JB INSTITUTE OF ENGINEERING & TECHNOLOGY
(UGC-Autonomous)
(Accredited by NBA & NAAC, Approved by AICTE & Affiliated to JNTUH, Hyderabad)
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International Conference on Emerging Trends in Computational Sciences & Engineering (ICETCSE–2025)

The International Conference on Emerging Trends in Computational Sciences & Engineering (ICETCSE–2025) was successfully organized by J B Institute of Engineering & Technology (JBIET), Hyderabad, India, in collaboration with The University of the West Indies, St. Augustine Campus, Trinidad & Tobago, during 18–20 December, 2025.

The conference aimed to provide an international platform for academicians, researchers, industry professionals, and students to share innovative research outcomes and discuss emerging trends in computational sciences and engineering.

A total of 237 participants registered for the conference, out of which 201 research papers were presented and 36 participants attended as listeners. The papers were received from various domains including Computer Science and Engineering & Allied Branches, Electrical & Electronics Engineering, Electronics & Communication Engineering, Civil Engineering, Mechanical Engineering, Mathematics, Physics, and Chemistry.

The three-day technical program included an inaugural session, keynote addresses, invited talks, and multiple parallel paper presentation sessions. The inaugural ceremony was followed by a keynote address delivered by Dr. G. P. Rajasekhar, Professor, Department of Mathematics, IIT Kharagpur, Kharagpur and Vice-Chancellor, Andhra University. Eminent speakers from reputed national and international institutions such as IITs, NITs, IISc, University of Windsor (Canada), University of the West Indies (Trinidad & Tobago), Samarkand State University (Uzbekistan), and Sohar University (Oman) delivered invited talks.

All paper presentation sessions were chaired by senior faculty members and subject experts. The presentations were evaluated based on originality, technical contribution, clarity, and relevance. To encourage quality research, three Best Paper Certificates were awarded in each subject domain.

All accepted and presented papers were published in the conference proceedings with ISBN. Selected high-quality papers were recommended for publication in the Mansoura Engineering Journal (Scopus Indexed), subject to the journal's peer-review process and guidelines.

The conference successfully facilitated knowledge sharing, interdisciplinary research collaboration, and professional networking among participants. ICETCSE–2025 significantly contributed to advancing research and innovation in computational sciences and engineering and reinforced JBIET's commitment to academic excellence and global engagement.

ICETCSE-2025-Brochure

About the Institution

J.B. Institute of Engineering and Technology (JBIET) established in 1998, one of Telangana's premier engineering institutions, is renowned for its commitment to quality education, innovation, and student success. JBIET is a UGC autonomous institution, and the UGC has extended its autonomous status for the next 10 years, i.e., up to 2038. JBIET offers a vibrant academic environment and has been accredited by NAAC with an "A" grade and NBA under the Tier-1 category. The institution offers 11 B.Tech, 5 M.Tech, and MBA programs.

With strong industry ties, JBIET has signed MOUs with leading organizations, including IITM Pravartak, T-Hub, Cyber Security Centre of Excellence from the Government of Telangana, and the Engineering Staff College of India to offer specialized entrepreneurship and skill development courses. Additionally, JBIET collaborates with Cambridge University Press to enhance English Language Skills among students.

JBIET emphasizes hands-on learning, interdisciplinary collaboration, and entrepreneurship, supported by a dedicated and experienced faculty. Students receive industry-ready training through frequent curriculum updates and real-world exposure in the Institute Innovation Hub.

The Institute also promotes participation in sports and co-curricular activities, with students achieving national-level recognition. With its student-centric approach and a focus on academic excellence, JBIET continues to be a top choice for aspiring engineers.

About Conference

ICETCSE-2025 aims to provide a common platform for students, academicians, researchers, developers, and practitioners to share their research initiatives, present outcomes, and exchange experiences. The conference seeks not only to foster learning about emerging trends and recent developments but also to facilitate meaningful collaborations and networking among participants. All accepted papers will undergo a rigorous peer-review process and will be published in the conference proceedings with ISBN numbers.

