



# **MANGALORE INSTITUTE OF TECHNOLOGY & ENGINEERING**

(A Unit of Rajalaxmi Education Trust®, Mangalore)

Autonomous Institute affiliated to VTU, Belagavi, Approved by AICTE, New Delhi

Accredited by NAAC with A+ Grade & ISO 9001:2015 Certified Institution

## **INTERNAL QUALITY ASSURANCE CELL (IQAC)**

### **Report for the AY 2022-23**

## COMPOSITION OF THE INTERNAL QUALITY ASSURANCE CELL (IQAC) AY 2022-23

The composition for the IQAC for the Academic Year 2022-23 is as follows:

Sl. No.	NAME	REPRESENTATION
1	Dr M S Ganesha Prasad, Principal	Chairperson
2	Sri. Rajesh Chowta, Management Representative	Member
3	Mr. P R Shetty, Local Society	Member
4	Dr. Jayaprakash M C, Senior Assistant Professor, Dept. of Civil Engineering	Member
5	Ms. Deepthi Shetty, Senior Assistant Professor, Dept. of Electronics & Communication Engineering.	Member
6	Mr. Rajesh Kamath, Senior Assistant Professor, Dept of Information Science & Engineering	Member
7	Dr. Anthoni Praveen Menezes, Associate Professor, Dept. of Physics	Member
8	Mr. Prakash Devadiga, Administrative Officer	Member
9	Ms. Shama M P, Student (USN: 4MT19CV019)	Member
10	Mr. Adithya Krishna, Alumnus	Member
11	Mr. Mohammed Azan Patni	Member
12	Mr. Donson D'Souza, Industrialist	Member
13	Dr Vinayambika S Bhat, Dean Quality Assurance & HoD - ECE	Convener

24/03/2023

## RECONSTITUTION OF THE INTERNAL QUALITY ASSURANCE CELL (IQAC) AY 2022-23

The following are the members of the reconstituted IQAC for the Academic Year 2022- 23

Sl. No.	NAME	REPRESENTATION
1	Dr Prashanth C M, Principal	Chairperson
2	Sri. Rajesh Chowta, Management Representative	Member
3	Mr. P R Shetty, Local Society	Member
4	Dr. Jayaprakash M C, Senior Assistant Professor, Dept. of Civil Engineering	Member
5	Ms. Deepthi Shetty, Senior Assistant Professor, Dept. of Electronics & Communication Engineering.	Member
6	Mr. Rajesh Kamath, Senior Assistant Professor, Dept of Information Science & Engineering	Member
7	Dr. Anthoni Praveen Menezes, Associate Professor, Dept. of Physics	Member
8	Mr. Prakash Devadiga, Administrative Officer	Member
9	Ms. Shama M P, Student (USN: 4MT19CV019)	Member
10	Mr. Adithya Krishna, Alumnus	Member
11	Mr. Mohammed Azan Patni	Member
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13	Dr Vinayambika S Bhat, Dean Quality Assurance & HoD - ECE	Convener

## PROCEEDINGS OF IQAC MEETING HELD ON 29/10/2022

The Dean Quality Assurance Dr. Vinayambika S Bhat extended welcome to all the members to the meeting and presented the agenda for discussion.

### **Review of the outcomes observed for the previous meeting agenda.**

- For the current academic year dept. of CS&E, IS&E and E&CE have planned conduction of International Conference on Intelligent System. The tentative date will be in the month of November 2023.
- In the academic year 2021-22, the student project outcomes have been published in peer reviewed journals and faculty members have been advised to continue the work on student projects and publish in Scopus / WoS journals.
- It has been discussed and HoDs have been strictly instructed to advise the staff members to take Certification courses to improve the domain knowledge for effective demonstration of the laboratory courses. In-line with these four staff from the Dept. of EC&E and one from Civil Engineering have registered for the course on the NPTEL and Udemy platforms respectively.
- Discussed the action plan for NBA accreditation of Dept. of MBA. Two doctoral candidates have been selected and one has joined. Another candidate will be joining in the month of November. Documentation work is in progress. Weak areas in terms of research, consultancy and funding have been identified.

### **Internal Audit of Department documents. (ISO and P files).**

- Department-wise audits have been conducted across all the departments. Along with ISO files, P-files were also reviewed.
- Mr. Donson suggested that faculty members may undergo certification to become certified auditors.
- Dean QA insisted that the format sent by the IQAC should be implemented strictly. No deviation is permitted.

