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AIM
The research and development is transforming the computing paradigms and technology in multidimensional directions. Tech Tonics aims to inculcate research culture among post graduate students and make them aware of new innovations happenings in the field of information technology.

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TECH TONICS
TIMSCDR Research Journal

Volume 12
Academic Year: 2020-2021

Vision

Thakur Institute of Management Studies, Career Development & Research will become a premier institute renowned internationally for providing education in software application to graduates from various disciplines.

Mission

To achieve excellence in providing software education so that students can grasp existing as well as emerging technologies and to inculcate leadership and managerial qualities in them so that they can deliver results in the organization they join.

Quality Policy

We, the staff, faculty and management of Thakur Institute of Management Studies, Career Development and Research are committed to offer excellence in software education, conducive academic environment, and state of-the-art infrastructure to our students.

We work as a team and interact with students in pro-active manner to achieve our Quality Objectives and fulfill all academic, statutory, and regulatory requirements to entire satisfaction of our students as well as for continual improvement of QMS.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO-1 : To enable students to gain knowledge across all domains of Information Technology with in-depth understanding of their applications.

PEO-2 : To enable students to analyze problems and to design and develop software solutions using emerging tools and technologies.

PEO-3 : To enable students to continue Life-long learning, Research and Entrepreneurial pursuit in their chosen fields.

PEO-4 : To develop communication, teamwork, and leadership skills necessary to manage multidisciplinary projects and serve the society as responsible and ethical software professionals.

PROGRAM OUTCOMES (POs)

1. **Computational Knowledge -** Apply domain specific knowledge of computing and mathematics for designing of software solutions for defined problems and requirements.

2. **Problem Analysis -** Understand and analyze a problem and suggest feasible solutions.

3. **Design/ Development of Solution -** Design, evaluate, and develop effective solutions for complex computing problems to meet desired needs.

4. **Conduct investigation of complex computing problems -** Design and conduct experiments and use research-based methods to investigate complex computing problems.

5   **Modern tools usage -** Use appropriate techniques and software tools for computing activities.

6. **Professional Ethics -** Understand and commit to professional norms, regulations and ethics.

7. **Lifelong Learning -** Recognize the need for and have the ability to engage in independent learning for continual professional development.

8. **Project management and finance -** Understand and apply project management principles, as a member or leader in multidisciplinary environments.

9. **Communication Efficacy -** Effectively communicate technical information, both oral and written with range of audience.

10. **Societal & Environmental Concern -** Analyze societal, environmental, cultural, and legal issues within local and global contexts when providing software solutions.

11. **Individual and Teamwork -** Work as a member or leader in diverse teams in multidisciplinary environments.

12. **Innovation and Entrepreneurship -** Use Innovation and Entrepreneurship for creation of value and wealth.

Editorial

The twelfth volume of the Research Journal, Tech Tonics – TIMSCDR Research Journal is a compilation of scholarly research papers and articles written by students of MCA (Master of Computer Applications) course of TIMSCDR. The contents of the research papers and articles of this edition pertain to the application of Information Technology in the domains of Agriculture and Medicine.

The Journal showcases the research endeavors of Post Graduate level students on sustainability in general and how it is managed in the domains of Agriculture and Medicine in specific. In the Agriculture domain, sustainable agriculture involves taking care of the soil and water resources and using Agro and Information Technology tools and techniques to enhance the produce without damaging the environment. Similarly, in the Medical domain, various protocols, applications, and tools have revolutionized Healthcare towards a more sustainable provision to meet the needs of people from every sector. IT has played a pivotal role in making Healthcare sustainable. Right from the provision Electronic Health Records to the facility of e-Consultations and use of AI and Robotics in medical case analysis and surgery respectively, IT has taken a giant leap to ensure sustainability in Healthcare.

To ensure originality of the research work, the research papers and articles were thoroughly checked for plagiarism and then selected for publication. The students got an opportunity to understand the relevance of standard research work through this academic exercise.

The twelfth edition of Tech Tonics, Research Journal is a modest effort to encourage the young, enthusiastic and resourceful minds of the students to do research using latest techniques, and innovate and pen down emerging ideas in the field of Information Technology and its diverse Applications.

Editor
Dr. Vinita Gaikwad
Director, TIMSCDR

ABOUT THE INSTITUTE

Thakur Institute of Management Studies, Career Development & Research (TIMSCDR) was established under the aegis of Thakur Educational Trust (TET)in the year 2001 with a clear objective of providing quality technical education in tune with international standards and contemporary global requirements, offering 2 years postgraduate degree in Master of Computer Applications (MCA). The Institute is approved by the Government of Maharashtra, AICTE and is affiliated to the University of Mumbai.

The Management's commitment to excellence is reflected in the marvellous infrastructure that is comparable to the finest institution of its type in the country. The sprawling campus with lawns, gardens, playgrounds, parking area, and hostel accommodation ensures a right academic ambience essential for centre of higher education.

At TIMSCDR, the importance of faculty is well understood which is reflected in qualified and experienced teaching staff. A closely monitored quality, assurance mechanism ensures proper coverage of syllabus within right time frame.

Application of modern technology in teaching-learning process and day to day governance of the Institute makes TIMSCDR unique. The Institute has dedicated 50 Mbps broadband internet connectivity and also has WI-FI facility. Residence-cum-study facility is available for boys and girls in secured modern Hostel Buildings with green, clean and healthy ambience situated near the Institute.

The Institute focuses on imparting knowledge to the students that persists even when they pass out and step into the corporate world. The syllabus has been given a new dimension through experienced faculty and state of the art infrastructure. The overall personality development through extracurricular activities arranged by Students Council, Entrepreneur Cell and DLLE etc few have been a hallmark of the Institute.

Thakur Educational Trust's (Regd.)

THAKUR INSTITUTE OF MANAGEMENT STUDIES, CAREER DEVELOPMENT & RESEARCH

(Approved by AICTE, Govt. of Maharashtra & Affiliated to University of Mumbai)

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