



Sustainability Development Report (2023-24)

SDG 8: Decent Work and Economic Growth



Executive Summary

The Institute of Engineering and Management (IEM), Kolkata, demonstrated significant achievements aligned with SDG 8: Decent Work and Economic Growth during the 2023-24 academic year. The institute successfully placed 905 students with an average salary package of Rs. 6.51 LPA, while supporting 198 startups through 14 dedicated Innovation and Entrepreneurship Development Centres. Research output was robust, with 1220 publications and 112 patents filed, supported by Rs. 289.5 lakhs in seed funding. Strategic collaborations via 25 MoUs facilitated over 2,800 joint academic and industry activities, and nearly 5,000 students gained practical exposure through internships. Additionally, over 3,200 students received entrepreneurship education through credit-based courses, workshops, and mentorship. These initiatives collectively underscore IEM's commitment to fostering employability, innovation, and sustainable economic growth within the academic community and beyond.

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Overview and context

The report highlights IEM Kolkata's strong focus on fostering economic growth and entrepreneurship during the 2023-24 academic year. Key achievements include placement of 905 students with an average package of Rs. 6.51 LPA, establishment of 198 startups under four Innovation and Entrepreneurship Development Centres, and publication of 1220 research papers alongside 112 patents. Strategic collaborations via 25 MoUs enabled 2,809 joint activities including internships for 4,948 students. Entrepreneurship education reached over 3,200 students through credit-based courses and workshops. These initiatives underscore IEM's commitment to advancing decent work and economic growth, aligned with SDG 8 goals.

Core Mandate

Promote productive employment through quality education, skill development, and industry linkages while nurturing innovation and entrepreneurship.

Annual Targets

- Achieve 90% placement rate with competitive salary packages
- Support 198+ startups through incubation facilities
- Generate 1220+ research publications and 112+ patents
- Establish 30+ active industry collaborations
- Provide internships to 5,000+ students annually

Key Initiatives and Programs

Employment Generation and Career Development

Campus Placement Activities

The Training and Placement Cell orchestrated comprehensive recruitment drives throughout 2023-24, resulting in 905 students securing employment across diverse sectors. The placement process involved:

- Pre-placement training programs focusing on technical skills, soft skills, and aptitude enhancement
- On-campus recruitment drives with participation from 200+ companies
- Virtual interview facilitation for national and international recruiters

• Sector-specific placement initiatives in IT, core engineering, management, and emerging technology domains

Placement Statistics

• Total students placed: 905

• Average salary package: Rs. 6.51 lakhs per annum

• Highest salary package: Rs. 45 lakhs per annum

• Students progressing to higher education: 155

• Overall career progression rate: 94.3%

Career Counseling and Guidance

The institution provided structured career counseling to 12,422 students through individual sessions, group workshops, and online platforms. Services included:

- · Career pathway assessment and planning
- Resume building and interview preparation
- Industry mentorship programs
- Psychometric testing and aptitude analysis
- Alumni networking for career guidance

Employability Enhancement Programs

A total of 633 courses focused on employability skills were integrated into the curriculum, covering:

- Technical certifications in emerging technologies (AI, ML, Cloud Computing, IoT, Blockchain)
- Professional skill development (communication, leadership, project management)
- Domain-specific training aligned with industry requirements
- Entrepreneurship and innovation modules
- Sustainability and ethical business practices

Entrepreneurship Development and Innovation Ecosystem

Startup Incubation and Support

The entrepreneurship ecosystem at IEM flourished with 198 new startups registered during 2023-24, supported by comprehensive incubation infrastructure:

- 14 Innovation and Entrepreneurship Development Centres (IEDCs) providing mentorship, infrastructure, and funding support
- 23 Centers of Excellence and Specialized Laboratories offering advanced technical facilities
- Seed funding allocation of Rs. 289.5 lakhs distributed across promising ventures
- Business incubation support including legal, financial, and marketing guidance
- Networking opportunities with investors, industry experts, and successful entrepreneurs

Startup Sectors:

- Technology and software development: 74 startups
- Engineering solutions and manufacturing: 41 startups
- Healthcare and biotechnology: 24 startups
- Sustainable energy and environment: 28 startups
- Education technology and social innovation: 31 startups

Innovation Challenges and Competitions

The institution organized and participated in numerous innovation challenges:

