SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES
(AUTONOMOUS)
MURUKAMBATTU, CHITTOOR - 517127, A.P.

27th ANNIVERSARY

INSTITUTION'S INNOVATION COUNCIL

SEMINAR ON:

NAVIGATING THE STARTUP AND IPR ECOSYSTEM

DEPARTMENT OF
MECHANICAL ENGINEERING &
CSE (DATA SCIENCE)

RESOURCE PERSON:

Sudheer Mamillapalli

Chief Strategy Officer (CSO) - Innovation & Sustainability Compliances @ TENDI

DATE:
23.3.26
10 AM - 1 PM

VENUE:
SEMINAR HALL - 01

PATRONS:

Sri. K. Ranganatham – Chairman
Dr. D. A. Kalpaja – Managing Trustee
Dr. K. L. Narayana – Academic Advisor
Dr. K. Nagendra Prasad – Chief Executive
Dr. N. Venkatachalapathi – Principal

CONVENORS:

Dr. N. Sathish Kumar
HOD - Mechanical Engineering

Mr. A. Srinivasan
HOD - CSE (Data Science)

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES
(SITAMS)
(AUTONOMOUS)
Department of Mechanical Engineering
(Mechanical Engineering Department Association- MEDA)

A Seminar on

"Navigating the startup and IPR Ecosystem"

Introduction:

On 23rd March 2026, a Seminar on "**Navigating the startup and IPR Ecosystem"** was organized by Department of Mechanical Engineering & Department of Data Science, SITAMS.Mr. Sudheer Mamilapalli, CSO, Innovation & Sustainability Compliances, Tendi, acted as a resource person for this event.

Speaker Details	**: Mr. Sudheer Mamilapalli, CSO, Innovation & Sustainability Compliances, Tendi**
Covenor	: Dr.N.Sathish Kumar, HOD, Dept.of Mech.Engg. SITAMS.
	Mr.A.Srinivasan, HOD, Dept of Data Science, SITAMS.
Coordinator	: Mr.A S Praveen, Assistant Professor, Dept.of Mech.Engg. SITAMS.
Co-Coordinator	: Mr.G.Narasimhulu, Assistant Professor, Dept.of Mech.Engg. SITAMS.
Date	: 23-03-2026
Venue	: Mechanical Seminar Hall-I
Target Audience	: All the 2nd , 3rd and 4th Year Mechanical Engineering & Data Science Students.

Key Highlights of the Session:

During his address, Mr. Sudheer emphasized the critical role of Intellectual Property in protecting innovation. He provided a comprehensive roadmap for students, covering:

The Startup Lifecycle: From ideation to scaling and the common pitfalls to avoid.

1. Discovery & Seed Stage

This is the "valley of death" where most ideas are tested. The focus is on identifying a problem and validating a potential solution.

- **Key Activity:** Conducting market research, building a **Minimum Viable Product (MVP)**, and finding early adopters.
- **Goal:** Achieving **Problem-Solution Fit**.
- **Funding:** Usually self-funded (bootstrapping), or supported by "Friends and Family" and Angel Investors.

2. Validation Stage

Once the MVP is live, the startup seeks to prove that customers are willing to pay for the product.

- **Key Activity:** Iterating based on user feedback and refining the business model.
- **Goal:** Achieving **Product-Market Fit (PMF)**—the point where the market is pulling the product out of the startup.
- **Funding:** Seed rounds or early Venture Capital (VC) participation.

3. Efficiency Stage

With a validated product, the focus shifts to optimizing the "unit economics." The startup needs to ensure it can acquire customers for less than their lifetime value.

- **Key Activity:** Defining repeatable sales and marketing processes and streamlining operations.
- **Goal:** Proving the business model is scalable and profitable at a small scale.
- **Funding:** Series A rounds.

4. Scale Stage

This is the period of aggressive growth. The startup "pours gasoline on the fire" to capture market share.

- **Key Activity:** Massive hiring, expanding into new geographic regions, or adding new product lines.
- **Goal:** Rapidly increasing revenue and market dominance.
- **Funding:** Series B, C, and subsequent growth rounds.

5. Maturity & Exit

In the final stage, the company stabilizes. Growth slows down as the firm becomes an industry leader, focusing on maintaining its position and maximizing efficiency.

- **Key Activity:** Corporate governance, potential acquisitions of smaller startups, and preparing for an exit.
- **Exit Strategies: * IPO (Initial Public Offering):** Going public on the stock market.
  - **M&A (Merger and Acquisition):** Being bought by a larger corporation.
- **Funding:** Private Equity or public markets.

IPR Essentials: The strategic importance of Patents, Trademarks, and Copyrights in securing a competitive edge.

. The Core Pillars of IPR

Different types of intellectual property require different forms of protection based on the nature of the creation.

Type	What it Protects	Duration (Approx.)
Patents	New inventions, processes, or technical improvements.	20 Years
Trademarks	Brand names, logos, slogans, and distinctive signs.	Indefinite (Renewable)
Copyrights	Literary, artistic, musical, and software code.	Life of Author + 60 Years
Trade Secrets	Confidential business info (e.g., formulas, algorithms).	As long as it's secret
Industrial Designs	The aesthetic or outward appearance of a product.	10–15 Years

2. Key Criteria for Patentability

For a technical innovation—such as a new mechanical process or a material coating—to be granted a patent, it must meet three strict criteria:

1. **Novelty:** The invention must be new and not previously disclosed to the public anywhere in the world.
2. **Inventive Step:** It must not be obvious to a "person skilled in the art." It should represent a significant technical advancement.
3. **Industrial Applicability:** The invention must be capable of being made or used in an industry.

