IT COMPENDIUM

DEPARTMENT OF INFORMATION TECHNOLOGY

JANUARY-MARCH ISSUE | 2025

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Unleashing Potential, Transforming Futures

INSIDE THIS ISSUE

CHIEF EDITOR:-

Dr. Pratistha Mathur, HOD of Information Technology

FACULTY EDITOR:-

Dr. Shweta Sharma, Department of Information Technology

STUDENT EDITOR:-

Yash Kamra, 3rd Year
Swayam Bansal, 2nd Year
Aanya Katiyar, 2nd Year
Aditya Saini, 2nd Year

MESSAGES

MESSAGE BY ASSOCIATE DEAN

Dear Readers,

The Department of Information Technology at Manipal University Jaipur continues to evolve as a hub of academic excellence, innovation, and industry alignment.

Since its inception in 2012, the Department has grown into a thriving ecosystem—home to state-of-the-art laboratories, a future-ready curriculum, and a distinguished faculty dedicated to academic excellence, innovation, and impactful research.

Our programs are thoughtfully designed to equip students with both foundational and advanced computing knowledge. From mastering basic concepts to creatively solving real-world problems through research and innovation, we aim to empower our students to become industry- and society-ready professionals. Beyond technical competence, we strive to ignite curiosity, nurture creativity, and cultivate a research-driven mindset.

This newsletter marks a new chapter in our journey—a platform to celebrate our achievements, share insights, and reflect the vibrant spirit of our department.

I warmly invite you to explore, engage, and be inspired.

Prof. (Dr.) C. S. Lamba
Associate Dean,
School of Computer Science and Engineering

MESSAGE BY HOD

Think beyond theoretical frameworks- our world-class industry ties open doors to real-world challenges and opportunities. Through Value-Added Courses, MOOCs, Workshops, and Industrial Visits, you'll test your mettle, hone your skills, and network with the pioneers shaping the digital landscape. Our mission is your success. We support, guide, and empower you every step of the way as you craft your unique code in the symphony of the digital revolution. This isn't just a department; it's a launchpad, a community, and your home in the heart of the IT revolution. Join us, innovators, dreamers, and builders. Let's rewrite the very definition of an IT professional, together. Welcome to the Department of Information Technology at Manipal University Jaipur. Welcome to your future.

Prof. Pratistha Mathur
HoD, Department of IT

Department of IT – Manipal University Jaipur

Established in 2012, the Department of Information Technology at Manipal University Jaipur is committed to bridging the gap between academia and industry. We offer a cutting-edge curriculum designed to equip students with the latest technical knowledge and industry-relevant skills.

Our department prepares students for the evolving global IT landscape by fostering innovation, research, and hands-on learning. With state-of-the-art computing facilities, we provide a comprehensive curriculum covering fundamental programming languages to advanced domains such as Machine Learning, Cloud Computing, Networking, Image Processing, Android Development, and the Internet of Things (IoT).

Designed to meet industry demands, our curriculum emphasizes practical applications and real-world problem-solving. We actively collaborate with leading industries in areas like Computer Networking, Data Mining, Big Data Analytics, Computer Vision, Cloud Computing, and Cybersecurity. Additionally, the department maintains strong affiliations with prestigious research communities, including IEEE, CSI, ACM, and NVIDIA, ensuring students stay at the forefront of technological advancements.

Through a blend of academic excellence, industry partnerships, and research opportunities, the Department of IT empowers students to thrive in the ever-evolving world of technology.

VISION

To achieve global excellence in higher education, research and human development by adapting innovations in IT domain.

MISSION

To become the most inspirational department among the students and engineering aspirants who want to pursue their career in the field of Information Technology.

To foster academic, research, and professional excellence within the domain of Information Technology.

To transform young minds into competent IT professionals imbibing strong moral values.

FACULTY OF IT

Program Educational Objective (PEO)

- To Imbibe the inquisitive practices in students to have thrust for innovation and excellence that leads to use research-based knowledge and research methods.
- To foster world-leading technological innovation to support teaching and learning, research and outreach.
- To support the students to acquire various knowledges and ski ls and nurture constructive attitude and behaviour.
- Promoting the development of resilience, determination, confidence, and creative and critical thinking among students.
- To support students to ensemble easily in integrated environment of learning and pragmatic implementation of concepts.