- Smart India Hackathon with 450+ student participants
- Internal innovation competitions with Rs. 15 lakhs in prize money
- Industry-sponsored problem-solving challenges
- National and international startup competitions
- Technology demonstration events and expo participation

Entrepreneurship Training Programs

Structured entrepreneurship education was delivered to 3,200+ students through:

- Credit-based entrepreneurship courses integrated into curriculum
- Workshops on business model development, pitch preparation, and fundraising
- Guest lectures by successful entrepreneurs and industry leaders
- Entrepreneurship boot camps and ideation sessions
- Mentorship programs connecting student entrepreneurs with industry veterans

Research Excellence and Innovation Output

Research Publications and Scholarly Output

Faculty and students collectively published 1625 research papers in peer-reviewed journals and conference proceedings during 2023-24:

- SCI/SCOPUS indexed journal publications: 1220
- National and international conference papers: 278
- Research spanning engineering, technology, management, and applied sciences
- Collaborative publications with industry and international institutions: 127
- Citations impact factor demonstrating global research visibility

Research Focus Areas:

- Artificial Intelligence and Machine Learning
- Sustainable Energy and Renewable Technologies
- Advanced Materials and Nanotechnology
- IoT, Robotics, and Automation
- Healthcare Engineering and Biotechnology
- Smart Cities and Infrastructure Development

Intellectual Property and Patents

The institution filed 112 patents during the reporting period, reflecting innovation in:

- Novel engineering solutions and process innovations
- Technology products with commercial potential
- Sustainable development technologies
- Healthcare devices and diagnostic tools
- Smart systems and automation technologies

Research Funding and Sponsored Projects

Research activities were supported through:

- Seed funding: Rs. 289.5 lakhs allocated to 75 projects
- External research grants from government agencies and industry
- Consultancy projects generating revenue and knowledge exchange

- Collaborative research initiatives with national laboratories
- Infrastructure enhancement for research facilities

Industry Collaboration and Partnerships

Memoranda of Understanding (MoUs)

IEM maintained 25 functional MoUs with leading organizations across sectors:

- Information Technology and Software: TCS, Infosys, Cognizant, Wipro
- Manufacturing and Engineering: L&T, BHEL, SAIL, Tata Steel
- Emerging Technologies: IBM, Microsoft, Amazon Web Services, Google
- Research Institutions: CSIR Labs, DRDO, IITs, NITs
- International Universities for academic exchange and joint research

Collaborative Activities

The 25 active MoUs facilitated 2,809 collaborative activities including:

- Joint research projects and technology development initiatives
- Guest lectures and expert sessions by industry professionals (450+ sessions)
- Curriculum co-development aligned with industry requirements
- Faculty exchange programs for skill upgradation (78 faculty members)
- Joint workshops, seminars, and technical symposia (125 events)
- Industry-sponsored laboratories and Centers of Excellence

Internship and Industrial Training

A total of 4,948 students participated in structured internship programs during 2023-24:

- Summer internships (6-8 weeks): 3,420 students
- Semester-long industrial training: 1,125 students
- Project-based industry collaboration: 403 students
- Internship sectors: IT (45%), Core Engineering (28%), Management (15%), Emerging Tech (12%)
- Internship-to-employment conversion rate: 22%

Benefits of Internship Programs:

- Practical exposure to real-world engineering challenges
- Skill development aligned with industry expectations
- Networking opportunities and professional relationship building
- Enhanced employability and placement prospects
- Industry problem-solving experience

Consultancy and Knowledge Transfer

Faculty members engaged in consultancy projects providing:

- Technical solutions to industry problems
- Technology transfer and commercialization support
- Training and capacity building for industry personnel
- Revenue generation supporting research infrastructure
- Real-world problem integration into academic research

Faculty Development and Professional Growth

Conference Participation and Scholarly Exchange

The institution supported 329 teachers attended national and international conferences:

- International conferences: 142 faculty members
- National conferences and symposia: 187 faculty members
- Financial support for registration, travel, and accommodation
- Paper presentation and publication support
- Networking opportunities with global research community

Fellowships and Recognition

A total of 103 teachers were awarded fellowships and recognitions:

- Research fellowships from UGC, AICTE, DST, and other agencies
- Teaching excellence awards and recognitions
- Best paper awards at conferences
- Professional society memberships and leadership positions