## **Effective Implementation of the newly introduced courses to 3<sup>rd</sup> Semester, Inter / Intra Institutional Internship, Social Connect & Responsibility, Non-Credit Mandatory Courses.**

- Dean QA briefed about inter / intra institutional internship. Informed that department coordinators are to be identified for Non-Credit Mandatory Courses - NSS, Physical Education, and Yoga.
- Principal briefed the Non-Credit Mandatory Courses to the external members.
- Mr. Azaan suggested a full-fledged internship of 4 weeks or a month to understand the industry work culture.
- Mr. Aditya Krishna suggested projects can be taken from industries for internship.

## **Initiation of final year course project work during 5<sup>th</sup> semester.**

- Dean QA highlighted that this initiation has been taken to provide quality time to students to develop product based real time projects.
- Mr. Aditya suggested that the students be asked to frame problem statements for real time application-oriented projects.
- Mr. Donson suggested that while framing problem statement industry help can be taken. He also highlighted that funds are available for doing projects in agricultural and Bio-medical field related topics from different organizations.
- The principal insisted that the faculty members need to be in touch with the industries to get problem statements for the projects.
- It was also highlighted about different funding agencies, NIDHI scheme and government funds.

## **Conduction of Technical Training session for students of 2<sup>nd</sup> to 4<sup>th</sup> year.**

- To prepare students, technically competent with the recent technologies, training sessions have been initiated from external experts for the students of 2<sup>nd</sup> to 4<sup>th</sup> year.
- It was discussed that Alumni can be asked to give the training sessions or sessions on motivation.

## **Ratification of new questionnaires framed for structured Feedbacks and student feedback on Facility.**

- Revised questionnaires framed for structured Feedbacks and student feedback on Facility were presented in front of the Committee.

## **Review of document preparation made for NBA expert team visit of Department of Information Science & Engineering.**

- Discussed about the criteria-wise document preparation by Dept. of Information Science & Engineering for NBA visit. In this regard the head of the department of Information Science & Engineering briefed about the progress of all criteria.

## **To facilitate computational skills through UG/PG courses among students, it has been decided to procure campus wide simulation tool.**

- Further to support the research activities in the campus, the IQAC presented the need for simulation tool.
- In this regard it has been decided to procure MATLAB & Simulink campus wide license.

## PROCEEDINGS OF IQAC MEETING HELD ON 29/04/2023

The convener IQAC Dr. Vinayambika S Bhat presented the agenda. The outcome of the discussions noted are as follows:

### **Review of the outcomes observed from the previous meeting agenda:**

- Dean Quality Assurance, Dr. Vinayambika S Bhat briefed about the effective implementation of 3<sup>rd</sup> Semester courses, including NCMC and activities organized as part of conduction of these courses.
- Presented the implementation of project work preparation in the 3<sup>rd</sup> year. Also informed that review paper shall be completed in 6<sup>th</sup> semester.
- In the year 2018 & 2020, conferences were organized in the institute. In this direction work is in progress, of an International Conference planned in this (AY 2023-24) academic year.
- The principal suggested that national conferences can be planned every year, in different tracks, with the intension of providing platform for our own students. Also, as a continuation of this International Conference can be organized once every 3 years.
- Mr. Donson suggested that the best paper can be rewarded with an appreciation. Also, the idea presented can be linked to startup and extended to give a funding.
- Dean Quality Assurance, briefed about the statistics of department wise Certification Course Completion by the technical staff. She also mentioned that the institute supports financially for doing the certification course by paying the registration fee of the same.
- Mr. Azan mentioned that the institute can have tie up with Course Era and some of the courses can be put in autonomy syllabus. He also suggested that as an institute we take up courses from MOOC platforms, at the same time faculty can contribute in terms of handling sessions on these platforms which could add more value to the faculty and the institute.
- The principal, mentioned that in order to get a good NIRF Ranking online content creation by the faculty will be helpful.

- Mr.Azan mentioned that content creation can be done in local languages as well.
- Dean Quality Assurance mentioned that department of MBA has planned to go for NBA accreditation.
- As a project work outcome, UG students have published their work in peer reviewed journals and will be continued.
- Discussed the PG student's publication and decided to have a discussion with the department on this matter.

