



## **Criterion 6- Governance, Leadership and Management**

### **6.3 Faculty Empowerment Strategies**

#### **6.3.3 - Percentage of teaching and non-teaching staff participating in Faculty development Programmes (FDP), Management Development Programmes (MDPs) professional development /administrative training programs during the last five years**

6.3.3.1. Total number of teaching and non-teaching staff participating in Faculty development Programmes (FDP), Management Development Programmes (MDPs) professional development /administrative training programs during the last five years

- **Introduction**

Faculty members were provided with financial support for attending conference, Workshop, Faculty Development Program etc. and total **63 faculty members** have been provided with financial support of **Rs. 4,03,641** during the last five academic year.

The Faculty Development Program, provides valuable opportunities for advanced research, enabling educators to stay abreast of the latest trends and developments in their fields. It encompasses a range of activities such as workshops, seminars, and conferences, all designed to enrich the intellectual and academic atmosphere within institutions.

Teaching and non-teaching members are encouraged to enroll for FDP course and certification course like NPTEL, Coursera, etc. They are also encouraged to participate in seminar, workshop, organize workshop in the campus.

There are total **331** Teaching and Non-Teaching staff those who have attended Faculty development Programmes (FDP), Management Development Programmes (MDPs) professional development /administrative training programs during the last five years.



## Department of Electronics and Telecommunication

For Faculty Development Program (FDP) and Certification tailored to Electronics and Telecommunications Engineering, focusing on topics that address both current technological advancements and pedagogical strategies can be highly beneficial. Here is some relevant topic undertaken by faculty. These topics aim to provide a comprehensive overview of current trends and pedagogical strategies relevant to Electronics and Telecommunications Engineering, helping faculty stay updated and enhance their teaching methods

1. **5G and Beyond: Impact on Telecommunications Education:** Understanding the latest developments in 5G technology, its applications, and how to integrate these advancements into the curriculum.
2. **Emerging Trends in Electronics and Telecommunications:** Exploring cutting-edge technologies such as IoT, smart grids, and edge computing, and their implications for electronics and telecommunications education.
3. **Hands-On Labs and Simulations in Electronics Education:** Designing and implementing effective hands-on labs and simulation exercises to enhance practical skills and understanding in electronics.
4. **Cybersecurity in Electronics and Telecommunications:** Addressing the latest threats and best practices for ensuring security in electronic systems and telecommunications networks.
5. **Advanced Communication Protocols and Standards:** Deep dive into current and emerging communication protocols, including their design, implementation, and relevance to modern telecommunications systems.
6. **Design and Implementation of Low-Power Electronics:** Techniques and innovations in designing energy-efficient electronic systems, and how to incorporate this knowledge into teaching practices.
7. **Innovative Teaching Methods for Electronics and Telecommunications:** Effective strategies for teaching complex concepts in electronics and telecommunications, including flipped classrooms, active learning, and online resources.



## Department of Mechanical Engineering

For a Faculty Development Program (FDP) in Mechanical Engineering, selecting topics that address both the latest technological advancements and effective teaching strategies can greatly benefit faculty. Here are several relevant topic undertaken by faculty. These topics can help mechanical engineering faculty stay current with industry trends, improve their teaching practices, and enhance their research capabilities