• Visiting faculty positions at national and international institutions

Skill Enhancement and Training

Faculty development programs focused on:

- Pedagogy workshops for innovative teaching methodologies
- Technical skill upgradation in emerging technologies
- Research methodology and grant writing workshops
- Leadership and administrative capability development
- Industry immersion programs for practical exposure

Skill Development and Vocational Training

Value-Added Courses and Certifications

Students participated in 633 employability-focused courses covering:

- Industry-relevant technical certifications (Cisco, Microsoft, Oracle, AWS, Google)
- Programming languages and software tools
- Data science, machine learning, and artificial intelligence
- Digital marketing, financial analysis, and business analytics
- Soft skills, communication, and professional development

Workshops and Hands-On Training

Practical skill development through:

- Technical workshops on advanced tools and technologies (250+ workshops)
- Hackathons and coding competitions
- Design thinking and innovation workshops
- Project-based learning initiatives
- Industry expert-led masterclasses

Community Skill Development Programs

Extension activities reached beyond campus to benefit local communities:

- Vocational training programs for youth in underprivileged areas
- Digital literacy initiatives for rural populations

- Entrepreneurship awareness programs
- Technical skill training for unemployed youth
- Women empowerment through skill development

Infrastructure for Economic Growth

Innovation and Incubation Infrastructure

Physical infrastructure supporting entrepreneurship and innovation:

- 14 fully equipped Innovation and Entrepreneurship Development Centres
- 23 Centers of Excellence with advanced research facilities
- Co-working spaces and startup incubation areas
- Prototyping labs with 3D printing, CNC machines, and testing equipment
- Digital infrastructure for virtual collaboration and remote working

Research and Development Facilities

Advanced laboratories supporting cutting-edge research:

- Specialized research labs across engineering disciplines
- Central instrumentation facility with sophisticated equipment
- Computing infrastructure with high-performance servers and cloud resources
- Testing and characterization facilities
- Library resources with digital subscriptions to journals and databases

Digital Infrastructure for Employment

Technology-enabled platforms supporting career development:

- Online placement portal connecting students with recruiters
- Learning management systems for skill development courses
- Virtual interview and assessment platforms
- Career counseling and mentorship platforms
- Alumni networking portals for job referrals

Sustainable and Inclusive Economic Practices

Gender Inclusion in Employment

Promoting gender equality in workforce participation:

- Equal opportunity employment support for women students
- Women-focused entrepreneurship programs and mentorship
- Gender-sensitive placement practices
- Support systems for work-life balance and professional growth
- Anti-discrimination policies and grievance redressal mechanisms

Support for Students from Disadvantaged Backgrounds

Economic inclusion initiatives:

- Targeted career counseling for first-generation learners
- Financial support for skill development courses
- Mentorship programs connecting disadvantaged students with successful professionals
- Reserved seats in entrepreneurship programs
- Placement assistance for economically weaker sections

Environmental Sustainability in Economic Activities

Integration of sustainability principles:

- Green technology startups promoted through incubation centers
- Research focus on sustainable development solutions
- Energy-efficient infrastructure reducing operational costs
- Circular economy principles in campus operations
- Sustainability awareness integrated into entrepreneurship training

Partnerships and Collaborations

Academic Partnerships

IEM collaborated with leading academic institutions:

- Joint research programs with IITs, NITs, and CSIR laboratories
- International university partnerships for student and faculty exchange
- Collaborative degree programs and credit transfer arrangements
- Shared research infrastructure and facilities

• Joint publication and intellectual property development

Industry Partnerships

Strategic alliances with industry leaders:

- TCS, Infosys, Cognizant, Wipro for IT sector collaboration
- L&T, BHEL, Tata Steel for core engineering partnerships
- IBM, Microsoft, Amazon, Google for emerging technology programs
- Startup ecosystem partners including incubators and venture capital firms
- Professional bodies (IEEE, ASME, IEI) for knowledge sharing and standards

Government and Funding Agencies

Engagement with government programs:

- AICTE-sponsored schemes for innovation and entrepreneurship
- DST FIST program for research infrastructure
- Skill India initiatives for vocational training
- Startup India registration and support programs
- State government industrial collaboration schemes

Community Partnerships

Social responsibility through community engagement:

