session and Time	Topic	Speaker	YouTube Link
Day 1	Monday, 24 <sup>th</sup> January 2022	Session 1 9.00 a.m. to 11.00 a.m.	Fundamentals of Lean Manufacturing	Dr.S.R.Devadasan Professor, PSGCT, Coimbatore	<a href="https://youtu.be/GSCIMrEFoms">https://youtu.be/GSCIMrEFoms</a>
		Session-2 11.15 a.m. to 1.15 p.m	Lean Deployment in Industry Requirements	Dr.A.Murugarajan Professor, SREC, Coimbatore	<a href="https://youtu.be/tJwzyjxNAao">https://youtu.be/tJwzyjxNAao</a>
		Session-3 2.00 p.m. to 4.00 p.m	Lean Manufacturing through Total Productive Maintenance	Dr.N.M.Sivaram Assistant Professor, NIT-Karaikal	<a href="https://youtu.be/Awo8at68g8">https://youtu.be/Awo8at68g8</a>
Sl No	Day and Date	Session and Time	Topic	Speaker	YouTube Link
Day 2	Tuesday, 25 <sup>th</sup> January 2022	Session 1 9.00 a.m. to 11.00 a.m.	Lean Tool Implementation	Dr.S.Vinoth Associate Professor, NIT-Tiruchi.	<a href="https://youtu.be/Y7zpvvMSqno">https://youtu.be/Y7zpvvMSqno</a>
		Session-2 11.15 a.m. to 1.15 p.m	Smart Manufacturing -Industry 4.0	Dr. Raju B S Professor and Special Officer-Evaluation REVA University, Bengaluru.	<a href="https://youtu.be/voOV2ksHJyo">https://youtu.be/voOV2ksHJyo</a>
		Session-3 2.00 p.m. to 4.00 p.m	Case study on Lean Manufacturing	Engr. Subbiah Ranganathan Director, Azure Management Consultancy FZ LLC, UAE.	<a href="https://youtu.be/00CgnGvnckI">https://youtu.be/00CgnGvnckI</a>

*Me*  
Professor & Head  
Dept. of Mechanical Engineering  
RAJARAJESWARI COLLEGE OF  
ENGINEERING  
Kumbalaghatta, Mysore Road  
Bengaluru - 560074



**Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
On "Lean Manufacturing in Industry 4.0 Scenario" 24<sup>th</sup> to 28<sup>th</sup> January 2022.**

Sl No	Day and Date	Session and Time	Topic	Speaker	YouTube Link
3	Wednesday, 26 <sup>th</sup> January 2022	Session 1 9.00 a.m. to 11.00 a.m.	Lean Manufacturing- Industry 4.0	Dr.S.Vinoth Associate Professor, NIT-Tiruchi	<a href="https://youtu.be/lfOof7_1dLw">https://youtu.be/lfOof7_1dLw</a>
		Session-2 11.15 a.m. to 1.15 p.m	JIT and Kaizen in Lean Manufacturing	Dr.V.R.Pramod, Associate Professor, NSSCE, Palakkad	<a href="https://youtu.be/Su9-n-bJsMw">https://youtu.be/Su9-n-bJsMw</a>
		Session-3 2.00 p.m. to 4.00 p.m	Stress Management	Mr. Rajeev Nambiar, Art of Living, Bengaluru	<a href="https://youtu.be/yVR31Frc2F8">https://youtu.be/yVR31Frc2F8</a>
4	Thursday, 27 <sup>th</sup> January 2022	Session 1 9.00 a.m. to 11.00 a.m.	AI for Manufacturing	Dr Pramodkumar S K, Associate Professor, REVA University, Bengaluru	<a href="https://youtu.be/1zvpvRCdkqo">https://youtu.be/1zvpvRCdkqo</a>
		Session-2 11.15 a.m. to 1.15 p.m	Industry 4.0 through Agile Manufacturing	Dr.V.M.M.Thilak Associate Professor, NIET, Coimbatore.	<a href="https://youtu.be/QSbWsp9EBpI">https://youtu.be/QSbWsp9EBpI</a>
		Session-3 2.00 p.m. to 4.00 p.m	Smart Manufacturing	Dr.Mahesh.V.M Assistant Professor, SJCE, Mysuru.	<a href="https://youtu.be/P1Yfl2c7qOM">https://youtu.be/P1Yfl2c7qOM</a>

*Handwritten Signature*  
 Professor & Head  
 Dept. of Mechanical Engineering  
 RAJARAJESWARINI COLLEGE OF  
 ENGINEERING  
 Kumbhaguda, Mysore Road  
 Bengaluru - 560074



