

CONTINUING EDUCATION CELL (2025-26)

The CEC successfully organized a series of interdisciplinary internship programs aimed at fostering research aptitude, technical proficiency, and practical exposure among students. The programs covered a wide range of emerging fields across engineering and science disciplines.

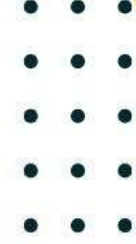
- **Advanced Control and Machine Learning Strategies for Inverted Pendulum Systems using Quanser Qube Servo 2** led by *Dr. Jim George* provided hands-on experience in control system design and machine learning applications for dynamic systems.
- **Android App Development and Functional Programming** guided by *Mr. Basil Baby* focused on mobile application development, user interface design, and modern programming paradigms.
- **Computational Fluid Dynamics** under *Mr. Harish Abubaker* introduced simulation-based analysis of fluid flow and heat transfer problems.
- **Chemical Sciences** conducted by *Dr. Kavitha S.* emphasized experimental and analytical techniques in chemical research.
- **COMSOL Modelling** facilitated by *Dr. Joyce Jacob* enabled participants to perform multiphysics simulations and modelling of engineering systems.
- **Data Visualization** by *Ms. Leda Kaimal* trained students in transforming data into meaningful visual insights using modern visualization tools.
- **Image Processing, Machine Learning, and VLSI** coordinated by *Ms. Divya R. S.* provided exposure to digital image analysis, intelligent systems, and hardware implementation.
- **IoT and Robotics** guided by *Dr. Arunkant A. Jose* explored embedded systems, sensor integration, and robotic control mechanisms.

- **Mathematics** internship by *Dr. Kavitha S.* nurtured analytical thinking through topics such as fractals, graph theory, and topological data analysis.
- **Simulation of Manufacturing Systems** conducted by *Dr. Pramod M.* focused on process optimization and digital modelling of industrial systems.

These internships collectively enhanced students' research skills and technical expertise, preparing them to meet future challenges in academia and industry.

Office Bearers

#	Name of the Faculty	Designation and Department
1.	Basil Baby	AP, CSE
2	Sivadas T Nair	AP, MCA
3	Geethu Chacko	AP, EEE
4	Anjali Muraleedharan	AP, AI&DS
5	Minnie Mariya James	AP, CE



DEPARTMENT OF MECHANICAL ENGINEERING

SIMULATION OF MANUFACTURING SYSTEMS

OBJECTIVES

- Understand the fundamentals of manufacturing systems and the need for simulation in analyzing and optimizing system performance.
- Gain hands-on experience in discrete-event simulation tools for modeling manufacturing environments.
- Identify and define system components such as workstations, resources, queues, and routing logic in manufacturing.
- Formulate simulation models based on real or hypothetical manufacturing case studies.
- Using simulation results, evaluate system performance metrics (e.g., throughput, cycle time, resource utilization).

OUTCOMES

Upon successful completion of the internship, students will be able to:

- Build simulation models using commercial software for discrete-event systems.
- Use input data analysis techniques, such as fitting distributions to manufacturing data.
- Perform output analysis of simulation models to assess system performance.
- Interpret simulation output to make informed decisions for production planning and control.
- Implement what-if analysis and optimization techniques to compare system configurations and suggest improvements.

1ST JUNE ONWARDS

MED-CAD LAB

**ONLY FOR 3RD AND 4TH YEAR
MECHANICAL ENGG. STUDENTS**



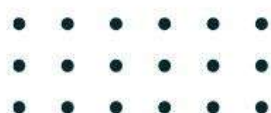
FOR REGISTRATION

[HTTPS://FORMS.GLE/4ZGWMazWD2JRT4IFA](https://forms.gle/4ZGWMazWD2JRT4IFA)



MORE INFORMATION CALL

DR. PRAMOD M , 9961188229



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INTERNSHIP FEES

RS1000/-

JOIN NOW

Summer Internship Programme 2025

Advanced Control and Machine Learning Strategies for Inverted Pendulum Systems using Quanser Qube Servo 2

Programme Highlights

- Real-time Control with Qube Servo 2
- AI and ANFIS for System Learning
- Simulation + Hardware Implementation
- Hands-on MATLAB + QUARC Training
- Reinforcement Learning Basics