3. The Registration Process (General Flow)

Protecting IPR is often a formal legal process that follows these typical steps:

- **Search & Clearance:** Before filing, check existing databases (like Google Patents or WIPO) to ensure your idea hasn't already been registered.
- **Application:** Filing a formal request with the national IPR office (e.g., the Patent Office or Trademark Registry).
- **Examination:** Government officials review the application to ensure it meets legal standards.
- **Publication:** The application is made public for a period to allow others to oppose it if they believe it infringes on their rights.
- **Grant/Registration:** Once cleared, the right is officially granted.

4. Why IPR Matters

- **Exclusivity:** It prevents competitors from copying or selling your invention without permission.
- **Monetization:** You can license your technology to others in exchange for royalties or sell the rights entirely.
- **Market Value:** For startups and researchers, a strong patent portfolio significantly increases the valuation of a project or company.
- **Legal Recourse:** IPR provides the standing to sue for "infringement" if someone uses your property illegally.

5. Strategic Considerations

- **Territoriality:** IPR is generally territorial. A patent granted in India does not automatically provide protection in the United States. You must file in each country where protection is needed.
- **Public Disclosure:** Be careful not to publish research papers or present at symposiums before filing for a patent, as this can "destroy novelty" and make the invention unpatentable.

Government Initiatives: An overview of current policies and grants available for young innovators in India.

Commercialization: How to successfully bridge the gap between a technical prototype and a market-ready product.

"Innovation without protection is a gift to your competitors," Mr. Sudheer remarked, encouraging students to think of IPR not just as a legal formality, but as a core business asset.

Institutional Commitment

The leadership at SITAMS reiterated their commitment to fostering an entrepreneurial spirit on campus. The Principal noted that such seminars are vital for transforming students from "job seekers" into "job creators." The session concluded with an interactive Q&A where students cleared doubts regarding patent filing and the legalities of starting a venture in the tech sector.

The event was attended by the Heads of Departments, faculty members, and over 200 enthusiastic students from various engineering disciplines.


GPS Map Camera
Chittoor, Andhra Pradesh, India
63ww+whp, Chittoor, Andhra Pradesh 517127, India
Lat 13.247481° Long 79.095987°
Monday, 23/03/2026 11:24 AM GMT +05:30


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Chittoor, Andhra Pradesh, India
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Chittoor, Andhra Pradesh 517127, India
Lat 13.24756° Long 79.095588°
Monday, 23/03/2026 10:13 AM GMT +05:30
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SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES-CHITTOOR

(AUTONOMOUS)

Approved by AICTE, New Delhi and Affiliated to JNTUA, Ananthapuramu

ATTENDANCE SHEET

One Day Seminar

Topic: Navigating Startup and IPR Ecosystem

Branch : **Mechanical Engineering**

Date : **23.03.2026**

S.No	RegisteredNumber	Nameofthe Student	Student Signature
1	24751A0301	A.CHAITHANYA	A.Chaithanya
2	24751A0302	K.JEREMIAH	K. Jeremiah
3	24751A0303	K.CHARAN	K. charan
4	24751A0304	M.KIRAN KUMAR	M. Kiran Kumar
5	24751A0305	M.PRABBHAS	M. Prabbhas
6	24751A0306	P.L.YOGRSWAR	P.L. Yogeswar
7	24751A0307	P.MADHAN	P. madhan
8	24751A0308	R.FRANKLIN	R. Franklin
9	24751A0309	S.MUSKHAN DAWOOD	S. Muskhan dawood
10	25755A0303	K.VIJAYENDRA BABU	K. Vijayendra Babu
11	23751A0301	B LITHIN JOSEPH	B Lithin Joseph
12	23751A0302	G THULASI RAM	G. Thulasi ram
13	23751A0303	MURALI HARSHA VARDHAN	M. Harsha Vardhan
14	23751A0304	S JAFAR	S. Jafar
15	23751A0305	SHAIK MUBARAK	S. Mubarak
16	23751A0306	V TEJOMURTHY	V. Tejamurthy
17	22751A0301	K VIGNAN RAJA	K. Vignan Raja
18	22751A0302	M MADHAN MOHAN	M. madhan mohan
19	22751A0303	S PAVAN	S. Pavan
20	23755A0301	K M MOHAMMED YOUSUF	K.M. Mohammed yousuf
21	23755A0302	S DHANUSH	S. Dhanush.

HOD/MECH

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES

INSTITUTION'S INNOVATION COUNCIL
(Ministry of Education Initiative)

DATE : 26.09.2025
TIME : 2.00 P.M TO 4.00 P.M

DEPARTMENT OF MECHANICAL ENGINEERING & CSE -DS

RESOURCE PERSON

ARUNJIT CHOWDHURY
CEO
ENTERPRISE BUILDING TRAINING SOLUTIONS
MUMBAI

Coordinators
Mr.G.Narasimhulu
Mr.A.S.Praveen

ONE DAY SEMINAR ON AUTOMATED MACHINE LEARNING

ONLINE MODE

VENUE : COMP. LAB -1

Dr.N.Venkatachalapathi
PRINCIPAL

Dr.N.Satish Kumar
HOD-MECH

Mr.A.Srinivasan
HOD-CSE -DS

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES (SITAMS) (AUTONOMOUS)

Department of Mechanical Engineering

(Mechanical Engineering Department Association- MEDA)

Institution's Innovation Council (IIC)
A Workshop on

"Automated Machine Learning"

Introduction:

On 26th Sep 2025, a Workshop on "**Automated Machine Learning** " was organized by **Department of Mechanical Engineering &** in Association with **Institution's Innovation Council (IIC), SITAMS. Mr.ARUNJIT CHOUDARY,** CEO, ENTERPRISES BUILDING TRAINING SOLUTION, MUMBAI , acted as a resource person for this event.

Automated Machine Learning (AutoML) refers to the process of automating the end-to-end tasks of applying machine learning to real-world problems. It simplifies model selection, hyper parameter tuning, feature engineering, and evaluation—making ML accessible to non-experts and accelerating workflows for data scientists. Here some of the key points.

