



Zagdu Singh Charitable Trust's (Regd.)

## THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg, Thakur Village, Kandivali (East), Mumbai - 400 101 Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

Website: www.tcetmumbai.in • www.thakureducation.org

## **MULTICON-W 2022 HOST INSTITUTE**



Certified Institute

Accredited Institute with 'A' Grade Programs

in Platinum category for **Industry linkages** 

Colleges in NIRF Ranking 2019-20 & 2020-21 survey published in June 2019 & May 2018 respectively

### VISION

Thakur College of **Engineering and** Technology will excel in Technical Education to become an internationally renowned premier Institute of Engineering and Technology.

• Integrity & **Accountability**  Respect for each Individual Sensitive towards Social **Responsibilities** • Unfettered spirit of learning, Exploration, Rationality & Enterprise • Exploration & Enterprise for both Faculty and **Students** 

**CORE VALUES** 

Estd. in 2001

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To provide state-of-the-art infrastructure and right academic ambience for developing professional skills as well as an environment for growth of leadership and managerial skills to students which will make them competent engineers to deliver

**MISSION** 

quality results in the industry

 Structured & Guided **Teaching Learning** Methodology Maintaining Academic Rigor System - Driven - Student -**Centric Services**  Proactive Student Professional and Personality **Development Programmes** State - of - the - art Infrastructure meeting International Standards CORE **COMPETENCIES** 



-A platform for Multiple Conferences and Norkshops Since 2010

### **Institutional Partner**



### **Other Partners**

FREE PRESS

The Voice of Mumbai

Print Media

Collaborators







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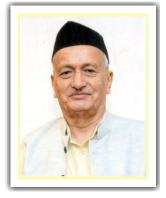


# MULTICON-W 2022 A Mallow for Malliple Conferences and Merksheps Stree 2010

सत्यमेव जयते

BHAGAT SINGH KOSHYARI GOVERNOR OF MAHARASHTRA RAJ BHAVAN Malabar Hill Mumbai 400 035 Tel. : 022-2363 2660 Fax.: 022-2368 0505

18 January 2022



# MESSAGE

I am pleased to know that the Thakur College of Engineering & Technology (TCET) managed by the Zagdu Singh Charitable Trust is organizing the 13<sup>th</sup> edition of MULTICON-W 2022 during 25-26 February 2022.

It was very thoughtful of TCET to have created a platform of multiple conferences and workshops in the form of MULTICON-W. I wish and hope that the conferences in the various domains of Engineering and Technology will widen the understanding of students, researchers and teachers and offer them a proper perspective in their subject.

I congratulate the Thakur College of Engineering & Technology for organizing MULTICON-W and wish the participants fruitful deliberations.

(Bhagat Singh Koshyari)



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## Chairman's Message



In the age of rapid technological development, advancement, research, innovations, and inventions play a crucial role to get a competitive edge for the learners. Thakur College of Engineering and Technology, an autonomous premier technical institute contributes to quality technical education in all major disciplines of engineering. The institute has associations with various national organizations and integrated National Education policy in its curriculum to provide holistic multidisciplinary education with emphasis on co- and extra-curricular activities for over-all personality development.

The world class state-of-the-art infrastructure and equipment combined with a galaxy of competent, talented, and dedicated faculty contribute to an enjoyable and easy learning experience which is at par with global standards. The institute is committed to facilitate research environment with well-equipped laboratories and provide training and placement opportunities to make the students global citizens. Institute strives to cultivate a field in which new ideas, research and scholarship flourish leading to emergence of creators, innovators, leaders, and entrepreneurs.

TCET has always hosted many events like seminars, conferences, workshops, symposiums for the intellectual pursuit. One of the intellectual fests is Multicon-W, the platform for multiple conferences and workshops to deliberate and discuss the recent trends in science and technology to critique the problems and solutions in these areas. Therefore, TECT welcomes the best ideas and thinking from all the people across diverse disciplines, organisations, and geographies and hope that this conference will act as a medium for all to ponder upon the important topics of science and technology. I wish everyone a successful, safe, and fruitful conference.







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## Secretary's Message



My heartiest Congratulations to Thakur College of Engineering and Technology (TCET) and the organizing committee of Multicon-W 2022. The platform of multiple conferences and workshop play a crucial role in developing a culture of research among the stakeholders. It's inquisitive to stumble upon a modish path to propel on and conferences are an emerging source of knowledge and conditioning, bridging millennial and industry experts on the go.

Significantly, an Autonomous institute, Thakur College of Engineering and Technology has been taking the initiative to organize such international conferences since 2001, to ponder over new trends of technology which will be fruitful for the academicians, technocrats, and global society. Such conferences set the remark of significance because today technology is an integral part of everyone's life all over the world.

Research activities across all the engineering fields pave the way for the industrial world to strive forward with huge advancements. As an educational institution, encouragement and support to research can be provided by establishing a suitable platform for the research community, to interact with each other and to share the knowledge. Having this objective TCET has envisaged in providing a common platform in the form of conferences and workshops

I take this opportunity to extend my best wishes to TCET and all the delegates. I am confident that Multicon-W 2022 will provide a unique opportunity to the researchers and participants for a healthy interaction. Wish you all the best!!