Technical Skills Gained

- Classical Control: LQR, PID
- Nonlinear Control: SMC
- Soft Computing: ANFIS
- Machine Learning Algorithms
- System Modelling (Lagrangian/ Newtonian)

Target Audience

- UG: B.Tech (6th–8th Sem)
- PG: M.Tech (2nd–4th Sem)
- Relevant Domains: Control, Mechatronics, Robotics

Tools and Platform

- MATLAB/Simulink
- QUARC Real-Time Module
- Quanser Qube Servo 2
- ML + Fuzzy Toolboxes

Selection Criteria

- Online Written Test
- Personal Interview
- Evaluation based on basics of Control Systems and MATLAB

Important Dates

- Internship Period: **June 1 – June 30, 2025**
- Last Date to Apply: **May 3, 2025**
- Mode: **Offline at MITS Campus**

Fee Structure

- Registration Fee: **1000/-**
- Includes: Lab Access, Software Tools and Certificate

Deliverables

- Final Technical Report
- Simulation + Codebase
- Poster Presentation
- Live Demonstration

Outcomes & Benefits

- Mastery of Real-Time System Design
- Foundation for Research Publication
- Project Experience for Resume
- Certification by MITS

How to Apply

Fill the Google Form:

<https://forms.gle/BPSpSpPBcJmwUBQG6>

Contact Resource

Dr. Jim George

Assistant Professor, Dept. of EEE
Muthoot Institute of Technology and Science
jimgeorge@mgits.ac.in
+91-9895458707

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SUMMER RESEARCH INTERNSHIP @ MITS:

Summer research internship programme is designed to foster skill development, intellectual growth and research orientation for students in emerging areas of science, engineering and technology. The programme is meant to give interns cutting edge skills and give an awareness about the recent developments.

ABOUT THE PROGRAMME:

In today's fast-paced technology landscape, there is a significant demand for proficient mobile app developers, and Flutter has emerged as a leading framework for cross platform development. This course aims to equip students with essential skills in mobile application development, focusing on both theoretical knowledge and practical application using Flutter and Dart. By providing hands-on experience in building real-world mobile applications, this program enhances the employability of our students, preparing them for competitive job markets. The program also promotes collaboration among students through group projects and peer reviews, building a community of learners who can support each other's growth and development. This program is also designed to help students understand the fundamentals of functional programming in Java. It focuses on the practical use of lambda expressions and interface references to write clean and efficient code.

1. Target group:

B.Sc./B.Tech./BCA students who have completed or undergoing fourth/fifth/sixth semester and M.Sc./M.Tech./MCA students who have completed or undergoing second/third/fourth semester are eligible to apply.

2. Pre-requisites:

Knowledge in Java programming and Object Oriented Programming Methodology

3. Selection Criteria

Selection will be based on a test covering Java-based OOP and core OOP concepts.



June 2nd to June 25th 2025

OBJECTIVES:

- To introduce students to mobile application development using Flutter
- To provide hands-on experience in building cross-platform mobile applications.
- To enhance students' programming skills and prepare them for industry requirements.
- To help students grasp the concept of functional programming in Java, focusing on the use of lambda expressions and interface references.

COURSE CONTENTS

- Introduction to Flutter and Dart
- Dart Programming
- Flutter Widgets and Layouts
- Flutter Navigation
- Flutter with local databases
- Flutter and Firebase
- Mini Project
- Functional Programming

4. Hardware Requirements

Participants should have Laptop with Minimum specifications given below

- Processor- Intel i3 (6th Gen) or equivalent
- RAM- 8GB
- Operating System- Windows 10 (64-bit)
- USB Ports-At least 1 for mobile debugging
- Android Mobile Phone

5. Resource Persons

- Mr. Basil Baby, Assistant Professor, Department of Computer Science and Engineering, Muthoot Institute of Technology and Science.
- Dr. Anishin Raj MM, HOD & Associate Professor, Department of Computer Science and Engineering, Muthoot Institute of Technology and Science.
- Dr. Sheena Kurian, Assistant Professor, Department of Computer Science and Engineering, Muthoot Institute of Technology and Science.
- Mr. Sivadas T Nair, Assistant Professor, Department of Computer Applications, Muthoot Institute of Technology and Science.