- **Data Preprocessing**: Handling missing values, encoding categorical variables, scaling.
- **Model Selection**: Choosing the best algorithm (e.g., Random Forest, XGBoost, Neural Nets).
- **Hyper parameter Optimization**: Tuning model parameters using techniques like grid search or Bayesian optimization.
- **Assembling**: Combining multiple models for better performance.
- **Evaluation**: Automatically selecting metrics (e.g., accuracy, F1-score) based on task type.

Benefits

- Reduces manual effort and expertise required.
- Speeds up experimentation and deployment.
- Improves reproducibility and scalability.

Popular AutoML Tools

- **Auto-sklearn** (Python, built on scikit-learn)
- **TPOT** (Genetic programming-based)
- **H2O AutoML** (Enterprise-grade, scalable)
- **Google Cloud AutoML**, **Azure AutoML**, **Amazon Sage Maker Autopilot.**

Application: 1. Healthcare & Life Sciences

- **Disease Prediction**: AutoML models help detect diseases like cancer or diabetes from medical imaging and patient data.
- **Drug Discovery**: Accelerates compound screening and molecular property prediction.
- **Personalized Treatment**: Tailors therapies based on patient history and genetic profiles.

2. Finance & Banking

- **Fraud Detection**: Identifies suspicious transactions using anomaly detection.
- **Credit Scoring**: Automates risk assessment for loan approvals.
- **Algorithmic Trading**: Builds predictive models for stock price movements.

3. Retail & E-Commerce

- **Recommendation Systems**: Suggests products based on user behavior.
- **Demand Forecasting**: Predicts inventory needs and seasonal trends.
- **Customer Segmentation**: Groups users for targeted marketing.

4. Manufacturing & Industry 4.0

- **Predictive Maintenance**: Forecasts equipment failures using sensor data.
- **Quality Control**: Detects defects in production lines via image analysis.
- **Supply Chain Optimization**: Enhances logistics and inventory planning.

5. Telecommunications

- **Churn Prediction**: Identifies customers likely to leave.
- **Network Optimization**: Improves bandwidth allocation and fault detection.
- **Customer Support Automation**: Powers intelligent chatbots and ticket routing.

Speaker Details : **Mr.ARUNJIT CHOUDARY,** CEO, ENTERPRISES BUILDING TRAINING SOLUTION,MUMBAI

Covenor : Dr.N.Sathish Kumar, HOD, Dept.of Mech.Engg. SITAMS.

Co-Covenor : Mr.A.Srinivasan, HOD, Dept.of CSE-DS. SITAMS.

Coordinator : Mr.G.Narasimhulu, Assistant Professor, Dept.of Mech.Engg. SITAMS.

Co-Coordinator : Mr.A S Praveen, Assistant Professor, Dept.of Mech.Engg. SITAMS.

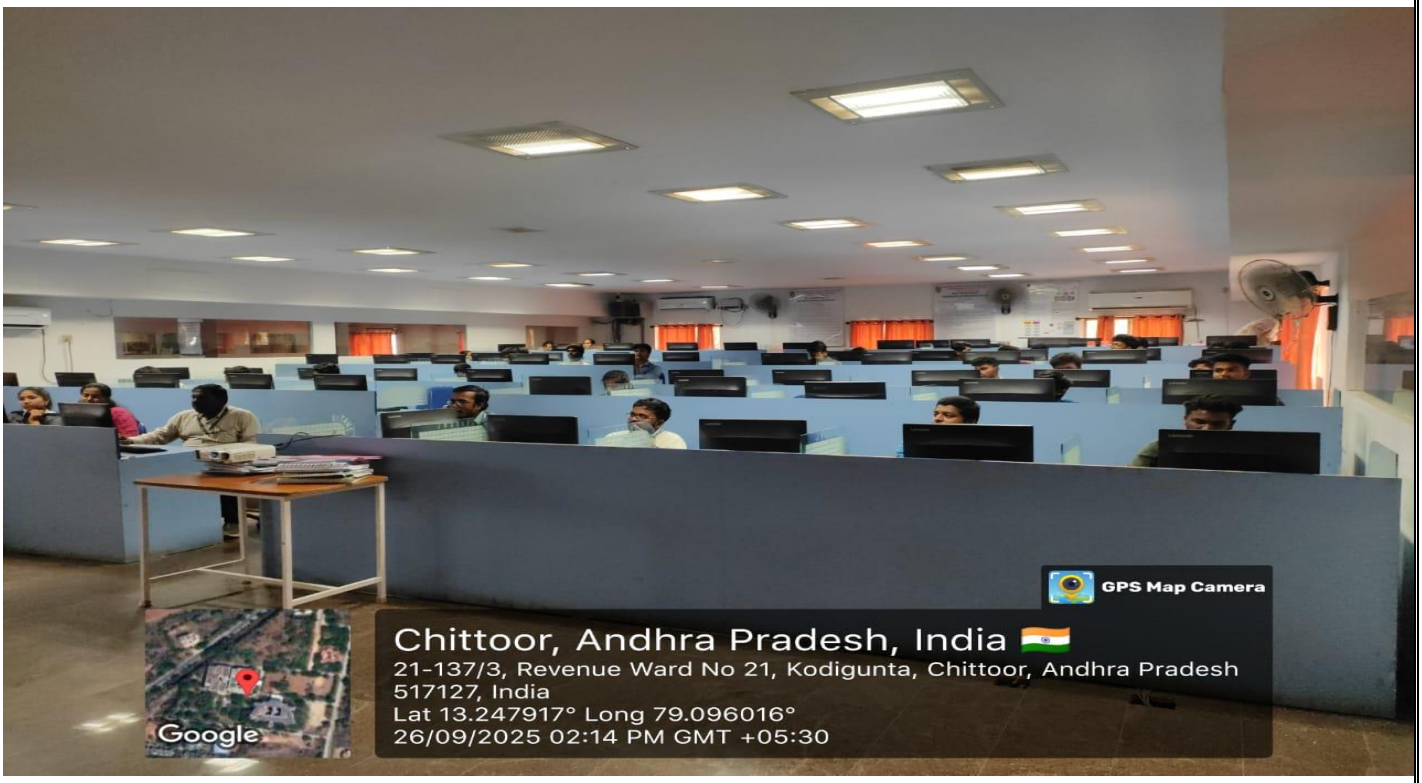
President IIC : Dr. M. Saravanan, Professor, Academic Dean, SITAMS

Date : 26-09-2025

Venue : Computer Lab-I

Target Audience : All the Mechanical Engineering & CSE-DS Students.