**Report on AICTE Training And Learning (ATAL) Online Faculty Development Programme  
On "Lean Manufacturing in Industry 4.0 Scenario" 24<sup>th</sup> to 28<sup>th</sup> January 2022.**

Sl No	Day and Date	Session and Time	Topic	Speaker	YouTube Link
Day 5	Friday, 28 <sup>th</sup> January 2022	Session 1 9.00 a.m. to 11.00 a.m.	Smart Sensors for Industry 4.0 / Digital Manufacturing	Dr.A.Murugarajan, Professor, SREC, Coimbatore	<a href="https://youtu.be/6Js-LTCftVo">https://youtu.be/6Js-LTCftVo</a>
		Session-2 11.15 a.m. to 1.15 p.m	Industry 4.0	Mr.Ramaprakash Holla, Managing Director, Distinct Productivity Solutions, Bengaluru.	<a href="https://youtu.be/QSbWsp9EBpI">https://youtu.be/QSbWsp9EBpI</a>
			Applications of Lean Manufacturing	Dr. Nagaraja Jade, CAE Engineer, SBD- in industries NVH, Senior Whirlpool of India, Pune.	<a href="https://youtu.be/ZBzZf07JZ3c">https://youtu.be/ZBzZf07JZ3c</a>
Day 5	Friday, 28 <sup>th</sup> January 2022	Session-3 2.00 p.m. to 4.00 p.m	Valedictory function, Feedback session.	-	<a href="https://youtu.be/ywuGDj57YK8">https://youtu.be/ywuGDj57YK8</a>

\*\*\*\*\*

*Mee*  
 Professor & Head  
 Dept of Mechanical Engineering  
 RAJARAJESWARAN COLLEGE OF  
 ENGINEERING  
 Kumbhakarpet, 10<sup>th</sup> Cross Road  
 Bengaluru - 560074



# RAJARAJESWARI COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi.  
Affiliated to the Visvesvaraya Technological University, Belagavi



Criterion: 6

Academic Year: 2021-22



**Circular**

**Date:20.10.2021**

All the faculty are hereby informed that the CSE department is organizing a faculty development program from 25-10-2021 to 29-10-2021. All the faculty members are encouraged to attend the program.

**Head of the Department**

Professor & Head, Computer Science of Engineering  
RAJARAJESWARI COLLEGE OF ENGINEERING  
BENGALURU - 560 074.



**Chief Patron**

**Dr. A C Shanmugam**, B.A.L.L.B, FIMSA, FRCPS (Glasgow, UK)  
Chairman, RajaRajeswari Group of Institutions

**Sri. A C S Arun Kumar**

B.Tech (Hons), LMISTE, MIET, (UK), LMCSI  
Vice-Chairman, RajaRajeswari Group of Institutions

**Patrons**

**Dr. S Vijayanand**

Executive Director, RajaRajeswari Group of Institutions

**Sri C N SeetharamIAS (Retd)**

Chief Executive officer, RRG I

**Mr. S Jeyabalan**

Special Officer, RRG I

**Co-Patrons**

**Dr. T.Chandrashekar**

Principal, RRCE

**Dr. Usha S**

Professor and Head

Dept. of Computer Science & Engineering

**Organizing Secretary**

**Dr. Usha S**

Professor and Head

Dept. of Computer Science & Engineering

**Resource Person**

**Mr. Dhanoop R**  
Cyber Security Analyst  
Techbyheart India Pvt. Ltd  
Bangalore.

**Organizing Members**

All staffs of CSE department

**Date and Venue**

25<sup>th</sup> – 29<sup>th</sup> October 2021

09:30AM – 04:00PM

CSE Seminar Hall,

Department of CSE, RRCE

**Address for Communication**

Dept. of Computer Science & Engg.

RajaRajeswari College of Engineering,

Mysore road, Kumbalagodu,

Bengaluru -560074

Phone: 080- 28437124, 28437375

Fax: 080- 28437373



Professor & Head, Computer Science of Engineering

**RAJARAJESWARI COLLEGE OF ENGINEERING**

BENGALURU - 560 074.

# RajaRajeswari College of Engineering

Mysore Road, Bengaluru - 560 074

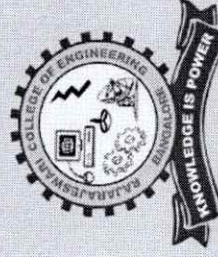
Website: [www.rrce.org](http://www.rrce.org)



5 Days Faculty Development  
Program on

“AI & ML and its  
Applications”

25<sup>th</sup> – 29<sup>th</sup> October 2021



Organized  
By

Department of Computer Science & Engineering



**About the Institution:** RajaRajeswari College of Engineering (RRCE) was started in the year 2006 and is managed by Moogambigai Charitable and Education Trust (MCET), Bangalore. The College is approved by All India Council for Technical Education (AICTE), New Delhi, Govt. of Karnataka and is affiliated to Visvesvaraya Technological University (VTU) Belgaum.