Theme of the Conference

"Novel Approaches in Computational Science and Engineering"

Objectives

- To bring together academicians, researchers, industry experts, and students from diverse disciplines to share their latest research outcomes, innovations, and technological developments.
- To promote interdisciplinary collaboration in computational sciences, core engineering and scientific domains.
- To explore and discuss emerging trends, methodologies, and applications that address real-world challenges in science and engineering.
- To foster networking, knowledge exchange, and research partnerships among participants for advancing scientific and technological progress.

Topics

Topics of Interest for Submission Include, but are not Limited to:

Computer Science and Engineering and Allied

- High-Performance and Cloud Computing
- Computational Intelligence and Soft Computing
- Scientific Computing and Parallel Algorithms
- Computational Data Science and Big Data Analytics
- Computational Cybersecurity and Network Simulation
- Machine Learning and AI Applications
- Artificial Neural Networks & Deep learning
- Blockchain Technology
- Quantum Computing

Electrical and Electronics Engineering

- AI and Machine Learning for Power System Stability and Control
- Smart Grid Operation and Renewable Energy Integration
- Advanced Control Systems and Automation
- Electromagnetics, Devices and Circuits
- Battery Management & Energy Optimization
- Smart Charging Infrastructure
- Smart FACTS Controllers
- Computational Intelligence in Electrical Machines and Drives

Electronics and Communication Engineering

- VLSI Design & Embedded Systems
- Next-Generation Communication & Networking
- Signal and Image Processing
- Robotics, Control & Automation
- Emerging Materials and Devices
- Interdisciplinary Applications

Civil Engineering

- Sustainable Structural Design Methods using Computational Techniques
- Sustainable Geotechnical Solutions for Soil Stabilization
- Water Resource Engineering and Environmental Fluid Mechanics
- Transportation System Simulation and Traffic Modelling
- Sustainable Construction Materials and Technology
- Building Information Modelling (BIM) and Smart Infrastructure Analytics

Mechanical Engineering

- Computational & Simulation Technologies
- Advanced Materials in Engineering
- AI & Smart Technologies in Manufacturing
- Quantum Computing in Mechanical Engineering
- Emerging Technologies in Electrical Vehicle Batteries
- Advanced Technologies in Semiconductor Manufacturing & Packing

Mathematics

- Computational Fluid Dynamics (CFD) and Numerical Simulations
- Mathematical and Scientific Machine Learning
- Numerical Analysis and Scientific Computing
- Computational Optimization and Operations Research
- Dynamical Systems and Computational Modelling of Complex Systems
- Computational Number Theory and Cryptography
- Computational Probability, Statistics, and Stochastic Modelling

Physics

- Computational Condensed Matter and Materials Physics
- Quantum Computing and Quantum Simulations
- Computational Astrophysics and Space Physics
- Computational Plasma Physics and Fusion Modelling
- High-Performance Computing in Theoretical and Particle Physics
- Mathematical & Computational Physics
- Computational Nanoscience and Nanotechnology

Chemistry

- Computational and Theoretical Chemistry
- Molecular Dynamics and Quantum Chemistry Simulations
- Computational Drug Design and Cheminformatics
- Computational Materials and Nanochemistry
- Spectroscopy Data Analysis and Computational Modelling of Chemical Reactions
- Green Chemistry and Sustainable Chemical Processes
- Nanochemistry and Molecular Nanostructures

Venue

JB Institute of Engineering & Technology
Yenkapally(V), Moinabad(M), R.R.District,
Hyderabad 500075, India