26-09-2025 workshop

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SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES-CHITTOOR

(AUTONOMOUS)

Approved by AICTE, New Delhi and Affiliated to JNTUA, Ananthapuramu

ATTENDANCE SHEET

Topic: A Workshop on Automated Machine Learning

Branch : **Mechanical Engineering**

Date : **26.09.2025**

S. No	Registered Number	Name of the Student	Student Signature
1	22751A0301	K. Vignan Raja	K. Vignan
2	23755A0302	S. Dhanush	S. Dhanush
3	24751A0305	M. Prabhas	Prabhas
4	25755A0303	K. Vijayendra Babu	K. Vijayendra Babu
5	24751A0307	P. Madhan	P. madhan
6	25751A0306	V. Teja murthy	
7	24755A0101	M. vishnu vardhan.	M. vishnu vardhan.
8	25751A0105	P. Muthu Kumar	P. Muthu
9	25751A0106	R. Raghava	R. Raghava
10	25751A0305	M. Mohan	M. mohan
11	25751A0304	M. C. Sravani	M. C. Sravani
12	24751A0304	M. kiran kumar	M.
13	24751A0306	P. L. yogeswar	P. L.
14	24751A0309	S. Musthan Dawood	Dawood
15	22751A0302	M. MADHAN KUMAR	M. Madhan
16	25755A0301	A. Puneeth Kumar	
17	22751A0303	S. Pavan	Pavan
18	23751A3265	R. Pravan	R. Pravan
19	23751A3270	Ramana Naveen Kumar	R. naveen kumar
20	2375IA3255	N. Tharun	N. Tharun
21	2375IA3257	P. Jyothi Swaroop	P. Jyothi
22	24755A3202	K. venkatesh	K. venkatesh
23	23751A3241	Ic. Pavan Kalyan	Ic. Pavan Kalyan

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES-CHITTOOR

(AUTONOMOUS)

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24	23751A3209	A. Harinandish	A. Harinandish
25	23751A3254	N Mahendra	N. Mahendra
26	23751A3259	P Reddy Nohith	Reddy Nohith
27	23751A3275	Shaik. Abid	S. Abid
28	23751A3276	Shaik. Ammaji	S. Ammaji
29	23751A3247	M.S. Pooja chowdary	M.S. Poojachowdary
30	23751A3271	R.s. Leema Sree	Rs. Leemasree
31	23751A3245	L. Sumathi	L. Sumathi
32	2375IA3223	Entha Baby	E. Baby
33	2275IA0303	S. Pavan	S Pavan
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Sreenivasa Institute of Technology and Management Studies
Murukambattu, Chittoor – 517 127, Andhra Pradesh (Autonomous)
(Department of EEE, MCA- NBA Accredited) Affiliated to JNTUA,
Ananthapuramu
Certificate of Participation
This is to certify that Mr./Mrs. S.Dhanush, from Sreenivasa Institute of Technology and Management studies has participated in one day seminar on "Automated Machine Learning " held on 26th September 2025, Organized by Department of Mechanical Engineering at Sreenivasa Institute of Technology and Management Studies (SITAMS) Chittoor, Andhra Pradesh.
Mr. G.Narasimhulu & Mr. A.S.Praveen
Co-ordinator's
Dr.N.Satish Kumar
Convenor

HOD/MECH

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES

DEPARTMENT OF MECHANICAL ENGINEERING

ONE DAY WORKSHOP ON

MACHINING PROCESS ON ADVANCED CNC MACHINE

Date : 22-10-2025

TIME : 9.30A.M TO 4.00P.M

VENUE : CNC LAB
MECHANICAL BLOCK

Coordinators
Mr.D.Raju
Mr.B.Surya Prakash

RESOURCE PERSON
Mr.V.Chinnaswamy
Production Engineer
Indra Prasta Engine Parts
Hosur

Dr.N.Venkatachalapathi
PRINCIPAL

Dr.N.Satish Kumar
HOD

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES
(SITAMS)
(AUTONOMOUS)
Department of Mechanical Engineering
(Mechanical Engineering Department Association- MEDA)

Institution's Innovation Council (IIC)

A Workshop

On

"Machining Process on Advanced CNC Machine"

Introduction: On 22nd October 2025, a Workshop on **"Machining Process on Advanced CNC Machine"** was organized by **Department of Mechanical Engineering** and association with **Institution's Innovation Council (IIC),** SITAMS. **Mr.V. Chinna Swamy**, Production Engineer, Indra Prasta Engine Parts (Ltd), Hosur acted as a resource person for this event.

Speaker Details	: **Mr.V.Chinna Swamy**, Production Engineer, Indra Prasta Engine Parts (Ltd), Hosur.
Covenor	: Dr.N.Sathish Kumar, HOD, Dept.of Mech.Engg. SITAMS.
Co ordinator	: Mr.D.Raju, Assistant Professor, Dept.of Mech.Engg. SITAMS.
President IIC	: Dr. M. Saravanan, Professor, Academic Dean, SITAMS
Date	: 22nd October 2025
Venue	: CNC Lab, Mechanical Block
Target Audience	: 2nd, 3rd and final year Mechanical Engineering students and other college students.