6. Certificate

- On successful completion, interns will be provided with certificates issued by Muthoot Institute of Technology and Science.

REGISTRATION



Last Date to Apply :May 3rd 2025

Registration Fees: Rs. 1000/-



MUTHOOT INSTITUTE OF TECHNOLOGY AND SCIENCE (MITS)

**Varikoli P O, Puthencruz - 682308, Ernakulam District., Kerala, India.
<https://mgmits.ac.in/>**

SUMMER INTERNSHIP PROGRAMME in Computational Fluid Dynamics

Summer Research Internship @ MITS:

Summer research internship programme is designed to foster skill development, intellectual growth and research orientation for students in emerging areas of science, engineering and technology. The programme is meant to give interns cutting edge skills and give an awareness about the recent developments.

Objective: The program aims to develop understanding of basic concepts of CFD for engineering students.

About the Programme:

The programme is designed as a hands-on experiential learning for students. From understanding the basic mathematical concepts behind fluid flow, their governing equations to the mathematical methods in solving the equations will be introduced. The theoretical concepts will be reinforced through hands-on software usage.

Resource Persons (with name and affiliation):

Harish Abubaker, Assistant Professor, Mechanical Engineering Department, MITS

Target group:

B.Tech. students who have completed or are undergoing fourth semester are eligible to apply.

Pre-requisites:

Basic fluid dynamics knowledge is desired, not compulsory

Hardware/system requirements:

None

Selection:

Selection will be based on Test/Interview.

Duration:

Internship duration is either 5 days: May 19,2025 to May 23, 2025

How to register?

Interested students have to fill the google form, <https://forms.gle/9Q2VhVFkPSVqJSCP7>

Fees:

Rs. 1000/-

Last date to apply:

Last date to submit the filled google form: May 12, 2025.

Certificates:

On successful completion, interns will be provided with certificates issued by Muthoot Institute of Technology and Science.

Coordinator:

Harish Abubaker

For enquiries, contact:

9048 3000 60

harishabubaker@mgits.ac.in

SUMMER INTERNSHIP PROGRAMME

IN CHEMICAL SCIENCES

SUMMER INTERNSHIP @ MITS

The summer research internship programme is designed to foster intellectual growth and enhance research skills in emerging areas of material science and polymer chemistry for students. This offers interns a unique opportunity to explore the synthesis, functionalization, and application of nanocellulose - a sustainable, biodegradable nanomaterial with vast industrial and biomedical potential through hands-on experience.

THRUST AREAS

- **Material Science**
- **Polymer Chemistry**

TARGET GROUP

- B.Sc (Honours) / B.Sc. Chemistry students who have completed or are undergoing pre final or final year.
- B.Tech. Civil/Mechanical Engineering students who have completed or are undergoing fourth/sixth semester.

RESOURCE PERSONS

Dr. Kavitha S
Assistant Professor, MITS

Ms. Ashna Varghese
Assistant Professor, MITS



PRE-REQUISITES

Basic knowledge in synthesis and fabrication of nano materials and basic skills in handling chemical laboratory experiments including preparation of standard solutions and general instrumental methods.

EXPECTED OUTCOME

Students will be able to apply techniques for synthesizing and fabricating nanocellulose-based composites to address challenges in industrial and biomedical contexts.

DETAILS

Domain	Duration	Fee
Nanocellulose-based functional constructs for industrial and biomedical applications	One month (02/06/2025- 30/06/2025)	Rs. 500 /-

HOW TO REGISTER?

Fill the google form : <https://forms.gle/MirDgMe46p4QW1qy9>

Last date to register : **May 25, 2025**

On successful completion, interns will be provided with certificates issued by Muthoot Institute of Technology and Science.