LIST OF FACULTIES

Dr. Ankit Mundra
Mr. Anurag Bhatnagar
Dr. Anju Yadav
Dr. Ashish Jain
Dr. Avani Sharma
Dr. Bagesh Kumar
Mr. Chandrapal Singh Dangi
Dr. Debolina Ghosh
Dr. Devesh Kumar Srivastava
Dr. Ganpat Singh Chauhan
Dr. Kavita
Dr. Krishna Kumar
Dr. Krati Dubey

Dr. Lokesh Sharma
Dr. Narendra Singh Yadav
Ms. Nandani Sharma
Dr. Nirmal Kumar Gupta
Dr. Nripendra Narayan Das
Dr. Pankaj Vyas
Dr. Prakash Chandra Sharma
Dr. Pratistha Mathur
Dr. Rahul Saxena
Mr. Ravinder Kumar
Mr. Ravindra Saini
Ms. Rashmi Bartwal
Mr. Rohit Kumar Gupta

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Dr. Shalini Puri
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Dr. Shweta Sharma
Dr. Smaranika Mohapatra
Ms. Suman Saurabh Sarkar
Dr. Sulabh Bansal
Dr. Sumit Srivastava
Dr. Varsha Himthani
Ms. Vineeta Soni
Mr. Venkatesh Gauri Shankar
Dr. Vivek Kumar Verma
Mr. Vijay Prakash Sharma
Mr. Virender Dehru
Mr. Yogender Sharma

FACULTY ACHIEVEMENTS

DEPARTMENT OF INFORMATION TECHNOLOGY
RESEARCH DATA

Department of Information Technology – Research Highlights
Faculty of Engineering | School of CSE (CSE & IT)
*Reporting Period: **January 1 – March 31, 2025***

The Department of Information Technology at Manipal University Jaipur has shown commendable scholarly productivity and innovation in the first quarter of 2025. Our faculty and researchers have actively contributed to advancing knowledge through high-quality publications and intellectual property filings

Research Publications

During this period, the department produced a total of **38 research publications**. This includes:

- **4 Q1 journal publications**, reflecting impactful and high-ranking contributions.
- **1 Q2 publication, 5 in Q3,** and **3 in Q4,** indicating consistent engagement across recognized journals.
- Additionally, **14 publications** were contributed to **Scopus-indexed book chapters and conference proceedings,** strengthening the department's presence in academic and research communities.

Innovation & Intellectual Property

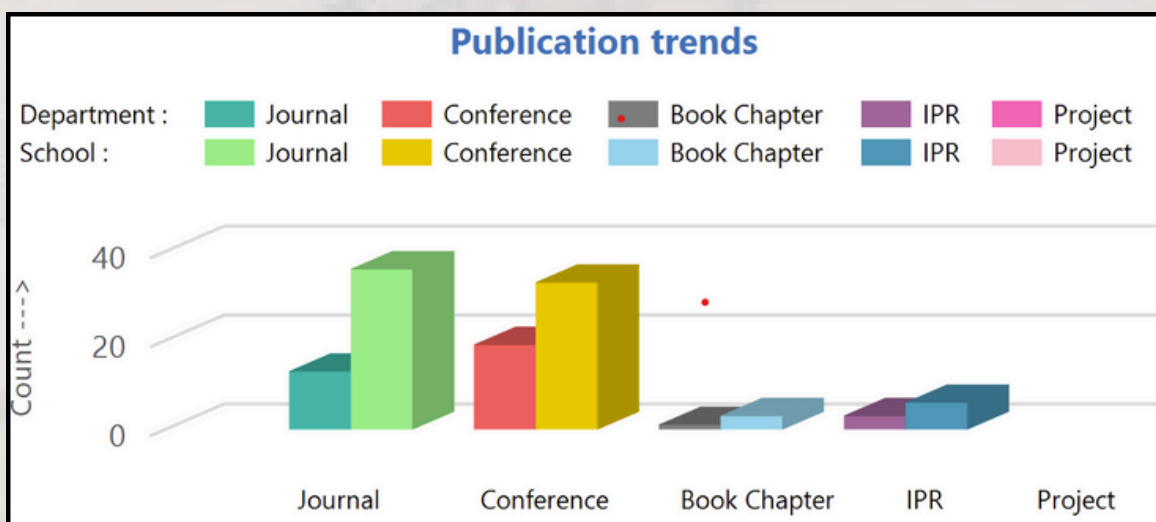**I**nnovation remains a core focus for the department. In this quarter, faculty members achieved:
- 2 patent publications
- 1 patent filing

These IPR activities reflect our ongoing efforts to transform academic research into real-world applications and solutions.