### **Departments to organize seminar / workshops on Professional Ethics & Code of conduct.**

- Dean Quality Assurance informed that departments have planned to organize seminar / workshop on professional ethics & code of conduct.
- The principal mentioned that workshops on generalized professional Ethics need to be organized and dissemination should happen on regular basis.

### **Faculty members to inculcate at least one innovative methodology in the Teaching- Learning process.**

- Discussion on Innovative Teaching- Learning methodology was held, members suggested that a few innovative methods need to be identified and ask the faculty members to include it in their teaching process.
- The principal mentioned that framework should be given to faculty members.

### **Conduction of awareness session on OBE at the department level.**

- Members discussed that assignments should not be generic and conventional way of writing assignments should be stopped.
- Mr. Azan mentioned that tasks should be given such that self-learning is encouraged.
- Mr. Donson added that, skill in presenting can be improved by giving frequent presentations.



## **Initiation of FDP on curriculum design for Autonomous Status**

- The principal mentioned that in autonomous syllabus practical oriented courses and industry supported elective courses must be included.
- Mr. Azan mentioned that once the institute is autonomous, globally accepted certification must be achieved to validate the learning.
- Mrs. Deepthi Shetty mentioned that placement achievement is one of the benchmarks for validating the learning in academic autonomy.

## **Proposal to be sent to the principal for the approval of BoS members to be finalized by considering competent experts from academia and industry.**

- Mr. Donson suggested that collaboration with the other universities and experts would help to achieve good curriculum design.
- Mr. Azan mentioned that curriculum should be such that it should be evergreen, students should implement his/her learning in future also.
- Members also discussed that there should be a flexible scheme, so that every student's resume will be unique.

## **Program on career counselling by career Guidance Cell**

- Principal informed that, programs on career counselling such as Mental Health Management, Talent Retention could be planned.

## **Registration towards Professional Body Membership by all the members and students**

- Principal informed that professional bodies are regularly giving information on thrust areas of technology and if Students / Faculty get membership, they will get to know about technology update.
- Mr. Donson said active participation can be rewarded for getting membership. Also, success stories from members will motivate them to take up membership.

## To enhance the number of activities through MoUs

- Members highlighted that, to plan some activities with the MoUs and include it in CoE.
- Mr. Azan suggested that, to approach the industry / university collaborated with our requirements. Also mentioned that MoUs should not be one sided.
- Mr. Donson insisted that at the department level for each MoU, there should be Relationship Managers, for coordinating.
- The principal suggested that the departments brainstorm on these points and come up with their strategies and action plan. HoDs to present the same.

Every department has motivated the students, faculty and staff to take up the online certification courses to enhance their knowledge & skills.

- The summary of the same is depicted in the tabular column below:

Sl. No.	Department Name	MATLAB			MOOC		
		Student	Faculty	Technical Staff	Student	Faculty	Technical Staff
1.	AE	33	1	-	7	-	-
2.	Civil	14	4	1	3	4	-
3.	CS&E	14	-	8	65	1	5
4.	EC&E	373	2	-	38	8	5
5.	ISE	18	-	-	105	7	1
6.	MTR	30	12	4	7	4	2
7.	ME	38	6	-	-	4	2
8.	MBA	-	-	-	41	2	-
9	Physics	237	-	-	204	-	-
10	Chemistry	689	-	-	75	-	-
11	Mathematics	500	4	-	-	4	-

## ACTIVITIES ORGANIZED BY IQAC DURING AY 2022-23

A good number of activities were organized by the IQAC for the AY 2022-23. The details are as follows:

Activity No.	Particulars	Date
1	Faculty Development Program on 'Computational Mathematics with MATLAB'	08/12/2022 to 10/12/2022
2	Technical Staff Development Program on 'MATLAB & Simulink Campus Wide Suite'	21/12/ 2022
3	Professional development Program on 'Role of Artificial Intelligence, Machine Learning, Data Sciences & IoT in Engineering Disciplines'	06/03/2023
4	Professional Development Program on 'E-Governance Implementation of Institute Policies & Process'	31/03/2023 & 01/04/2023
5	Faculty Development Program On 'Curriculum Design'	22/05/2023 to 24/05/2023
6	Faculty Development Program on 'Writing Effective R&D Project Proposals and Funding Opportunities from Government Scientific Departments'	08/07/2023 to 10/07/2023
7	MATLAB Tech-Day	12/06/2023 to 17/06/2023
8	Workshop on 'Effective pedagogy for design thinking course'	10/08/2023