1. **Advanced Manufacturing Technologies:** Exploring the latest in additive manufacturing (3D printing), subtractive manufacturing, and hybrid processes, and how to integrate these technologies into the curriculum.
2. **Industrial Internet of Things (IIoT):** Understanding how IIoT impacts mechanical systems and processes, and teaching how to implement smart systems and data analytics in manufacturing.
3. **Sustainable Engineering and Green Manufacturing:** Incorporating principles of sustainability into mechanical engineering, including eco-friendly materials, energy-efficient processes, and lifecycle analysis.
4. **Robotics and Automation in Manufacturing:** Latest advancements in robotics and automation technologies, including collaborative robots (cobots) and their applications in modern manufacturing environments.
5. **Computational Fluid Dynamics (CFD) and Simulation Techniques:** Advanced methods for CFD and other simulation techniques, and how to use these tools effectively in teaching and research.
6. **Design Thinking and Innovation in Mechanical Engineering:** Applying design thinking methodologies to problem-solving and innovation in mechanical design and engineering.
7. **Mechatronics and System Integration:** Integration of mechanical systems with electronics and software to create advanced mechatronic systems, and strategies for teaching these interdisciplinary concepts.
8. **Energy Systems and Renewable Energy Technologies:** Understanding new developments in energy systems, including renewable energy sources like wind, solar, and geothermal, and how to incorporate these into mechanical engineering education.
9. **Advanced Materials and Nanotechnology:** Exploring new materials such as smart materials, composites, and nanotechnology, and their applications in engineering design and manufacturing.
10. **Ethics and Professional Practice in Mechanical Engineering:** Discussing ethical considerations and professional practices in engineering, including regulatory compliance, safety standards, and social responsibility.
11. **Finite Element Analysis (FEA) and Structural Mechanics:** Advanced techniques in FEA for analyzing complex mechanical systems and structures, and integrating these methods into coursework and research.
12. **Industry 4.0 and Its Impact on Mechanical Engineering:** Understanding how Industry 4.0 technologies, including smart factories and digital twins, are transforming mechanical engineering and education.



13. **Thermal Systems and Heat Transfer:** Advanced topics in heat transfer, thermodynamics, and thermal systems design, including recent developments and their applications in engineering practice.
14. **Professional Development and Research Grant Writing:** Enhancing skills in securing research funding, writing grant proposals, and managing research projects in mechanical engineering.

## Department of Computer Engineering and Information Technology

For a Faculty Development Program (FDP) in Computer Engg and Information Technology (IT), selecting topics that address the latest trends in technology, pedagogical strategies, and industry needs can be highly valuable. Here are some pertinent topics undertaken by faculty. Each of these topics addresses crucial aspects of computer science and IT education, aiming to enhance faculty expertise and improve the learning experience for students.

1. **Artificial Intelligence and Machine Learning:** Exploring AI and ML technologies, their applications, and how to integrate these topics into the curriculum effectively.
2. **Cybersecurity Best Practices and Emerging Threats:** Understanding current cybersecurity threats, best practices for protecting data, and incorporating these topics into IT education.
3. **Cloud Computing and Its Applications:** An overview of cloud technologies, including SaaS, PaaS, and IaaS, and how to teach these concepts within the context of modern IT solutions.
4. **Data Science and Big Data Analytics:** Introduction to data science techniques and tools, and how to incorporate big data analytics into coursework to prepare students for industry demands.
5. **Ethics and Privacy in Technology:** Discussing the ethical implications and privacy concerns associated with technology and how to integrate these discussions into computer science and IT courses.
6. **Software Development Methodologies:** Examining modern software development practices such as Agile, DevOps, and Continuous Integration/Continuous Deployment (CI/CD) and their application in teaching.
7. **Internet of Things (IoT):** Understanding the principles and applications of IoT, and developing strategies to teach IoT concepts and practical implementations.
8. **Human-Computer Interaction (HCI):** Exploring HCI principles and their role in designing user-friendly interfaces and experiences, and how to incorporate HCI topics into the curriculum.
9. **Blockchain Technology and Its Applications:** An introduction to blockchain technology, including its applications in various domains, and how to teach blockchain concepts to students.



10. **Innovative Teaching Strategies for Computer Science and IT:** Effective teaching methods such as flipped classrooms, gamification, and project-based learning tailored for computer science and IT education.
11. **Computational Thinking and Problem-Solving Skills:** Fostering computational thinking and problem-solving skills in students, and strategies to integrate these into the curriculum.
12. **Trends in Software Engineering and Development:** Current trends in software engineering, including new programming languages, frameworks, and development tools, and how to keep the curriculum up-to-date.
13. **Virtual and Augmented Reality in IT Education:** Exploring the use of VR and AR technologies in teaching and learning, including their potential applications and benefits in IT education.
14. **Research Trends in Computer Science:** Overview of recent research trends and innovations in computer science, and how to incorporate research findings into teaching and curriculum development.



  
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