About Program

Recent trends in CNC programming aim to achieve several objectives, reflecting advancements in technology, industry demands and manufacturing efficiency. Here are some common objectives:

Automation and Efficiency: CNC programming trends focus on enhancing automation levels to reduce manual intervention, minimize errors, and improve overall efficiency in manufacturing process.

Optimization for complex Geometries: with the rise of additive manufacturing and demand for intricate designs, CNC programming trends emphasize the ability to handle complex geometries effectively. This includes developing algorithms and software tools that can efficiently program CNC machines to produce complex shapes and surfaces.

Integration with CAD/CAM systems: There's a grooving emphasis on seamless integration between CAD and CAM systems. This integration streamlines the programming process by allowing engineers to directly translate designs into machine instructions, reducing manual programming efforts and potential errors.

Multi-Axis Machining: Recent trends in CNC programming focus on multi-axis machining capabilities to enable the production of more complex parts with greater precision. This includes developments in 5-axis and even 9-axis machining, allowing for more flexibility and efficiency in manufacturing processes.

Adaptive Machining and Real-time Adjustments: CNC programming trends increasingly involve adaptive machining techniques that enable real-time adjustments based on focus like tool wear, material variations or environmental conditions. This helps optimize machining processes, improve quality control and reduce waste.

Simulation and Verification: There's a growing emphasis on simulation and verification tools in CNC programming to ensure the accuracy of machining process before actual production. Advanced simulation software allows programmers to visualize tool paths, detect potential collisions and optimize machining strategies before running jobs on the shop floor.

Activities Performed

Activities are performed to translate a design into machine instructions for manufacturing.

Typically involved in CNC programming:

Tool selection:

Toolpath Generation:

Speeds and Feeds calculation:

Machining Strategy Selection:

Post-Processing:

Simulation and Verification:

Documentation:

Setup Instructions:

Outcome:

The outcome of CNC programming is the successful execution of machining operations on a CNC machine to produce parts according to specified design requirements.


CNC TECHNOLOGY LABORATORY


CNC LATHE MACHINE


UNIVERSAL STRENGTH MACHIN
Electronic Tensometer

Students Registered

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES-CHITTOOR
(AUTONOMOUS)
Approved by AICTE, New Delhi and Affiliated to JNTUA, Ananthapuramu

ATTENDANCE SHEET

Topic: A Workshop on Machining Process on Advanced CNC Machine

Branch : **Mechanical Engineering**

Date : **22.10.2025**

S. No	Registered Number	Name of the Student	Student Signature
1	22751A0301	K. Vighan Raje	K. VighaRaje
2	22751A0302	A. MADHAN KUMAR	M. Madhankumar
3	22751A0303	S. PAVANI	
4	23755A0301	K M MOHAMMED YOUSUF	
5	23755A0302	S. Dhanush	S. Dhanush
6	24751A0301	A. Chaithanya.	A. Chaithanya.
7	24751A0302	K. Jeremiah	K. Jeremiah
8	24751A0303	KANIPAKAM CHARAN	K Charan
9	24751A0304	M. Kiran Kumar	M. K. K.
10	24751A0305	M. Prabhas	
11	24751A0306	P. L. Yogeswar	P. Yogi
12	24751A0307	P. Madhan	P. Madhan
13	24751A0308	R Franklin	R. Franklin
14	24751A0309	S. Muskhan Dawood	Muskhan
15	25755A0301	A. Punith Kumar	A. Punithkumar
16	25755A0302	JEEVANANTHAN G	
17	25755A0303	KATHI VIJAYENDRA BABU	K. Vijayendra Babu
18	25751A0301	Chandra Sekhar Sidhartha	C. Sidhartha
19	25751A0302	G. Mohammed Waseem	G. Mdwaseem
20	25751A0303	I. Partha Sarathi	I. Partha Sarathi
21	25751A0304	M. C. Sravani	MC Sravani
22	25751A0305	M. Mohan	M. Mohan
23	25751A0306	M. Theja.	M. Theja.


Sreenivasa Institute of Technology and Management Studies
Murukambattu, Chittoor – 517 127, Andhra Pradesh (Autonomous)
(Department of EEE, MCA- NBA Accredited) Affiliated to JNTUA,
Ananthapuramu
Certificate of Participation
This is to certify that Mr./Mrs. K.Jeremiah, from Sreenivasa Institute of Technology and Management studies has participated in one day seminar on "Machining Process on Advanced CNC Machine " held on 22nd October 2025, Organized by Department of Mechanical Engineering at Sreenivasa Institute of Technology and Management Studies (SITAMS) Chittoor, Andhra Pradesh.
Mr. G.Narasimhulu & Mr. A.S.Praveen
Co-ordinator's
Dr.N.Satish Kumar
Convenor

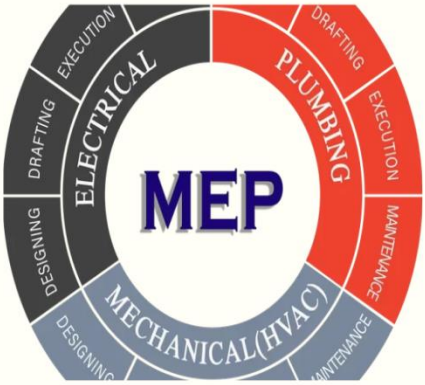
HOD/MECH

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES

INSTITUTION'S INNOVATION COUNCIL
(Ministry of Education Initiative)

DATE : 24.10.2025
TIME : 2.00 P.M TO 4.00 P.M

DEPARTMENT OF MECHANICAL ENGINEERING



RESOURCE PERSON

V.JAYA KRISHNA
PRoject Manager
(MEP)
ERAM Specialized
Project Company
Dammam
Saudi Arabia