Contact Details

Dr. L. Vidhumala Rao, Dean R&D
Ph: +91 [redacted] 48105
Dr. B. Sudalayya, HoD, Mathematics
Ph: +91 [redacted] 38335
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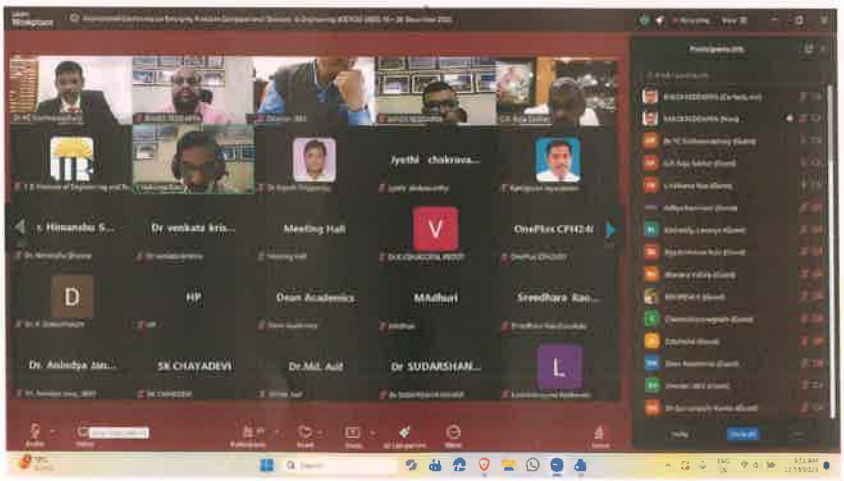
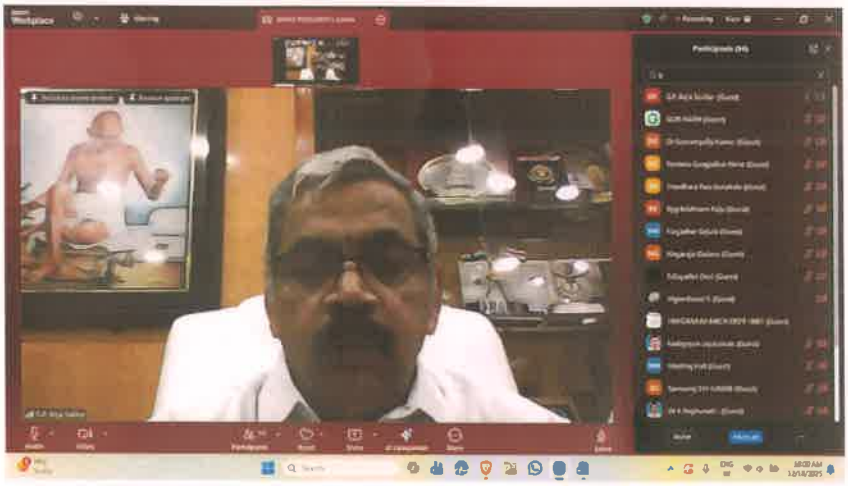
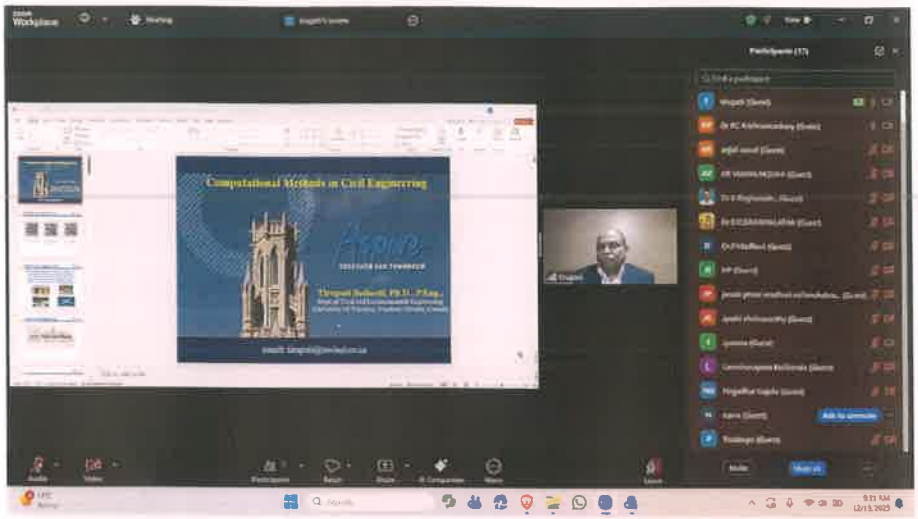
ICETCSE-2025-Photographs