- Skill development programs for local youth
- Technical support to small and medium enterprises (SMEs)
- Community innovation challenges addressing local problems
- Livelihood generation programs in nearby areas
- Technology transfer to grassroots entrepreneurs

Data and metrics

Metric / Category	Value / Description
Student Placements	905 students placed, average package Rs. 6.51 LPA
Startups Supported	198 startups facilitated through 4 Innovation and Entrepreneurship Centres

Metric / Category	Value / Description
Research Publications	1220 scholarly papers published
Patents Filed	112 patents granted
Seed Funding	Rs. 289.5 lakhs secured for research projects
MoUs Signed	25 active partnerships enabling 2,809 joint activities
Internships	4,948 students completed internships
Entrepreneurship Education	3,200+ students trained through courses and workshops
Innovation Labs and Centres	23 specialized labs supporting entrepreneurship and research

Challenges

- Rapid technological changes are addressed through continuous curriculum revision, emerging technology integration, faculty training, and industry involvement to keep programs current and flexible for student needs.
- To improve startup sustainability, IEM provides extended incubation, mentorship, financial and business training, market linkages, and leverages an active alumni network.
- Geographic placement disparities are mitigated by virtual placement drives, partnerships in Tier 2 and Tier 3 cities, promoting entrepreneurship and remote work opportunities, and regional industry collaborations.
- The industry-academia skill gap is bridged with project-based learning, mandatory internships, industry advisory boards, guest lectures, and sponsored capstone projects.
- Research commercialization is supported through a technology transfer office, incubation for research-derived startups, applied industry collaborations, funding mechanisms, and entrepreneurship training for researchers.

Future Plans and Roadmap

- Target 95% placement rate with increased average salary and expand international placement opportunities.
- Strengthen alumni mentorship and develop sector-specific placement cells.
- Support 300+ new startups with expanded incubation and dedicated seed funding.
- Create sector-specific incubation tracks in FinTech, HealthTech, and CleanTech.
- Target 1700+ research publications, 150+ patents, and Rs. 50 crores external research funding.
- Expand to 35+ active MoUs, increase internships to 6,000+, and develop joint certification programs.
- Expand incubation space by 50%, upgrade labs, enhance digital infrastructure, and develop industry interaction spaces.
- Long-term vision includes top-tier rankings, becoming a national hub for innovation, generating 10,000+ jobs, supporting 1,000+ startups, and integrating UN SDGs across all activities.

Photo Gallery



International Conference on Advancing Science and Technologies in Health Science (IEM-HEALS 2024) On September 13, 2024



International Conference on English Learning and Teaching Skills will be organized from 9th February 2024 to 11th February 2024



3rd International Conference on Innovative Research Practices in Social Sciences (IRPSS-2023) in association with Smart Society, USA; ICRC-AIMA; Academy of Indian Marketing, scheduled on November 16, 17 & 18, 2023



Fifth International Conference on Emerging Trends in Mathematical Sciences & Computing (IEMSC-24) from 2nd-4th February 2024



Workshop on the evolving Landscape of Pharmaceutical Marketing as we enter the Era of Biologics and Vaccines on 24th July 2024



Workshop at IEM Kolkata hosting Prof. (Dr.) Saikat Chakrabarti and Dr. Arkajit Bhattacharya as guest speakers on 8th and 9th February 2024



Case & Research Wing of the Department of Management organized a research workshop on" Doing Qualitative Research" on November 16, 2023.



Workshop on Lending Operations (NBFC and Bank) on October 17, 2023



Entrepreneurship for BBA students of college on 9th October 2024



IEEE Women in Engineering-WIE, Kolkata Section organized IEEE WIE Outreach Workshop on 31st August 2023 at IEM Public School Campus



Dept. of BBA & HRDC IEM organized an FDP on Python Essentials from 18th to 24th
April 2024



5 Days Online International Faculty Development Program on "Quantum Artificial Intelligence" organized by Department of CSE-AIML and CSBS, IEM Kolkata from 24^{th} June -28^{th} June , 2024



Faculty Development Program (FDP) on SMART AI & IoT from 27th to 31st May 2024



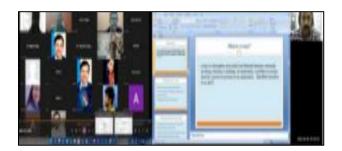
IEM MBA department organized a MDP program on "Earning money from Stock Market" for the second quarter(April-June) of 2024