Coordinators
Mr.G.Narasimhulu
Mr.A.S.Praveen

ONE DAY SEMINAR ON SCOPE OF MEP PROJECT

ONLINE MODE

VENUE : Mechanical Seminar Hall

Dr.N.Venkatachalapathi
PRINCIPAL

Dr.N.Satish Kumar
HOD-MECH

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES
(SITAMS)
(AUTONOMOUS)
Department of Mechanical Engineering
(Mechanical Engineering Department Association- MEDA)

Institution's Innovation Council (IIC)
A Seminar on

"Scope of MEP Project"

Introduction:

On 24th Oct 2025, a Seminar on "**Scope of MEP Project"** was organized by Department of Mechanical Engineering & in Association with Institution's Innovation Council (IIC), SITAMS. Mr.V.Jaya Krishna, Project Manager (MEP) Dammam, Saudi Arabia, acted as a resource person for this event.

Speaker Details	**: Mr.V.Jaya Krishna, Project Manager (MEP) Dammam, Saudi Arabia**
Covenor	: Dr.N.Sathish Kumar, HOD, Dept.of Mech.Engg. SITAMS.
Coordinator	: Mr.G.Narasimhulu, Assistant Professor, Dept.of Mech.Engg. SITAMS.
Co-Coordinator	: Mr.A S Praveen, Assistant Professor, Dept.of Mech.Engg. SITAMS.
President IIC	: Dr. M. Saravanan, Professor, Academic Dean, SITAMS
Date	: 26-09-2025
Venue	: Mechanical Seminar Hall-I
Target Audience	: All the Mechanical Engineering.

THE ROLE OF MEP IN BUILDING CONSTRUCTION EXPLAINED

MEP, or mechanical, electrical and plumbing engineering, are the three technical disciplines that encompass the systems that allow building interiors to be suitable for human use and occupancy. MEP systems turn buildings from empty rooms into comfortable spaces that welcoming and liveable, whether it's a 50-storey building or a laboratory to work in.

Due to their high degree of interaction between them, MEP installations are often addressed together; this also avoids conflicts in equipment locations, a common issue when MEP systems are designed in isolation. As a result of this complexity, modern engineering consulting firms use software to speed up this design process. Simple, repetitive tasks are automated by a computer, allowing MEP design engineers to focus their attention elsewhere.

Here, we'll take a closer look at these three disciplines to view them in the context of lab design to see how they're factored into a project plan, as well as the benefits and advantages that MEP have in building construction.

Quick navigation:

Mechanical engineering

There are several types of mechanical systems that are used in residential, commercial and industrial buildings. However, three types account for a lot of the mechanical design work in commercial constructions, which are as follows:

Space heating
Air Conditioning
Mechanical Ventilation

Such systems interact with each other to keep temperature and humidity within a range that's comfortable for inhabitants. In particular, mechanical ventilation also ensures that enough fresh air is supplied to keep pollutant concentrations at low and safe levels.

With regards to equipment capacity, these mechanical installations operate at their best when capacity is adequate. There's a mistaken belief that over-engineering is a good thing. However, oversized boilers and chillers tend to cycle rapidly, creating a fluctuating room temperature and a wearing down of equipment at an accelerated pace.

Likewise, over-engineering also leads to poor control of indoor humidity. It'd been recommended that relative humidity be kept between 30% and 60% to make such spaces optimal for human occupancy. If humidity falls outside this range for extended periods, then the low humidity can end up irritating the skin and airways, while high humidity results in the growth of mould and bacteria.

Mechanical design also involves laying out optimal routes for heat distribution systems like air ducts, hydronic piping or steam piping. If combustion appliances are used – a common problem that happens when MEP systems are designed in isolation that we mentioned earlier – then these appliances must be properly vented to ensure that harmful combustion products are removed.

Electrical engineering

In multi-storey, high-rise construction, one of the bigger challenges in electrical design is setting out the optimal routes for conduit and wiring. With that said, there tends to be more flexibility compared to mechanical systems, since electrical circuits require much less space and can be routed around obstacles more easily. Additionally, MEP design software can come in useful in this regard, allowing conduit and wiring to be laid out with minimal circuit lengths, and avoiding location conflicts with mechanical and plumbing installations.

In terms of lighting installations, a lot of MEP design software packages are capable of simulating lighting, allowing the optimal number of fixtures and their locations to be determined.

During the MEP design process, mechanical and electrical engineers collaborate closely on heating, ventilation and air conditioning (HVAC) too. The former calculate heating and cooling loads to determine equipment capacities, while the latter design the electrical circuits and protection measures that let equipment operate continuously and safely.

Plumbing Engineering

Similarly, plumbing requires laying out complex piping routes, aided by MEP design software to simplify the process. And since plumbing installations interact with both mechanical and electrical systems at many points, it underpins just how important it is that design teams must collaborate.

For instance, high-rise buildings typically need water booster pumps that use electricity. Domestic hot water systems, meanwhile, get their heat through one of the following configurations: a boiler, a heat exchanger connected to a space heating boiler, or an electric heater.

What are the benefits of MEP?

– *Controlled carbon dioxide emissions*

In today's modern construction projects, MEP places a focus on sustainable construction. Thankfully, MEP companies can address any needs and requirements to make your building more energy-efficient, whether you're at the development stage or retrofitting a historical building. And since commercial buildings create greenhouse emissions thanks to cooling, heating, lighting and electricity, MEP utilises effective HVAC frameworks, decreasing water usage and embrace dynamic building designs.

– *Reduced overall energy consumption*

If you think about the major areas of consumption in a commercial building – HVAC, lighting, and other electronics – every instance of this consumption presents MEP companies with an opportunity to improve building performance through system components such as lighting device efficiencies as well as through building system controls such as day lighting.