The Institute offers 7 UG courses (Civil, Electronics, Computer Science & Engineering, Information Science & Engineering, Mechanical, Telecommunication & Electrical Engineering) and 5 PG courses Master of Business Administration, Master of Computer Applications, M.Tech in ECE, M.Tech in CSE and M.Tech in Mechanical and also 7 VTU affiliated R&D centers. All the Departments have well qualified staff and well equipped laboratories, library, central computing and sports facilities along with other amenities. This institution organizes international and national conferences, FDPs, Seminars and technical talks on a regular basis

**About CSE:** Dept. of CSE was established in 2006 with an intake of 60. It has been raised to 180. CSE department is rich enough to organize and encourage Students, teaching & non-teaching staffs by conducting various events like Workshops, Technical Seminars, Expert Lectures, FDPs, Industry Visits and Symposiums etc. Postgraduate for CSE was established in 2013-14 with an intake of 18, which is affiliated

to VTU and approved by All India Council for Technical Education (AICTE). The M.Tech programme in Computer Science and Engineering imparts a breadth of advanced knowledge in various areas of computer science. The programme is designed such that a student can complete it based on advanced coursework alone. However, the students are given the option to concentrate on a problem by substituting some of the courses with equivalent project work. Postgraduate for Computer Networking and Engineering was established in 2014 with an intake of 18, which is affiliated to VTU and approved by All India Council for Technical Education (AICTE).

#### **Departmental Vision**

*“To emerge as a leading Department in the field of Computer Science & Engineering in the state of Karnataka.”*

#### **Departmental Mission**

*“The Department of CSE will create high quality professionals in Computer Science & Engineering and to foster leading edge research and to equip students to succeed and contribute to industry and society.”*

# RajaRajeswari College of Engineering

Department of Computer Science & Engineering

## 5 Days Faculty Development Programme On

“AI & ML and its  
Applications”

25<sup>th</sup> – 29<sup>th</sup> October 2021

### REGISTRATION FORM

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Department: \_\_\_\_\_

College: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Mob: \_\_\_\_\_

Email: \_\_\_\_\_

Date: \_\_\_\_\_





Moogambigai Charitable and Educational Trust  
**RAJARAJESWARI COLLEGE OF ENGINEERING**

#14, Ramohalli Cross, Kumbalgodu, Mysore Road, Bengaluru-560074.  
(Affiliated to VTU, Belgaum, Approved by AICTE, New Delhi. NAAC 'A' Grade Accredited)

*DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING*  
(NBA Accredited Department)

**CERTIFICATE**

*This is to certify that Dr/ Prof.....of.....Dept.  
of....., has attended 5 Days FDP on "AI & ML and its Applications" from  
25<sup>th</sup> to 29<sup>th</sup> October 2021.*

**Dr. S.USHA**  
Professor & Head, Dept of CSE  
Professor & Head, Computer Science of Engineering  
**RAJARAJESWARI COLLEGE OF ENGINEERING**  
BENGALURU - 560 074. ✓

**Dr. T.Chandrashekar**  
Principal, RRCE



**RAJARAJESWARI COLLEGE OF ENGINEERING**

Approved by AICTE, New Delhi.  
Affiliated to the Visvesvaraya Technological University, Belagavi



Criterion:6

Academic Year: 2021-22



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

Faculty Development program on “AI & ML and its Applications “

**Program Report**

Date:20/10/2021

Duration : 5 days

No. of Participants:20

Program objectives :

The clustering algorithms are used to explore the data.

The classification algorithms are used to group data.

Program outcomes:

Understand the practical challenges in Clustering and Classification Algorithm.

  
Co-ordinator

  
Head of the Department

Professor & Head, Computer Science of Engineering  
RAJARAJESWARI COLLEGE OF ENGINEERING  
BENGALURU - 560 074.



# RAJARAJESWARI COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi.  
Affiliated to the Visvesvaraya Technological University, Belagavi



Criterion: 6

Academic Year: 2021-22



Circular

Date:15.3.2022

All the faculty are hereby informed that the CSE department is organizing a faculty development program from 21-3-2022 to 25-3-2022. All the faculty members are encouraged to attend the program.

Head of the Department

Professor & Head, Computer Science of Engineering  
RAJARAJESWARI COLLEGE OF ENGINEERING  
BENGALURU - 560 074.