5 Days on FDP on "Advancing academia through AI exploring Opportunities, Challenges and Ethical Implications



Department of IT, CSE(IOTCSBT), CSE(IOT) in association with IEM-UEM IQAC is organized a 5 days Faculty Development Program on Connectivity Conclave: Unveiling the Internet of Things and WSN(Hybrid Mode) from March 18 to March 22, 2024



HRDC of IEM organized a FDP on Balancing Act: Navigating Stress in Academia from 8th January 2024 to 11th January 2024



FDP on Recent Advancement on Control & Instrumentation from 10th July to 14th July 2023 organized by Department of Electrical Engineering, IEM Kolkata



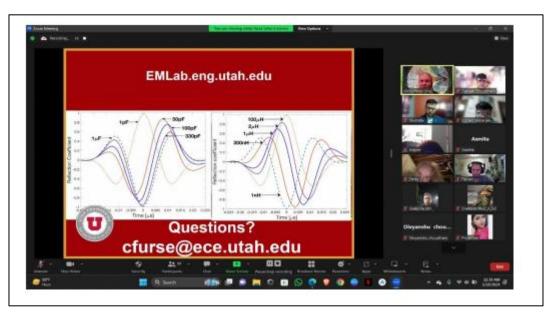
One Week FDP on Recent Trends in High Frequency Communication and Next Generation Smart Systems 29th January 2024



Webinar on "5G Toolkit: An important tool for Research and Innovations in 5G and Beyond Technologies" by Gigayasa Wireless, IIT Madras 7th Feb 2024



"Discovering Yourself Through Web Development: A Beginner's Workshop"



A workshop on how to spot potential business opportunities in everyday life and emerging markets on 28^{th} January 2024



IEEE IEM MTTS Student Branch Chapter organized an event Syntron on September $26^{th}-29^{th}\ 2023$



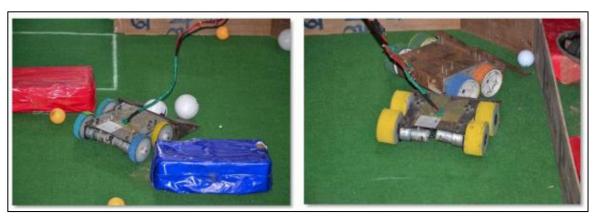
IEEE IEM MTTS Student Branch Chapter organized a distinguished lecture on "Entrepreneurship" by Prof. Cynthia M Furse aimed to enlighten the participants about entrepreneurship on 28th January 2024



IEEE IEM MTTS Student Branch Chapter organized an event on 17^{th} February 2024



ROBORASH organized by IEEE MTT-S, CASS, EDS, APS and WIE Student Branch Chapter from $23^{\rm rd}$ to $24^{\rm th}$ September 2023



VISCA 'EL' SYTRON (ROBOSOCCER) Organized by IEEE MTT-S, CASS, EDS, APS and WIE Student Branch Chapter from 23rd to 24th September 2023



SYTRONIX (COMPETITIVE CODING COMPETITION) organized by IEEE MTT-S, CASS, EDS, APS and WIE Student Branch Chapter on 30th September 2023



IEEE IEM EDS Student Chapter Branch hosted an engaging workshop on Electric Vehicle (EV) Technology on 7th of February 2024









IEEE IEM CAS-S Student Branch Chapter hosted an insightful lecture series on VLSI devices and systems On August 11, 2023





2-DAY WORKSHOP ON

MATLAB BASED MODERN **CONTROL & SIGNAL PROCESSING APPLICATIONS**

26-27 AUGUST, 2023 **MODE - ONLINE**

Faculty Coordinators: Prof. Ankit Ray Ghatak Prof. Nirban Chakraborty Prof. Arijita Das

REGISTER HERE:





PROF.(DR.) JAYATI DEY

Associate Professor, Department of Electrical Engineering, NIT Durgapur

2 Day Workshop on MATLAB based Modern Control and Signal Processing Applications on 26th-27th of August, 2023



India's growth outreach accelerated linkage (goal) program on 23^{rd} December 2023



Celebration of Einstein's Birthday



Talk on Light from semiconductor on 14th March 2024



FDP Program on state-of-the-art techniques of Electrical and Electronic System integrating AI/ML from 28^{th} November to 2^{nd} Dec, 2023