## 1. Faculty Development Program on 'Computational Mathematics with MATLAB'

Internal Quality Assurance Cell (IQAC), MITE hosted a three-day faculty development program on "Computational Mathematics with MATLAB" from December 8 through December 10, 2022, in collaboration with MathWorks and CoreEL Technologies Pvt. Ltd. The FDP seeks to encourage the development of faculty members' engineering and scientific expertise.

MathWorks is the developer of mathematical computing software for Engineers and Scientists. MathWorks is a leading worldwide supplier of technical computing software. The business activities are characterized by quality, innovation, and timelines; competitive awareness; ethical business practices; and outstanding service to the customers. CoreEL Technologies is driven by innovation and a multi-disciplinary approach towards technology. CoreEL offer innovative solutions ranging from Intellectual Property (IP) cores, Design and Development, System Design and Prototype Development, Next-Gen Digital products, Integrated solutions, Low Volume Manufacturing, System Upgrades, Obsolescence management, EDA tools, COTS products, to Semiconductor solutions, and Technology Training. The outcome of the FDP is to make participants familiar with the theory and practical aspects of Computational Mathematics with MATLAB.

Mr. Rakshith B S, the resource person of FDP provided insight into the significance of the MATLAB tool and its uses in his talk. He described how to install MATLAB using a legitimate institutional email address and how to use MATLAB as an offline tool without support for a browser. He demonstrated several mathematical procedures that could be carried out with the help of the MATLAB simulation program. Additionally, Mr. Rakshith provided insight into working with non-linear and linear systems.