Coordinator:

Dr Kavitha S
Assistant Professor, MITS

For enquiries:

kavithas@mgits.ac.in, 9495748405
ashnavarghese@mgits.ac.in, 9446835692



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

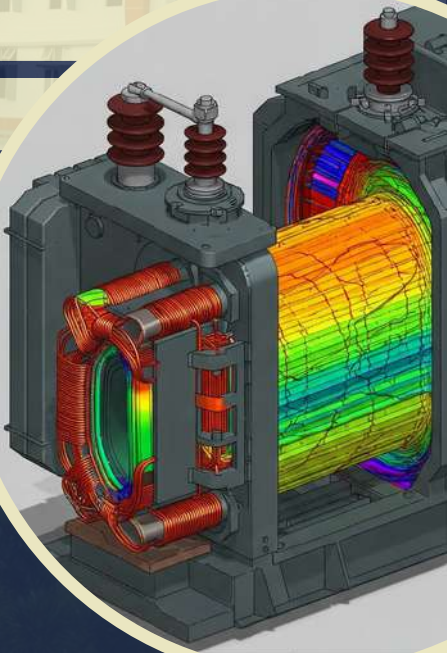
COMSOL Modelling Internship: Transformer Insulation Systems

COMSOL BASICS

INSULATION SYSTEM
SIMULATION STUDY

SHORT TERM PROJECT

Scan to Register





Muthoot Institute of Technology & Science

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Join a hands-on internship focused on COMSOL Multiphysics simulation for transformer insulation systems. This is a great opportunity to apply theoretical knowledge to real-world industrial challenges in the power and energy sector.

Why Join?

- ✂ Work on real transformer models and insulation challenges
- 📊 Gain practical COMSOL simulation experience
- 🏆 Receive a certificate of completion
- 🤝 Opportunity to collaborate on academic papers or technical reports

Who Can Apply

- B.Tech Electrical and Electronics Engineering students (3rd year and above)
- M.Tech (Specialisation in High Voltage Engineering/Power Systems)

💰 **Duration:** 7 days (22nd May 2025 - 29th May 2025)

⌚ **Course Fee:** Rs. 1000/-

🌐 **Mode:** Offline

📍 Location

Department of Electrical and Electronics Engineering
Muthoot Institute of Technology and Science
Varikoli P.O, Puthencruz- 682308

📅 Deadline to Apply

May 3rd, 2025

🔗 **For further details, please contact:**

Dr. Joyce Jacob (Assistant Professor)
joycejacob@mgits.ac.in
☎+91-9496822326

Mr. Aravind Rajagopal (Assistant Professor)
aravindrajagopal@mgits.ac.in
☎+91-9447377037



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Department of Computer Science and Engineering

Summer Research Internship Programme In Data Visualization using Python with Object Oriented Foundations

Summer research internship programme is designed to foster skill development, intellectual growth and research orientation for students in emerging areas of science, engineering and technology. The programme is meant to give interns cutting edge skills and give an awareness about the recent developments.

Data Visualization using Python with Object Oriented Foundations



Objective

- Apply Object-Oriented Programming (OOP) principles to design reusable and modular data visualization components.
- Develop hands-on experience with leading Python visualization libraries such as Matplotlib, Seaborn, and Plotly for creating static and interactive plots.
- Build custom dashboards to extract actionable insights from data using visualizations.



About the Programme

The internship offers a hands-on opportunity to explore the world of data visualization using the power of Python and Object-Oriented Programming (OOP) to build reusable components for improving collaborative workflows.



Resource Persons

- Ms. Leda Kamal, Assistant Professor, Department of Computer Science and Engineering
- Dr. Saira Varghese, Assistant Professor, Department of Computer Science and Engineering
- Ms. Shefy Augustine, Lab Instructor, Department of Computer Science and Engineering

Last date to submit the filled google form : **May 3, 2025**

On successful completion, interns will be provided with certificates issued by Muthoot Institute of Technology and Science.

Target Group

- B.Tech CSE and B.Tech in CSE (Cyber Security) students of MITS who have completed the second semester are eligible to apply.

Pre-requisite

- Basic knowledge in Python

System Requirements

- Participants should bring their laptop (preferably with an i3 or above, and Linux (Ubuntu 20.04+) installed)

How to register?

- Interested students must fill out the Google Form.