**Chief Patron**

**Dr. A C Shanmugam**, B.A.L.L.B, FIMSA, FRCPS (Glasgow,  
UK)  
Chairman, RajaRajeswari Group of Institutions

**Sri. A C S Arun Kumar**  
B.Tech (Hons), LMISTE.,MIET.,(UK), LMCSI.

Vice-Chairman, RajaRajeswari Group of Institutions

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**Organizing Secretary**

**Dr. Usha S**  
Professor and Head  
Dept. of Computer Science & Engineering

**Resource Person**

**Mr. Dhanoop R**  
Cyber Security Analyst  
Techbyheart India Pvt. Ltd  
Bangalore.

**Organizing Members**

All staffs of CSE department

**Date and Venue**

21st – 25th March 2022

09:30AM – 04:00PM

CSE Seminar Hall,  
Department of CSE, RRCE

**Address for Communication**

Dept. of Computer Science & Engg.  
RajaRajeswari College of Engineering,  
Mysore road, Kumbalagodu,  
Bengaluru -560074

Phone: 080- 28437124, 28437375

Fax: 080- 28437373



Professor & Head, Computer Science of Engineering  
**RAJARAJESWARI COLLEGE OF ENGINEERING**  
BENGALURU - 560 074.

# RajaRajeswari College of Engineering

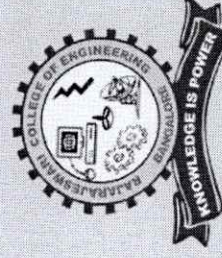
Mysore Road, Bengaluru - 560 074  
Website: [www.rrce.org](http://www.rrce.org)



5 Days Faculty Development  
Program on

“Block chain  
Technology”

21<sup>st</sup> – 25<sup>th</sup> March 2022



Organized  
By

Department of Computer Science & Engineering



**About the Institution:** RajaRajeswari College of Engineering (RRCE) was started in the year 2006 and is managed by Moogambigai Charitable and Education Trust (MCET), Bangalore. The College is approved by All India Council for Technical Education (AICTE), New Delhi, Govt. of Karnataka and is affiliated to Visvesvaraya Technological University (VTU) Belgaum.

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#### **Departmental Mission**

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# RajaRajeswari College of Engineering

Department of Computer Science & Engineering

## 5 Days Faculty Development Programme On

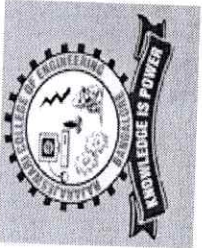
**"Block chain  
Technology"**

**21<sup>st</sup> – 25<sup>th</sup> March 2022**

### REGISTRATION FORM

Name: \_\_\_\_\_  
Designation: \_\_\_\_\_  
Department: \_\_\_\_\_  
College: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_ Mob: \_\_\_\_\_  
Email: \_\_\_\_\_  
Date: \_\_\_\_\_





Moogambigai Charitable and Educational Trust  
**RAJARAJESWARI COLLEGE OF ENGINEERING**  
#14, Ramohalli Cross, Kumbalgodu, Mysore Road, Bengaluru-560074.  
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*DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING*  
(NBA Accredited Department)

**CERTIFICATE**

*This is to certify that Dr/ Prof.....of.....Dept.  
of....., has attended 5 Days FDP on "Block chain Technology" from 21<sup>st</sup> to  
25<sup>th</sup> March 2022.*

**Dr. S.USHA**  
Professor & Head, Dept of CSE  
Professor & Head, Computer Science of Engineering  
**RAJARAJESWARI COLLEGE OF ENGINEERING**  
BENGALURU - 560 074

**Dr. T.Chandrashekar**  
Principal, RRCE



# RAJARAJESWARI COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi.  
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Criterion:6

Academic Year: 2021-22



## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Faculty Development program on "Block chain Technology "

#### Program Report

Date:17/3/2022

Duration : 5 days

No. of Participants:10

#### Program objectives :

The workshop has been designed with the following objective:

- The data is chronologically consistent because you cannot delete or modify the chain without consensus from the network.
- blockchain technology to create an unalterable or immutable ledger for tracking orders, payments, accounts, and other transactions.

#### Program outcomes :

Blockchain mitigates such issues by creating a decentralized, tamper-proof system to record transactions. In the property transaction scenario, blockchain creates one ledger each for the buyer and the seller. All transactions must be approved by both parties and are automatically updated in both of their ledgers in real time.

  
Co-ordinator

  
Head of the Department

Professor & Head, Computer Science of Engineering  
RAJARAJESWARI COLLEGE OF ENGINEERING  
BENGALURU - 560 074.