– *Utilises sustainable energy*

The larger energy requirements of commercial buildings place a strain on the power grid, particularly in peak periods. MEP can decrease the measure of power a building generates through solar energy usage, which allows businesses to generate an infinite resource that allows them to independently create their own energy.

– Conserves water usage

Water is cheap, but it is often wasted, and leakage accounts for a large amount of this wastage. Thankfully, MEP can improve water efficiency through simple strategies such as touch-free taps and low-flow toilets before then moving on to more complex approaches.

How can MEP engineers help in construction?

MEP engineers can provide value at every stage of construction, from schematic design and administration to the post-occupancy survey. Playing an important role throughout the process, they can help maximise investment through a comprehensive array of services that include building evaluation, system diagnostics, feasibility studies and lease consultation services.

Over the course of a project, they'll work with architects, building owners and other contractors, even at initial planning and survey stages. After evaluating the proposed site for damage and risks, a preliminary design is developed and refined in conjunction with the architect's plans. They'll also coordinate with pre-construction and project management teas to ensure the most efficient execution of all services, as well as conducting a Constructability Review to ensure all drawings and specifications are accurate, safe and synced up to the building owner's vision.

Drawn up to serve as a working framework throughout the actual construction process, the MEP quality plan includes project goals, policies, insurance details, quality procedures, management structures, and personnel responsibilities among a whole host of other information.

Additionally, an MEP engineer will also manage the following construction documents:

· Detailed drawings and diagrams of all floor plans, elevations and sections.

· Technical specifications on the systems to be installed.

· Lists of materials and products required.

· Overview of the execution methods for the materials, products, and systems.

As the building undergoes construction or renovation, an MEP engineer will often assist in construction administration, ensuring the project is remaining on schedule and under budget, as well as providing progress reports.

Conclusion

When the three fields of MEP overlap in their design and implementation, MEP services are nearly always required. Building automation is an increasingly popular service that incorporates all aspects of MEP engineering, allowing for centralised hardware and software networks that control HVAC, security, fire alarms, indoor and outdoor lighting as well as many other operations critical for building performance. MEP engineers, in these initial stages of a construction project, help to reduce delays, confusion revisions and redrafting.

