



CRITERION VII

INSTITUTIONAL VALUES AND BEST PRACTICES

7.2.1 Best practices

Best Practices – I

1. Title of the Practice

Centre for Active Research in Engineering Education (CAREE)

2. Objectives of the Practice

To promote excellence in Engineering Education Research (EER) by fostering innovative teaching, learning, and assessment practices through evidence-based pedagogical research and faculty collaboration. The Centre aims to bridge the gap between academic knowledge and practical application, thereby enhancing student learning outcomes and producing industry-ready graduates.

3. The Context

Rapid advancements in engineering education demand innovative pedagogical practices, technology-enabled learning, and continuous improvement in teaching methodologies. The institution established the Centre for Active Research in Engineering Education (CAREE) to create a dedicated platform for conducting research in engineering education, developing innovative teaching strategies, promoting outcome-based education, and enhancing faculty competency. The centre facilitates interdisciplinary collaboration and supports faculty in publishing research related to engineering education.

4. The Practice

The activities of CAREE include:

- Conducting research on innovative teaching-learning methodologies.
- Organizing faculty development programmes, workshops, and seminars on engineering education.
- Promoting Outcome-Based Education (OBE) and continuous quality improvement.
- Encouraging publication of Engineering Education Research papers in reputed journals and conferences.



- Facilitating interdisciplinary educational research projects.
- Supporting digital pedagogy, blended learning, and AI-enabled teaching practices.
- Collaborating with national and international institutions for educational research.
- Developing innovative assessment and evaluation strategies

5. Problems Encountered and Resources Required

Problems Encountered

- Limited awareness of Engineering Education Research among faculty.
- Time constraints due to academic and administrative responsibilities.
- Limited external funding opportunities for educational research.
- Difficulty in measuring the long-term impact of pedagogical innovations.

Resources Required

- Dedicated research funding.
- Access to educational research databases and software.
- Institutional collaboration with leading engineering education centres.
- Continuous faculty training and mentoring support.



Best Practices – II

1. Title of the Practice

Centre for Research and Development (CFRD)

2. Objectives of the Practice

To foster a vibrant research culture across the institution by promoting high-quality research publications, patents, consultancy, and externally funded projects. The Centre encourages interdisciplinary and industry-oriented research, establishes standardized research best practices, and supports innovation, entrepreneurship, and technology transfer for societal and industrial impact.

3. The Context

Research excellence has become a key indicator of institutional quality. To strengthen research productivity and innovation, the institution has established the Centre for Research and Development Best Practices (CRDBP). The centre provides strategic direction, mentoring, and institutional support for quality research, intellectual property generation, sponsored projects, consultancy, and collaborations with industries and research organizations.

4. The Practice

The Centre implements the following initiatives:

- Conducting research methodology and proposal writing workshops.
- Mentoring faculty members for funded research projects.
- Supporting patent filing, copyrights, and technology commercialization.
- Promoting publications in Scopus and Web of Science indexed journals.
- Facilitating consultancy and industry collaborations.
- Establishing research groups and Centres of Excellence.
- Organizing innovation challenges, hackathons, and research conclaves.
- Monitoring departmental research performance through periodic reviews.



Learn Beyond

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5. Problems Encountered and Resources Required

Problems Encountered

- Limited availability of competitive research funding.
- Balancing teaching responsibilities with research activities.
- Challenges in interdisciplinary collaboration.
- High publication costs and patent processing expenses.

Resources Required

- Enhanced research infrastructure and laboratory facilities.
- Dedicated institutional research funding.
- Advanced software and database subscriptions.
- Stronger industry partnerships and international collaborations.
- Continuous training programmes on emerging research trends.