Publication trends

Department : Journal Conference Book Chapter IPR Project
School : Journal Conference Book Chapter IPR Project

Count ---> 40 20 0

Journal Conference Book Chapter IPR Project

STUDENT ACHIVEMENTS
DEPARTMENT OF INFORMATION TECHNOLOGY

ACADEMIC FIELD
Vardaan Mahajan

Vardaan published his first research paper on developing an autonomous self-driving car using LiDAR technology. His work aims to reduce the 94% of road accidents caused by human error by enhancing safety and efficiency. The research envisions a future where autonomous vehicles revolutionize mobility across sectors—from taxis and public transport to agriculture and exploration
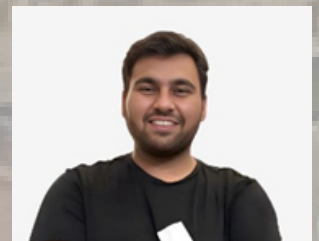
EXTRA-CURRICULAR

Yashvi Solanki

Yashvi led the basketball team to 1st place at the Manipal University Sports Fest 2024 (March 5–7) and secured 2nd place at the Apex University Annual Sports Fest

Parth Powal

Founder of The Waiter Company, Parth represented his startup at the Innovation Mela, MIT Manipal, during the Entrepreneurship Summit 2025. His startup ranked among the Top 100 in the SBI College Youth Ideathon 2025, a joint initiative by IIT Delhi, MEPSC, and ThinkStartup. He also represented our university in the final round at IIT Delhi on April 5–6.

Swatantra Chaudary & Moharil Sahil Sanjay

Co-founders of MUJTOPPERS, a growing platform providing a one-stop solution for MUJ students—offering PYQs, notes, food ordering, internship guidance, and startup support. With a user base of 4,000+ students, they've enhanced academic performance and junior-senior mentorship.

LegalEase - LegalTech Startup
Yash Kamra, Tanya Goyanka, Prateek Singh & Sana Singh

The team's startup LegalEase, an AI-powered legal-tech tool, secured *3rd place at Startup Conclave 2025,* held at Jaipuria College, Jaipur. Among 160+ nationwide startups, LegalEase stood out for simplifying legal research and case management. It is currently pre-incubated at the Atal Incubation Centre, MUJ.

DEPARTMENT ORGANIZED EVENTS

BUILD TO LEARN, SOLVE TO MASTER: CRAFTING YOUR CAREER BY SOLVING REAL-WORLD PROBLEMS

Industry Lecture:-

The Department of Information Technology at Manipal University Jaipur organized an expert industry lecture on "Build to Learn, Solve to Master: Crafting Your Career by Solving Real-World Problems" on 17th February 2025. The session was aimed at bridging the gap between academic learning and real-world problem-solving with a focus on the animation, VFX, and software development industries.

Objective:
1. .*Educate students about the VFX and animation production pipeline and the pivotal role of pipeline developers.*
2. *Emphasize project-based learning and practical problem-solving as essential tools for skill-building and career development.*
3. *Introduce industry-standard tools such as Katana by Foundry, Selenium, and automation workflows.*
4. *SDG Mapping: SDG 4 (Quality Education) – Encouraging practical, hands-on learning and skill development.*

SPEAKER

1. *Mr. Sukrit Sachdeva (Deployment Engineer, Foundry, UK):*
2. *A seasoned expert in VFX pipeline development, AR/VR, cloud workflows, and automation, Mr. Sachdeva brought in-depth insights from his work with global production studios.*

EVENT SEGMENTS

Interactive Talk (2 Hours):
1. *Explained the complexities of the VFX pipeline and the importance of expression linking and automation for production efficiency.*
2. *Demonstrated tools like Katana and Selenium used by major studios to streamline workflows.*

IMPACT

1. *The session enriched students' understanding of how problem-solving can lead to skill mastery and career success.*
2. *Faculty members gained insights to incorporate more application-oriented teaching methods.*

EY WOMEN IN TECHNOLOGY

The Department of Information Technology at Manipal University Jaipur, in collaboration with the Directorate of Corporate Relations and Placements, organized an industry lecture titled "EY Women in Technology" on 20th February 2025. The event served as an empowering platform for female students to explore technology-driven career paths and understand EY's initiatives in fostering an inclusive workplace.