When a firm can handle all three MEP components, the project becomes much more streamlined, providing it with expertise that can help to reduce overhead while also making the most efficient use of your resources. Instead of dealing with time-consuming responsibilities attempting to look after all three separately, an MEP expert takes care of three simultaneously in a smooth, synchronised manner.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EXTRA LOW VOLTAGE SYSTEM
ACCESS CONTROL SYSTEM
IN THE FIELDS OF PHYSICAL SECURITY AND INFORMATION SECURITY, ACCESS CONTROL IS THE SELECTIVE RESTRICTION OF ACCESS TO A PLACE OR OTHER RESOURCE
CCTV & MONITORING SYSTEM
CLOSED-CIRCUIT TELEVISION (CCTV), ALSO KNOWN AS VIDEO SURVEILLANCE, IS THE USE OF VIDEO CAMERAS TO TRANSMIT A SIGNAL TO A SPECIFIC PLACE, ON A LIMITED SET OF MONITORS
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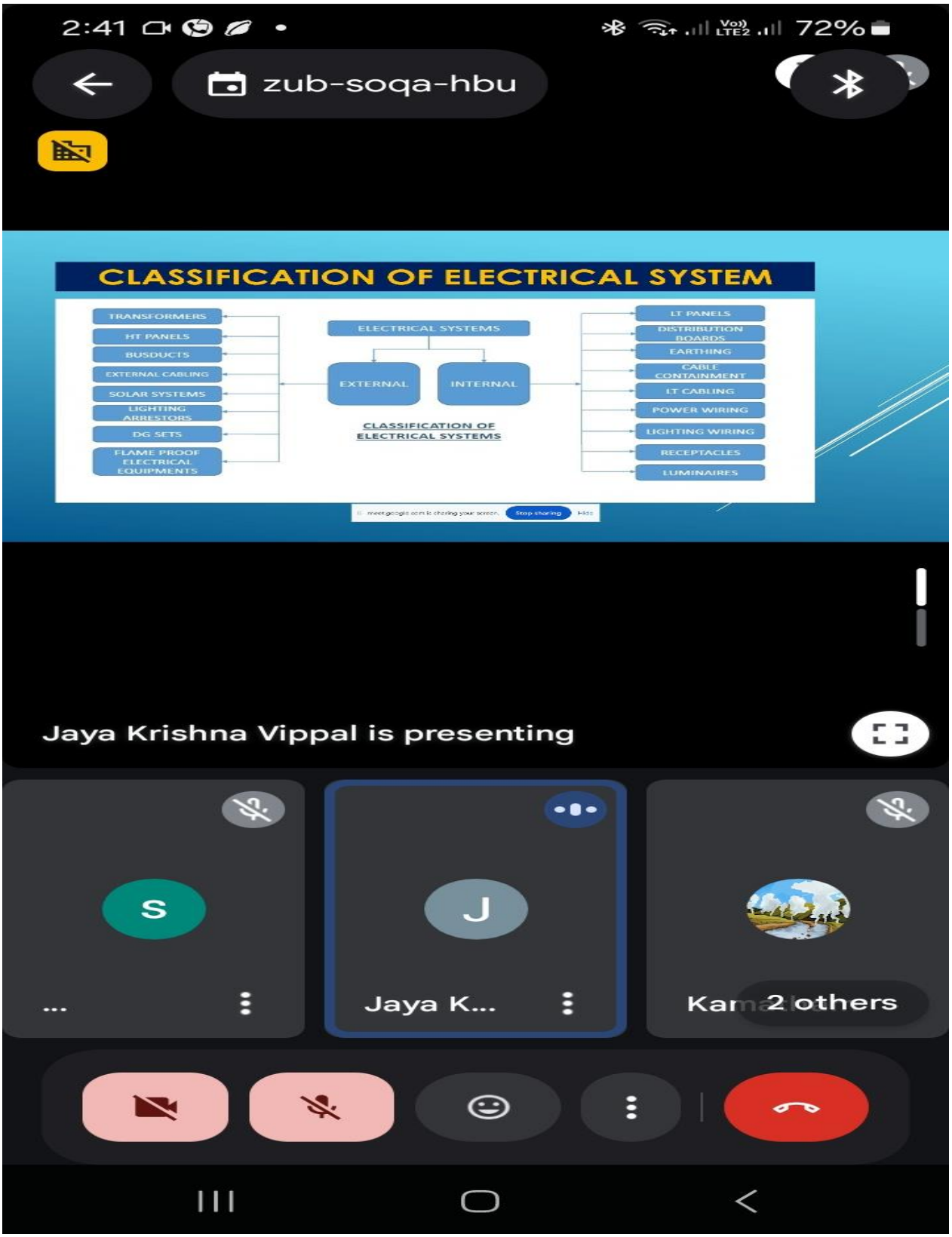
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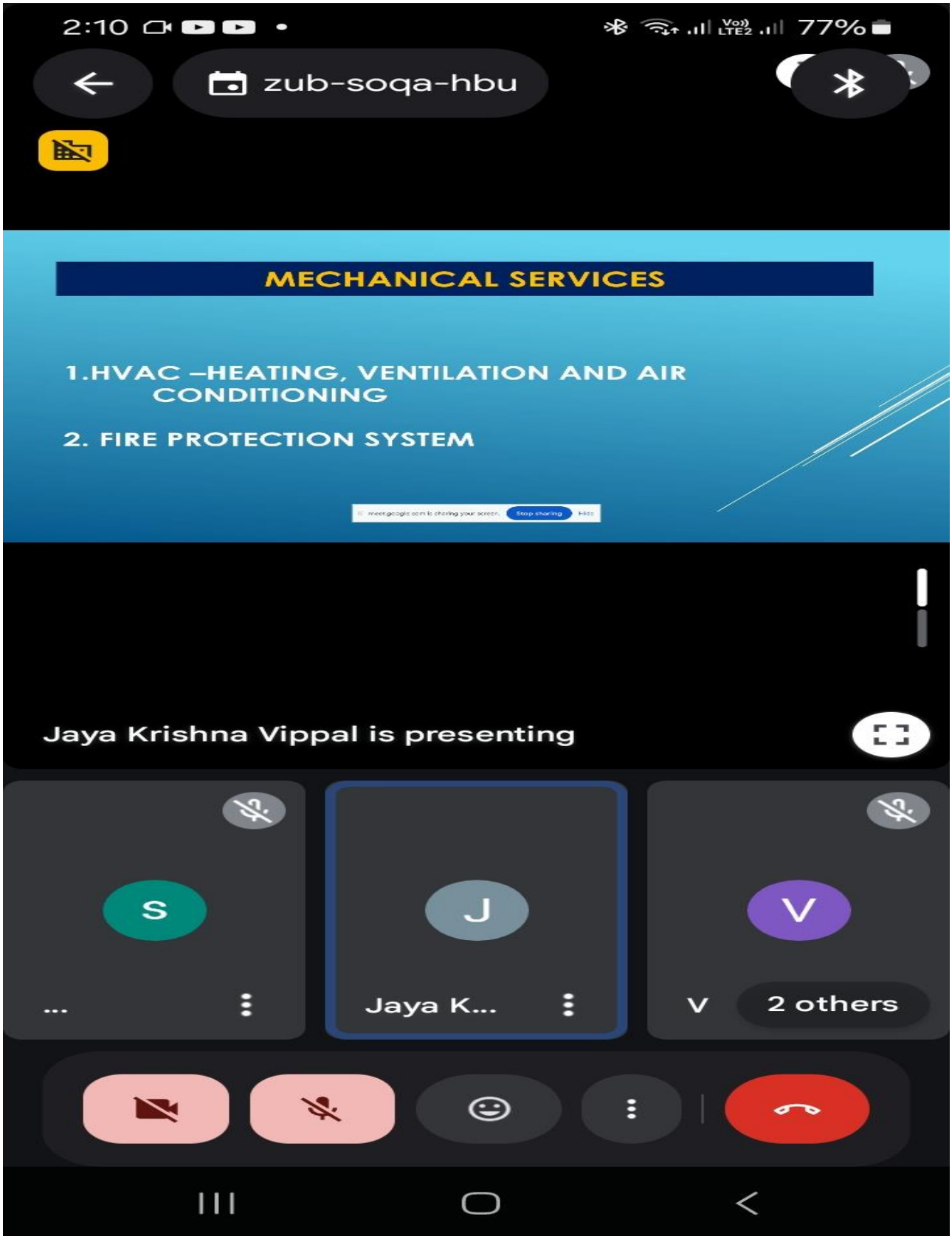
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(AUTONOMOUS)

Approved by AICTE, New Delhi and Affiliated to JNTUA, Ananthapuramu

ATTENDANCE SHEET

Topic: One Day Seminar on Scope of MEP Project

Branch : **Mechanical Engineering**

Date : **24.10.2025**

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Certificate of Participation

This is to certify that Mr./Mrs. K.Jeremiah, from Sreenivasa Institute of Technology and Management studies has participated in one day seminar on "Scope of MEP Project" held on 24th October 2025, Organized by Department of Mechanical Engineering at Sreenivasa Institute of Technology and Management Studies (SITAMS) Chittoor, Andhra Pradesh.

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Co-ordinator's

Dr.N.Satish Kumar
Convenor

HOD/MECH