<https://forms.gle/3V6kpsogPTvAXT7>



Fees

- Rs. 1000/-

Duration

15 days : June 9, 2025 to June 27, 2025

Selection will be based on an entry test assessing basic understanding of Python

Coordinators



Ms. Leda Kamal - +91 9895118005
Dr. Saira Varghese - +91 9947192191



Summer Internship Program @ MITS

Organized by Department of Electronics & Communication Engineering

Hands-on Training in Image Processing, Machine Learning, and VLSI Design with FPGA Implementation

About the Program

Summer internship offered by Dept. of ECE, MITS provides a comprehensive, interdisciplinary learning experience in Image Processing, Machine Learning (ML), and VLSI Design using FPGA platforms. It offers a hands-on training on software such as MATLAB and Xilinx Vivado Design Suite, with a practical exposure to FPGA boards and Moku:Go test kits

Phase I : Image Processing & ML with MATLAB

- Fundamentals of image processing and machine learning
- Algorithm development and simulation using MATLAB
- Real-world case studies and hands-on exercises

Course Objective

- Understand core concepts of image processing and ML algorithms
- Explore VLSI design methodologies
- Learn HDL-based design and simulation techniques using industry-standard tools such as Vivado
- Implement and test real-time applications on FPGA platforms

Phase II : Digital Circuit Design using Verilog & FPGA

- Core concepts of digital design using Verilog HDL
- FPGA-based implementation and testing
- Live validation using Moku:Go kits

Target Audience

Students of B Tech ECE & EEE (S4,S6)

Pre-requisite

Basic knowledge of logic circuits and software programming

Selection Criteria

Selection will be based on a written test

Phase III : Implementation of advanced VLSI concepts on FPGA

- Designing control architecture on FPGA - FSM
- Interfacing peripherals for real time display
- Creating and integrating custom IP blocks

Hands-on Training in Image Processing, Machine Learning, and VLSI Design with FPGA Implementation

Expected Outcome

- Hands-on exposure to cutting-edge technologies
- Practical skills in both software and hardware domains
- Real-time project development experience
- Enhanced career readiness in industry relevant tools

Phase I : Resource Persons

- Dr. Dhanya S
- Dr. Arun Joy
- Dr. Nivea Kesav

Duration – From 2nd June'25 to 6th June'25

Course Details

- **Domain**
Hands-on Training in Image Processing, Machine Learning, and VLSI Design with FPGA Implementation
- **Duration**
From 2nd June'25 to 20th June'25
- **Fee**
Rs. 1000/- per person

Phase II : Resource Persons

- Dr. Rijo Sebastian
- Ms. Binu Manohar
- Ms. Divya R. S.

Duration – From 9th June'25 to 13th June'25

On Completion ...

On successful completion of all the three phases, interns will be provided with certificates issued by Muthoot Institute of Technology and Science

Phase III : Resource Persons

- Dr. Shoba Gopalakrishnan
- Ms. Deepa Prabhu
- Ms. Jisha Jacob

Duration – From 16th June'25 to 20th June'25

How to register?

To register fill the Google Form or scan the QR code
<https://forms.gle/BPSpSpPBcJmwUBQG6>



Last date to apply

12th May 2025

Co-ordinators

Ms. Divya R. S.
Assistant Professor, ECE, MITS

Dr. Abhilash Antony
Professor & HoD, ECE, MITS

For enquiries, contact:

divyars@mgits.ac.in
9446289259
abhilashantony@mgits.ac.in
9447478762



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SUMMER INTERNSHIP PROGRAMME **in "Tech Trio Unleashed: Mastering IoT, Robotics & 3D Printing"**

Summer Research Internship @ MITS:

Summer research internship programme is designed to foster skill development, intellectual growth and research orientation for students in emerging areas of science, engineering and technology. The programme is meant to give interns cutting edge skills and give an awareness about the recent developments.

Objective:

This internship is designed for individuals interested in exploring the exciting world of Internet of Things (IoT) and robotics. The internship covers three main areas: interfacing sensors and actuators for practical IoT applications, hands-on session on robotics, and learning to design and create 3D printable models for real-world applications.

About the Programme:

Welcome to a cutting-edge training experience where imagination meets innovation. In this hands-on, immersive course, you'll dive into the exciting worlds of Internet of Things (IoT), Robotics, and 3D Printing — the very technologies revolutionizing industries across the globe.