OBJECTIVE:

1. Inspire female students to pursue careers in technology.
2. Showcase EY's gender equality efforts and supportive workplace environment.
3. Introduce Gen Z students to emerging tech trends and relevant skills.
4. SDG Mapping: SDG 5 (Gender Equality) – Promoting equal opportunities for women in the technology sector.

SPEAKER:

1. **Ms. Alamelu B Ganesh (Partner, Technology Consulting, EY India):**
Shared insights on career building, leadership and EY's inclusive work culture.

2. **Dr. Rajesh US (Asst. Director, University Relations & Recruiting, EY India):**
Highlighted recruitment practices and initiatives aimed at empowering women in tech.

EVENT SEGEMENTS:

Keynote and Interaction (2 Hours):
1. *Discussed EY's programs supporting women, including maternity benefits, family support, and flexible work arrangements.*
2. *Addressed the evolving role of Gen Z in technology and the skills required for success in today's fast-changing tech landscape.*
3. *Encouraged active dialogue through a Q&A session, allowing students to gain direct insights from industry leaders.*

IMPACT:

1. *The event empowered female students with confidence and clarity about career prospects in tech.*
2. *Highlighted Manipal University Jaipur's dedication to creating opportunities for women in traditionally male-dominated fields.*
3. *Contributed to SDG 5 (Gender Equality) by actively promoting female participation in the tech workforce.*

HPC WITH DEEP LEARNING

The Department of Information Technology at Manipal University Jaipur, in collaboration with NVIDIA DLI, organized a hands-on workshop titled "HPC with Deep Learning" on 20th–21st March 2025.

The two-day intensive session immersed students, research scholars, and faculty in practical AI model development using high-performance computing resources.

Key Highlights

Objective:

- *Introduce foundational and advanced concepts of deep learning in HPC environments.*
- *Provide hands-on experience training computer-vision and NLP models.*
- *Demonstrate the use of pre-trained networks, transfer learning, and recurrent neural networks (RNNs).*
- *Guide participants through a complete object-classification project.*
- *SDG Mapping: SDG 4 (Quality Education) – Enhancing technical education through practical, industry-relevant training.*

Event Segments (20 hours total):

- Environment Setup & Toolchain (4 hrs): Installing CUDA, TensorFlow/PyTorch, and configuring GPU clusters.
- Deep Learning Fundamentals (3 hrs): Neural-network architectures, backpropagation, and optimization techniques.
- Computer Vision Module (4 hrs): Image classification, transfer learning with pre-trained CNNs.
- NLP Module (3 hrs): Text preprocessing, RNNs/LSTMs for sequence modeling.
- Guided Project (6 hrs): End-to-end object-classification project—from data loading to model evaluation.

BENEFICIARIES:

- **Students:** *Gained applied skills in AI and HPC, boosting employability.*
- **Research Scholars:** *Learned to leverage HPC for advanced model training in their research.*
- **Faculty:** *Updated curricular and research methods with cutting-edge deep-learning workflows.*

SPEAKER:

Dr. Gaurav Singal

Assistant Professor, Netaji Subhas University of Technology; NVIDIA Deep Learning Certified Instructor and Ambassador.

IMPACT:

- *Participants completed a real-world classification project, applying HPC to accelerate model training.*
- *Attendees received NVIDIA Instructor-Certified Certificates, validating their hands-on deep-learning expertise.*
- *The workshop strengthened MUJ's AI ecosystem, inspiring further research and innovation in HPC-backed machine learning*

CLUB
ORGANIZED EVENTS

LEARN IT

LearnIT is one of the founding clubs established at the start of Manipal University Jaipur under the Department of Information Technology. Since its inception, LearnIT has become a cornerstone of collaboration, innovation, and technical excellence at MUJ. The club has organized numerous hackathons and codeathons that have attracted thousands of participants from across India. In addition to competitive events, LearnIT has hosted a wide range of workshops and industry talks focused on the IT sector and emerging technological advancements, fostering a culture of continuous learning and industry engagement.