FDP on "Quantum Enabled Science and Technology" (QuEST) on December 9-13, 2024



IEM-UEM Aeromodelling Workshop and Drone Exhibition on 13.10.2023



IEEE Instrumentation & Measurement Society, IEEE Joint CSS-IMS Kolkata Chapter & Department of Electrical Engineering, Institute of Engineering & Management, Salt Lake in association with IET (UK) Kolkata Local Network organized a talk by Professor Mihaela Albu, Professor of Electrical Engineering at the esteemed Politehnica, University of Bucharest, Romania



Short description of the event (100 to 150 words) IEEE IEM CASS Student Branch Chapter in association with IEEE CAS Kolkata Section , IEI and IEEE WIE affinity group organized a research talk on 5th February, 2024



Workshop on IPR, Biosafety and Ethics on 13th January 2024





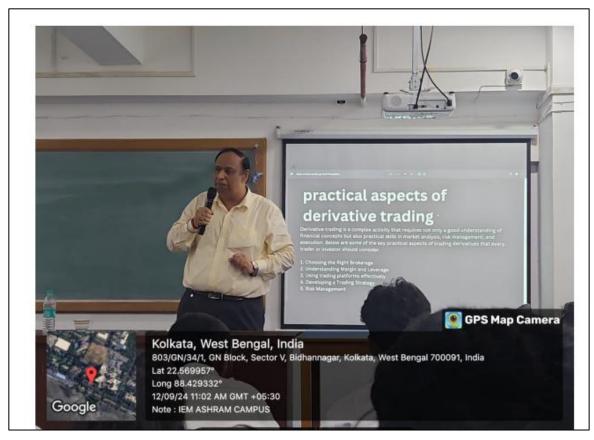
Five-Day Faculty Development Program On Academic Social Responsibility and Best Pedagogical Practices Organized by Department of Basic Science and Humanities, Institute of Engineering and Management (IEM) in association with HRDC, IEM-UEM Group on 6th November 2023 – 10th November 2023



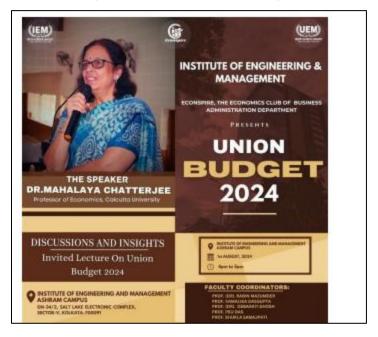
5 - Day Faculty Development Program Report on Unleashing Imagination: Delving into Generative AI and LLMs in Academia & Beyond organized by Department of Computer Application & Science in association with HRDC, IEM-UEM Group from 20^{th} May 2024 — 24^{th} May 2024



MDP ON 'DECIDE - HOW TO DECIDE' on 18.08.2023



Corporate Training Session on 12th September 2024 organised By: ArthSamriddhi (Finance Club, IEM Ashram)



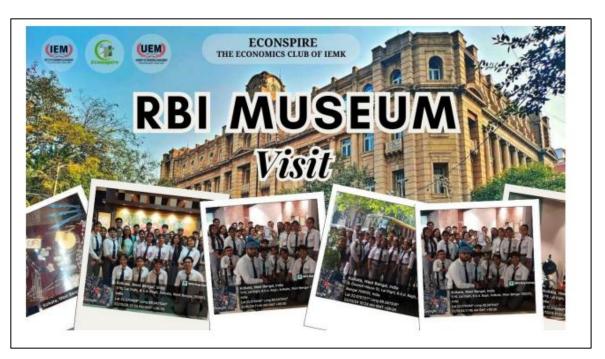
Discussions and Insights on Union Budget 2024 by ECONSPIRE – The Economics Club on 1st August 2024



Two days Balancing Academics and Wellness Workshop on 8th and 9th February, 2024



Industry Lecture Session on Strategic Difference in: Start-up, a profit earning organization, a sick industry to revive, in a small merger or acquisition on 24th September, 2024



RBI MUSEUM VISIT organized by Econspire, the Economics Club of IEM Ashram Campus, Kolkata, on Tuesday, 22nd October



5 Day FDP on Quantum Artificial Intelligence 24- 25th June, 2024



Celebration of The World Tourism Day by IEM Newtown Campus—27th September 2023