• Inaugural Session

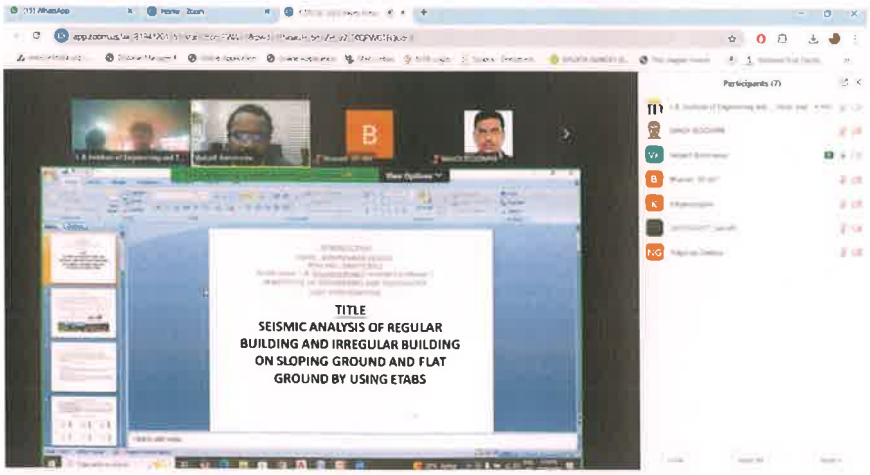


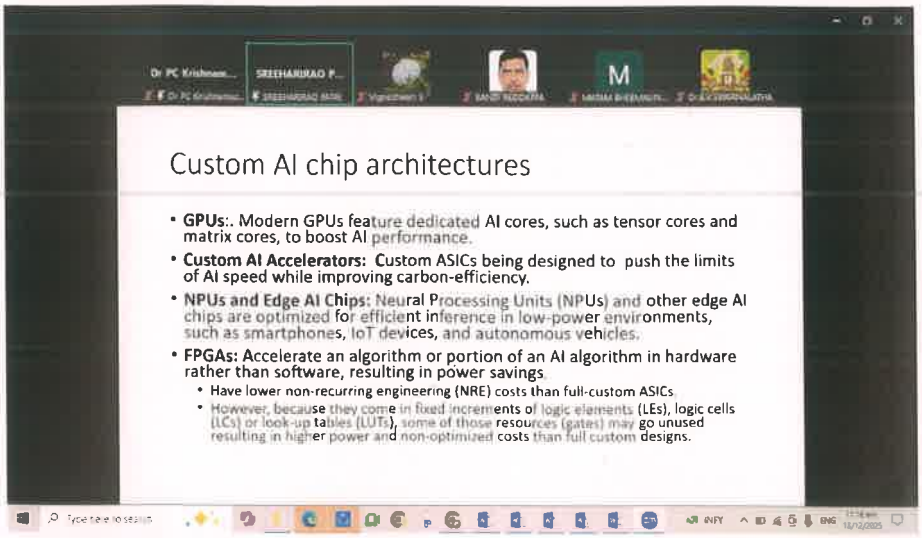
• Keynote & Invited Talks

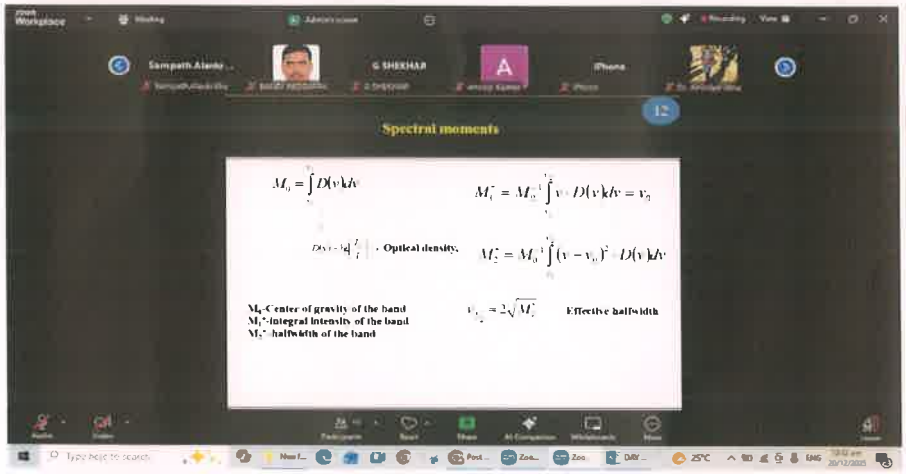




• Paper Presentation Sessions







• Valedictory Function

ICETCSE-2025-Certificates

• Keynote/Invited Talks

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CERTIFICATE OF APPRECIATION

This is to certify that Prof. G.P. Rajasekhar, of Department of Mathematics, IIT Kharagpur, India, delivered an Keynote talk titled Computational Modelling of Gravity Wave Interaction with Coastal Structures and Composite Fluid-Porous Structures in the International Conference on **EMERGING TRENDS IN COMPUTATIONAL SCIENCES & ENGINEERING (ICETCSE - 2025)** held from 18 to 20 December 2025, jointly organized by Departments of CSE & Allied Branches, EEE, ECE, Civil, Mechanical, Mathematics, Physics & Chemistry, **JB Institute of Engineering & Technology** in collaboration with **The university of West Indies, Trinidad & Tobago, West Indies**

Dr. S. Reddappa, HoD, Mathematics, JBIET, Hyderabad

Dr. V. Venkata Krishna, Dean CSE, JBIET, Hyderabad

Dr. P. C. Krishnamachary, Principal, JBIET, Hyderabad

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This is to certify that Dr. Kaushik Basu, of Dept. of Electrical Engineering, IISC, Bengaluru, India, delivered an invited talk titled Bi-directional GaN FETs: Ushering the Next Revolution in Power Electronics in the International Conference on **EMERGING TRENDS IN COMPUTATIONAL SCIENCES & ENGINEERING (ICETCSE - 2025)** held from 18 to 20 December 2025, jointly organized by Departments of CSE & Allied Branches, EEE, ECE, Civil, Mechanical, Mathematics, Physics & Chemistry, **JB Institute of Engineering & Technology** in collaboration with **The university of West Indies, Trinidad & Tobago, West Indies**

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Dr. V. Venkata Krishna, Dean CSE, JBIET, Hyderabad

Dr. P. C. Krishnamachary, Principal, JBIET, Hyderabad

• **Session Chair**