CODE2SURVIVE

- LearnIT with IEEE AESS, in collaboration with the Directorate of Students' Welfare and Oneiros 2025, organized a high-energy technical gaming competition titled "Code2Survive" on 19th February 2025. Inspired by the survival-style challenges of Squid Game, the event was curated to test coding, analytical, and logical problem-solving skills under pressure in a thrilling, competitive format.

OBJECTIVE

- Challenge students with real-time technical games to enhance coding proficiency.
- Foster competitive learning and decision-making under pressure.
- Recognize emerging tech talent and boost engagement through gamification.

SDG Mapping:
- SDG 4: Quality Education – Encouraging hands-on learning and skill development.
- SDG 8: Decent Work & Economic Growth – Preparing students for dynamic job roles.
- SDG 9: Industry, Innovation, and Infrastructure – Identifying top talent for future innovation.

FEB 19, 2025

EVENT FORMAT

- Physical Mode: Held on campus as part of Oneiros 2025.
- Featured tech games included:
- Hexa-Bingo (binary challenges)
- Debug Dash (code debugging)
- Cipher Crack (message decryption)
- Pixel Art Relay (visual logic puzzles)
- Password Royale (final round with layered challenges)

IMPACT

- The event drew enthusiastic participation from across Manipal University Jaipur.
- It blended technical learning with high-stakes excitement, making skill-building fun and memorable.
- Participants walked away with stronger coding fundamentals, improved strategic thinking, and a boost in confidence.
- The competition successfully nurtured a culture of problem-solving and innovation among students.

CODE-ॐ-MANIPAL

LearnIT Club, in collaboration with the Department of Information Technology, Geek Room, and the Directorate of Students' Welfare, hosted the highly anticipated 36-hour hackathon "CODE-ॐ-MANIPAL" on 21st–22nd March 2025 at Manipal University Jaipur. This dynamic, in-person event served as a competitive yet collaborative space where budding technologists showcased their innovation, coding acumen, and entrepreneurial thinking.

OBJECTIVE

- Promote open innovation by solving real-world challenges.
- Foster team collaboration, mentorship, and hands-on experience.
- Bridge the gap between academic learning and industry readiness.

SDG Mapping:
- SDG 4: Quality Education – Practical and mentorship-driven learning.
- SDG 8: Decent Work & Economic Growth – Career-oriented skill development.
- SDG 9: Industry, Innovation, and Infrastructure – Tech-based problem solving and innovation

Themes Explored:
- Cyber Security
- Blockchain & Web3
- AI/ML and IoT
- Open Innovation

EVENT FLOW

- *Day 1 began with an opening ceremony introducing hackathon themes and objectives.*
- *Two mentorship rounds with industry experts guided participants through ideation and development.*
- *The final presentation round evaluated projects on innovation, feasibility, and impact.*

Prize Pool:
Total: ₹30,000
🥇 **₹13,000 (1st Prize)- Team Accers**
🥈 **₹10,000 (2nd Prize)- Team Skyify**
🥉 **₹7,000 (3rd Prize)- Team bug.debug**
Perks: Swags, goodies, internships, job opportunities, and certificates for all.

IMPACT

- *CODE-ॐ-MANIPAL attracted participants from both MUJ and external institutes, creating a diverse and energetic atmosphere.*
- *The hackathon not only tested coding and teamwork but also encouraged creative tech entrepreneurship.*
- *The event concluded with an inspiring talk by the Geek Room team on future trends in tech innovation and startup culture.*

TEAM IT

As we wrap up the first quarter of the year, it's inspiring to reflect on the remarkable achievements, vibrant events, and collaborative spirit that defined the past three months. From academic excellence and innovative projects to cultural celebrations and community engagement, each milestone showcases the dedication and enthusiasm of our students, faculty, and staff. Let's carry this momentum forward, embracing new challenges and opportunities with the same passion and purpose. Here's to a productive and impactful year ahead!