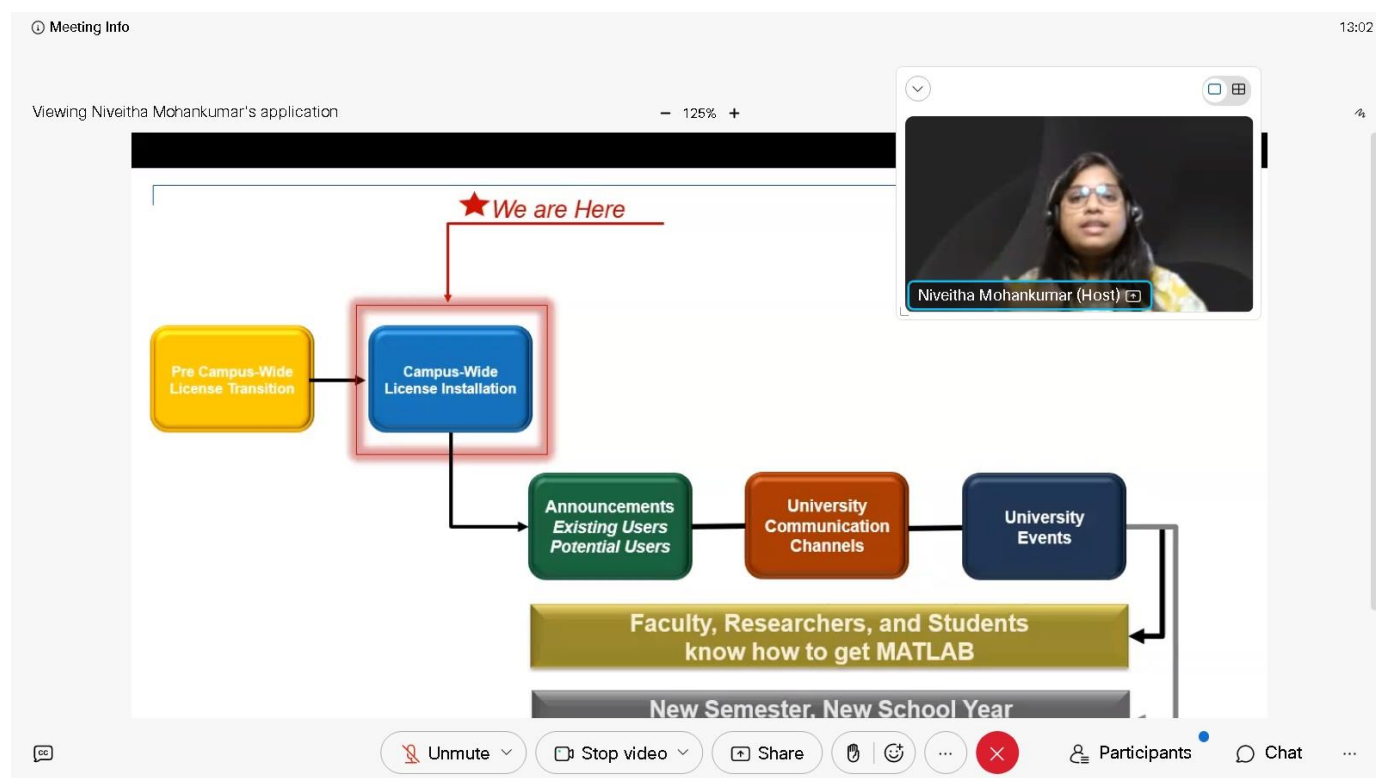


**The snapshot of the Faculty Development Program on 'Computational Mathematics with MATLAB'**

## **2. Technical Staff Development Program on 'MATLAB & Simulink Campus Wide Suite'**

In partnership with MathWorks and CoreEL Technologies Pvt. Ltd., MITE's Internal Quality Assurance Cell (IQAC) presented a technical staff development program on MATLAB & Simulink Campus-Wide Suite on December 21, 2022. Software for mathematical computation is created by MathWorks for use by engineers and scientists. The leading provider of technical computing software in the world is MathWorks. Innovation and a multidisciplinary approach to technology are what drive CoreEL Technologies. Intellectual Property (IP) cores, design and development, system design and prototype development, next-generation digital products, integrated solutions, low volume manufacturing, system upgrades, obsolescence management, EDA tools, COTS products, semiconductor solutions, and technology training are just a few of the cutting-edge solutions offered by CoreEL.

The FDP aimed to enhance the technical staff members' skills in science and engineering. Participants gained acquaintance with the MATLAB Onboarding Program, Campus-wide License features, Installation & Portal Demo, and Development Planning as a result of this technical staff development. An introduction to MathWorks and its products was given by Ms. Niveitha Mohankumar of the Bengaluru-based Education Customer Success Team of MathWorks. She stressed the importance of MATLAB for engineering applications. She also reviewed more than 100 features in MATLAB and Simulink and provided a briefing on the MATLAB Portal. She paid particular attention to the free self-paced online courses and beginner-friendly Onramp courses. About the extra features of MATLAB, Mr. Deep Gogoi, Installation & Licensing Support MathWorks Products, Bengaluru, gave a briefing.



**The snapshot of the Technical Staff Development Program on ‘MATLAB & Simulink Campus Wide Suite’**



### 3. Professional development Program on ‘Role of Artificial Intelligence, Machine Learning, Data Sciences & IoT in Engineering Disciplines’

Internal Quality Assurance Cell (IQAC), MITE hosted a professional development event on "Role of Artificial Intelligence, Machine Learning, Data Sciences & IoT in Engineering Disciplines" on March 6, 2023, in collaboration with ISTE-MITE Chapter. Understanding the significance of AI, ML, DS, and IoT in the curriculum was the program's goal. A brief background of Artificial Intelligence (AI), Machine Learning (ML), Deep Learning (DL), and Data Science (DS) was provided by Dr. Ashok Rao, a former head of the Network Project at the DESE at the IISc in Bangalore to kick off the program. He also explained how these technologies relate to one another. He described how AI tools were employed in traditional board games like checkers, chess, and go. Dr. Rao centred his discussion on the various classifiers used in pattern recognition. He discussed the functions of ML, DL, and DS.



The snapshot of the Professional development Program on ‘Role of Artificial Intelligence, Machine Learning, Data Sciences & IoT in Engineering Disciplines’

## 4. Professional Development Program on 'E-Governance Implementation of Institute Policies & Process'

Internal Quality Assurance Cell hosted a two-day professional development event on "E Governance Implementation of Institute Policies & Process" for the institution's administrative employees, faculty, and leaders of several verticals on March 31 and April 1, 2023. The program's goal is to give participants the information and abilities they need to develop efficient e-Governance procedures and efficiently use ERP solutions for managing college administration. Hands-on training on the various procedures involved in using the ERP software was held throughout the program. A wide range of subjects were covered in the workshop, including the fundamentals of e-Governance and ERP, the advantages of e-Governance in education, understanding and implementing ERP solutions, integrating ERP modules, and ensuring data security. The course also included practical training.