Whether you're a curious beginner, an aspiring techie, or a professional looking to upskill, this course will empower you to design, build, and control smart systems from scratch. From creating intelligent devices and automating robots to bringing your ideas to life with 3D printers, you'll gain the skills to not just keep up with the future — but lead it.

Connect. Create. Control. The future is yours to build.

Resource Persons (with name and affiliation):

IEDC Nodal Officers - 1) Dr. Arunkant A Jose, Asst. Professor, ECE. 2) Dr.Bibin Jose, Asst. Professor, ME. 3) Dr.Pratibha Sudhakaran, Asst. Professor, ECE.

CIDRIE Head - Mr. Rajesh Kumar. Design Engineer, CIDRIE

Target group:

B.Tech students who have completed or are undergoing second semester are eligible to apply.

Selection:

Selection will be based on Test/Interview.

Duration:

Internship duration is one Week.

5 days: 02 June 2025 to 06 June 2025

How to register?

Interested students have to fill the google form,

https://docs.google.com/forms/d/e/1FAIpQLSea_sERtfxlCRhzhwn21N9-5t5Fefd3T428slfWa_YVt9bPmw/viewform?usp=sharing

Fees: Rs. 3500/-

Participants will be given a hardware take away KIT consisting of an IoT(ESP32) hardware module , USB connector , buzzer module, servo motor, LED, jumper wires.

Last date to apply:

Last date to submit the filled google form: **May 3, 2025.**

Certificates:

On successful completion, interns will be provided with certificates issued by *Muthoot Institute of Technology and Science*, **CIDRIE (Centre for Industrial Consultancy, Inter disciplinary Research, Innovation & Entrepreneurship)** - and *Innovation and Entrepreneurship Development Centre (IEDC)*.

Coordinator:

IEDC Nodal Officers - 1) Dr. Arunkant A Jose, Asst. Professor, ECE. 2) Dr.Bibin Jose, Asst. Professor, ME. 3) Dr.Pratibha Sudhakaran, Asst. Professor, ECE.

CIDRIE Head - Mr. Rajesh Kumar. Design Engineer, CIDRIE

For enquiries, contact: Dr. Arunkant A Jose, Asst. Professor, ECE. - 9895605473



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SUMMER INTERNSHIP PROGRAMME in MATHEMATICS

Summer Internship @ MITS:

Summer research internship programme is designed to foster intellectual growth and research orientation for students in some of the emerging areas of Mathematics. The programme is meant to give fundamental knowledge and also to give an awareness about the recent developments.

Thrust areas:

- **Fractals and Applications**
- **Graphs and Networks**
- **Topological Data Analysis**
- **Topological Dynamics**

Resource Persons:

- **Dr. Vinod Kumar P. B.**
Research Professor, MITS
- **Dr. Jeny Jacob**
Assistant Professor, MITS

Target group:

- o B.Sc./B.Tech./BCA students who have completed or undergoing fourth/fifth/sixth semester.
- o M.Sc./M.Tech./MCA students who have completed or undergoing second/third/fourth semester.
- o Ph.D. scholars.
- o College teachers.

Pre-requisites:

For Fractals and Applications – Basic Calculus

For Graphs and Brain Networks – Basic Graph Theory

For Topological Data Analysis – Basic Linear Algebra, Basic Topology

For Topological Dynamics – Basic Calculus

Expected Outcome:

After attending the programme, interns will get an understanding of the fundamentals in the thrust areas and also will come to know some of the applications and recent advancements in the research activities.

Selection:

Selection will be based on Test/Interview.

Duration & Fees:

Trust Area	Duration	Period	Fee (INR)
Fractals and Applications	15 days	May 12 – May 28, 2025	500
Graphs and Networks	15 days	May 12 – May 28, 2025	500
Topological Data Analysis	30 days	May 19 – June 20, 2025	1000
Topological Dynamics	15 days	May 12 – May 28, 2025	500

How to register?

To register, fill the google form:

<https://forms.gle/9vLpQfcZC7f8n4kD9>

Last date to apply:

Last date to submit the filled google form: May 3, 2025.

Certificates:

On successful completion, interns will be provided with certificates issued by Muthoot Institute of Technology and Science.

Coordinator:

Dr. Kavitha S.

Assistant Professor, MITS

For enquiries, contact:

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9895775409