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This is to certify that Dr. Sreedhara Rao Gunakala of Dept. of Mathematics & Statistics, UWI, St. Augustine, Trinidad & Tobago, WI, served as the **Chair Person** in the International Conference on EMERGING TRENDS IN **COMPUTATIONAL SCIENCES & ENGINEERING (ICETCSE - 2025)** held from 18 to 20 December 2025, jointly organized by Departments of CSE & Allied Branches, EEE, ECE, Civil, Mechanical, Mathematics, Physics & Chemistry, **JB Institute of Engineering & Technology** in collaboration with **The university of West Indies, Trinidad & Tobago, West Indies**

Dr. B. Reddappa	Dr.V. Venkata Krishna	Dr. P. C. Krishnamachary
HoD, Mathematics	Dean CSE,	Principal,
JBIET, Hyderabad	JBIET, Hyderabad	JBIET, Hyderabad

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This is to certify that Dr. V Venkata Krishna of J B Institute of Engineering and Technology, Hyderabad, India, has served as the Chair Person in the International Conference on EMERGING TRENDS IN COMPUTATIONAL SCIENCES & ENGINEERING (ICETCSE - 2025) held from 18 to 20 December 2025, jointly organized by Departments of CSE & Allied Branches, EEE, ECE, Civil, Mechanical, Mathematics, Physics & Chemistry, **JB Institute of Engineering & Technology** in collaboration with **The university of West Indies, Trinidad & Tobago, West Indies**

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HoD, Mathematics	Dean CSE,	Principal,
JBIET, Hyderabad	JBIET, Hyderabad	JBIET, Hyderabad

• **Paper Presentation**

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OF PRESENTATION

This is to certify that **Mr. Ravi Shankar Garapati**, of University of the West Indies, St Augustine, Trinidad, has presented a paper entitled AI-Driven Cloud, IoT, and Smart Automation Platform for Real-Time Monitoring in the International Conference on **EMERGING TRENDS IN COMPUTATIONAL SCIENCES & ENGINEERING (ICETCSE - 2025)** held from 18 to 20 December 2025, jointly organized by Departments of CSE & Allied Branches, EEE, ECE, Civil, Mechanical, Mathematics, Physics & Chemistry, **JB Institute of Engineering & Technology** in collaboration with **The university of West Indies, Trinidad & Tobago, West Indies**