The snapshot of the Professional Development Program on 'E-Governance Implementation of Institute Policies & Process'



## 5. Faculty Development Program On ‘Curriculum Design’

From May 22 to 24, 2023, MITE’s Internal Quality Assurance Cell (IQAC) hosted a three-day Faculty Development Program on Curriculum Design. The program's objective was to equip the faculty with the skills necessary to develop a top-notch curriculum, enabling the institution to conduct academic business on its own. The speaker presented the socratic style of learning during the session, which entails a teacher or facilitator posing difficult questions to pupils in order to encourage critical thought, concept examination, and independent conclusion-making. The teacher encourages the students to challenge preconceptions and develop their critical thinking skills rather than only providing knowledge. The speaker talked on the problems with the standard university curriculum and the demand for independent study.

In order for the institution to be academically autonomous, the Faculty Development Program on Curriculum Design sought to teach the faculty members in establishing a high-quality curriculum. The goal of the FDP was to familiarize participants with the steps that must be taken when creating an efficient, high-quality curriculum while considering the demands of society and students in light of the current technological landscape. Dr. Ashok Rao, a former head of the Network Project at the DESE at the IISc in Bangalore, and Dr. Arulalan Rajan, the CEO of Vidyakosha Pvt Ltd. in Bangalore, served as resource people for the three-day FDP on curriculum design.



The snapshot of the Faculty Development Program On ‘Curriculum Design’

## 6. Faculty Development Program on ‘Writing Effective R&D Project Proposals and Funding Opportunities from Government Scientific Departments’

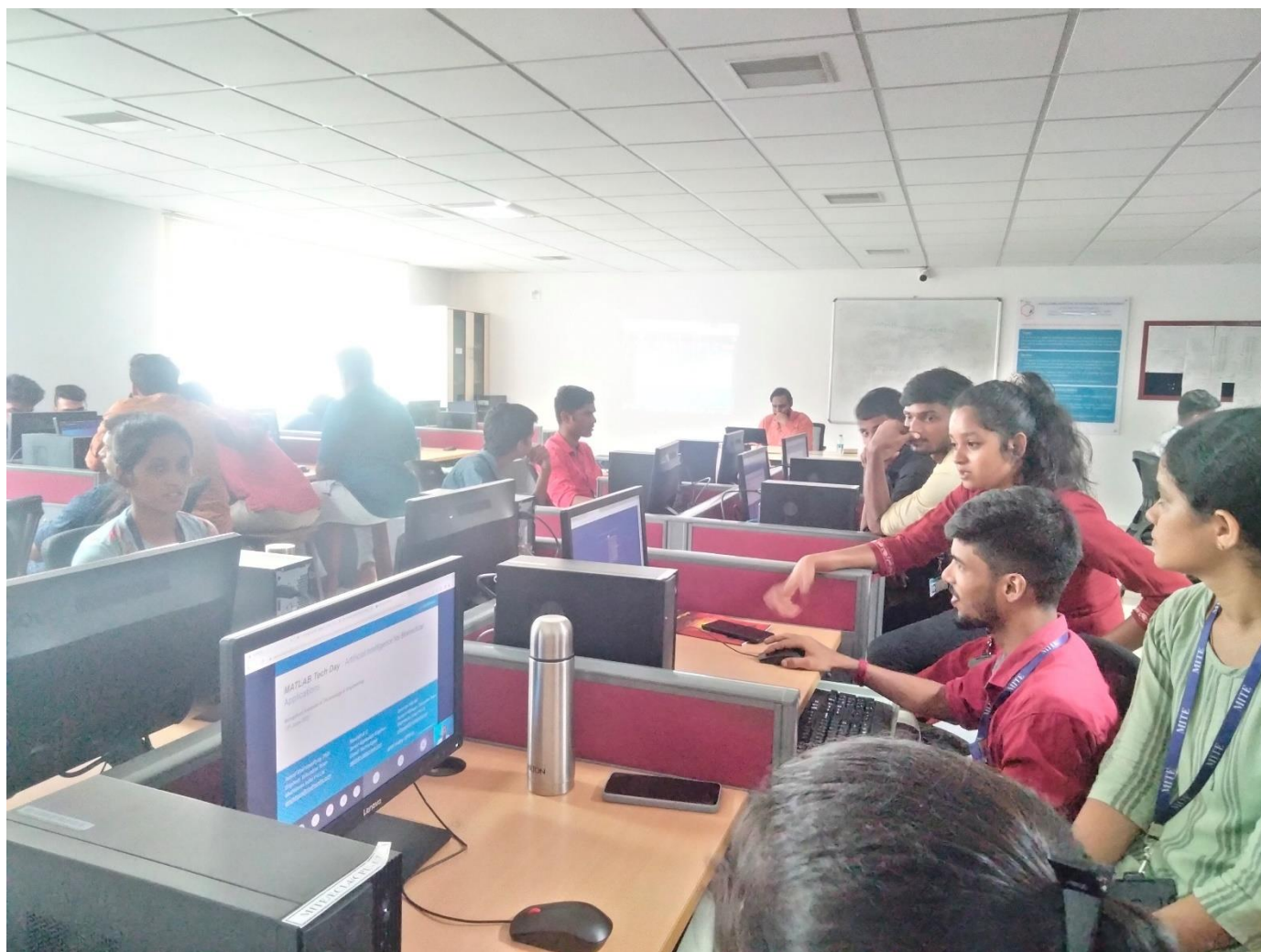
The Internal Quality Assurance Cell (IQAC) and Research Council are collaborating to host a three-day Faculty Development Program (FDP) on Writing Effective R&D Project Proposals & Funding Opportunities from Government Scientific Departments from July 8–10, 2023. The program's goal was to provide participants with a better understanding of the nuances of proposal writing so they could use it to their advantage when seeking financing for their research and development projects. Dr.P.R.Hariharan, has been working in Department of Scientific& Industrial Research (DSIR), Ministry of Science & Technology, New Delhi as JA(Technical) for the last 25 years highlighted that by providing financial resources and infrastructure to researchers and institutions, government funding agencies play a significant role in fostering research and development (R&D). Additionally, he went into detail about numerous programs for women scientists and candidates from underrepresented groups, outlining their aims, goals, and qualifying requirements as well as their cost and anticipated results. Participants in the three-day faculty development program received a thorough awareness of the financing landscape and the know-how to create winning R&D project proposals. In order to increase their prospects of obtaining funds for their research projects and improving their academic careers, they got trained to recognize and explore funding opportunities from governmental scientific departments and funding agencies.



**The snapshot of the Faculty Development Program on ‘Writing Effective R&D Project Proposals and Funding Opportunities from Government Scientific Departments’**

## 7. MATLAB Tech-Day

MATLAB Tech-Day was organized by all the departments in association with Internal Quality Assurance Cell (IQAC) during the period 12.06.2023 to 17.06.2023. A total of 127 students from the dept. of Aeronautical Engineering and Mechanical Engineering, 139 students of Electronics & Communication Engineering, a total of 151 students from CSE (IoT & CS), AIML and ISE, 149 students from CS&E and a total of 68 students from Mechatronics Engineering and Civil Engineering were trained on their respective domains by making the effective usage of MATLAB package. The topics covered during the sessions were based on Computational Mathematics, Preprocessing and ECG Signals, Machine Learning & Control Systems.



The snapshot of the session conducted during MATLAB Tech-Day



## 8. Workshop on 'Effective pedagogy for design thinking course'

Internal Quality Assurance Cell (IQAC), MITE in collaboration with ISTE organized the one-day workshop on effective pedagogy for design thinking course on August 10, 2023. The goal is to improve the teaching approach and offer useful course material to the design thinking discipline. Dr. Ashok Rao, a former head of the Network Project at the DESE at the IISc in Bangalore gave a quick overview of the various design thinking ideas in relation to academic curriculum. He also provided information on the many design thinking stages that might be applied to academics. He provided us with a roadmap for creating effective approaches that will significantly alter how students, professors, and management think. Additionally, he discussed several Design Thinking issues and several Action Plans to consider when developing new academic curriculum.



The snapshot of the Workshop on 'Effective pedagogy for design thinking course'