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OF PRESENTATION

This is to certify that **Ms. Narra Lavanya**, of SR University, Warangal, has presented a paper entitled ANALYTICAL STUDY OF MHD-INFLUENCED HEMODYNAMICS OF JEFFERY FLUID DURING PERISTALTIC TRANSPORT IN A TWO-LAYERED NARROW CHANNEL in the International Conference on **EMERGING TRENDS IN COMPUTATIONAL SCIENCES & ENGINEERING (ICETCSE - 2025)** held from 18 to 20 December 2025, jointly organized by Departments of CSE & Allied Branches, EEE, ECE, Civil, Mechanical, Mathematics, Physics & Chemistry, **JB Institute of Engineering & Technology** in collaboration with **The university of West Indies, Trinidad & Tobago, West Indies**

Dr. B. Reddappa
HoD, Mathematics
JBIET, Hyderabad

Dr. V. Venkata Krishna
Dean CSE,
JBIET, Hyderabad

Dr. P. C. Krishnamachary
Principal
JBIET, Hyderabad

• Best Paper Award

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CERTIFICATE OF EXCELLENCE

This is to certify that **Dr. Alana Sankar**, of **The University of the West Indies, St. Augustine**, has secured a **Best Oral Presentation** in the International Conference on **EMERGING TRENDS IN COMPUTATIONAL SCIENCES & ENGINEERING (ICETCSE - 2025)** held from 18 to 20 December 2025, jointly organized by Departments of CSE & Allied Branches, EEE, ECE, Civil, Mechanical, Mathematics, Physics & Chemistry, **JB Institute of Engineering & Technology** in collaboration with **The university of West Indies, Trinidad & Tobago, West Indies**

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HoD, Mathematics
JBIET, Hyderabad

Dr. V. Venkata Krishna,
Dean CSE,
JBIET, Hyderabad

Dr. P. C. Krishnamachary
Principal,
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CERTIFICATE OF EXCELLENCE

This is to certify that **Mr. Sasank Nath**, of **Tezpur University, Assam**, has secured a **Best Oral Presentation** in the International Conference on **EMERGING TRENDS IN COMPUTATIONAL SCIENCES & ENGINEERING (ICETCSE - 2025)** held from 18 to 20 December 2025, jointly organized by Departments of CSE & Allied Branches, EEE, ECE, Civil, Mechanical, Mathematics, Physics & Chemistry, **JB Institute of Engineering & Technology** in collaboration with **The university of West Indies, Trinidad & Tobago, West Indies**

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HoD, Mathematics
JBIET, Hyderabad

Dr. V. Venkata Krishna,
Dean CSE,
JBIET, Hyderabad

Dr. P. C. Krishnamachary
Principal,
JBIET, Hyderabad

• Participation

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This is to certify that Dr. GURRAM SARABHA REDDY of Department of Mathematics, MRCET, Hyderabad, has participated in the **International Conference on EMERGING TRENDS IN COMPUTATIONAL SCIENCES & ENGINEERING (ICETCSE - 2025)** held from 18 to 20 December 2025, jointly organized by Departments of CSE & Allied Branches, EEE, ECE, Civil, Mechanical, Mathematics, Physics & Chemistry, **JB Institute of Engineering & Technology** in collaboration with **The university of West Indies, Trinidad & Tobago, West Indies**

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Dr. P. C. Krishnamachary, Principal, JBIET, Hyderabad

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This is to certify that Dr. Vrushali Sushant Patil of Department of Information and Technology, DYPCOE, Akurdi, has participated in the **International Conference on EMERGING TRENDS IN COMPUTATIONAL SCIENCES & ENGINEERING (ICETCSE - 2025)** held from 18 to 20 December 2025, jointly organized by Departments of CSE & Allied Branches, EEE, ECE, Civil, Mechanical, Mathematics, Physics & Chemistry, **JB Institute of Engineering & Technology** in collaboration with **The university of West Indies, Trinidad & Tobago, West Indies**

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Dr.V. Venkata Krishna, Dean CSE, JBIET, Hyderabad

Dr. P. C. Krishnamachary, Principal, JBIET, Hyderabad

HoD-S&H, JBIET

Principal, JBIET

PRINCIPAL
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