Kartshora VSingh

Karishmma V. Singh Secretary





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## **CEO's Message**



It gives me immense pleasure to welcome you all for Multicon-W 2022, the 13<sup>th</sup> National and International Conferences and Workshops that will be conducted by the Thakur College of Engineering and Technology. As an autonomous institute, TCET plays a vital role in facilitating the exchange of innovative ideas and technological advancement through conducting seminars, conferences, and workshops since 2010 in the form of ICWET.

Research is a never-ending process, which makes us think and rethink about updating skills, products, services, and technology. It allows contributing to the developmental change in society. The research and development department of every organization is a symbol of progress and sustainable development. Hence, MULTICON-W TCET provides an incomparable platform for intellectual exchanges and mobilizing the planning, execution, and monitoring of scientific inquiry and action in the fields of Engineering and Technology.

Every enlightening institute desire to implement an effective teaching-learning. Our college will unveil the dimension to touch the professional excellence in the most memorable way. In our college we deeply integrate the social responsibilities with the need of understanding of highly developed technologies and encourage ethical reasoning into learning agenda in a holistic manner. Better understanding of students especially about their motivation which kindles their interest, aptitude, engineering principles, concepts, values, and knowledge to build student centric education, process and approaches for enhanced understanding are our great objectives to bring out great minds.

I congratulate all the participants and delegates and assure you that TCET will provide the best academic ambiance, hospitality, and state-of-the-art infrastructural facilities. I wish your deliberations all success!

K.V.SON **Karan Singh** CEO





# MULTICON-W 2022 - A Mathema for Mathiele Conferences and Monthe April 2010



**Government of Maharashtra** 

### DIRECTORATE OF TECHNICAL EDUCATION

#### **MAHARASHTRA STATE**

3, MAHAPALIKA MARG, POST BOX NO. 1967, MUMBAI-400 001 Tel: 68597400, 68597401

Internet: http://www.dtemaharashtra.gov.in e-mail : director@dtemaharashtra.gov.in

Date : 15<sup>th</sup> February, 2022



### Message

I am delighted to know Thakur College of Engineering and Technology is organizing Multicon-W 2022 conference from 25 to 26 February 2022. This conference will strongly help to expand the research and innovation in the niche areas of Electronics, Computer, and Communication Engineering disciplines.

I hope the expert keynote speeches, tutorials, hundreds of research paper presentations, and invited talks will go a long way in enriching the knowledge of the participants in general.

I congratulate the management, faculty and students of the institute for organising the event which will become a forum for the exchange of research ideas. I wish the conference a grand success.

(Dr. Abhay Wagh) Director Directorate of Technical Education Mumbai - 400 001

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# MULTICON-W 2022 - A platform for Multiple Conferences and Morkshops Prace 2010

# **TSAP Principal's Message**



At the Outset, We wish to Congratulate the team of TCET for organizing the mega event of Multicon-W 2022. The wide spectrum of topics taken up for the Conference tracks under the domains of Engineering Sciences & Humanities (ES & H) as well as Technical Education has generated a remarkable response providing a complete 360 degree view of Research in the emerging areas. The insightful sessions and deliberations witnessed by the participants shall be an enrichment that shall continue to nourish the minds, towards culture of Innovation and Research.

Ar .Dhiraj N. Salhotra, Principal. Thakur School of Architecture & Planning, TSAP (Received via e-mail)



# MULTICON-W 2022 A platform for Multiple Conferences and Morkshops Prace 2010

# **TPOLY Principal's Message**



I take this opportunity to present in brief my views for the International Conference, MULTICON W-2022 at TCET.

It gives me immense pleasure to present that, in spite of pandemic Covid-19 situation, ICWET has got overwhelming response for 5 International Conferences and 2 workshops from the various parts of the states, the thirst of knowledge is still growing in the upcoming generation, which is observed in the past Twelve years.

Engineering is the profession in which knowledge of the mathematical and natural science are gained by study, experience and practice. "Science can amuse and fascinate us all but it is engineering that changes the world". A good engineer is a person who develops ways to utilize economically the materials and forces of nature for the benefit of mankind. In developing society they make the attempt to predict how well their designs will perform to their specifications prior to full scale production, so to merge the Artistic and Engineering creativity ICWET is creating a bridge for our upcoming Engineers.

I am very thankful to Principal Dr. B.K Mishra for giving me an opportunity to solicit my message in Conference Souvenir. I also express my gratitude towards my management for the encouragement. Also, I would like to appreciate all the staff members for the hard work & dedication they have devoted for the past years and hope will continue to make this event a grand success.

I am sure that the participants will definitely gain knowledge and will get a glimpse of the latest technological trends and the industrial requirements, which will be beneficial for them in the future, in India and abroad.

I congratulate the editor and the proceeding team for a job well done and wish them success in their future endeavour on this momentous occasion.

I wish all the very best to all those contributing towards the success of this event.

Dr. S. M. GANECHARI, Principal. Thakur Polytechnic (TPOLY) (Received via e-mail)





# MULTICON-W 2022 - A platform for Multiple Conferences and Morkshops Since 2010

# **TIMSR Director Message**



The progress in all aspects of our lives over the millenniums has been due to the inquisitive nature of the human mind to observe and ponder over the hows and whys in every physical things and happenings around, leading to the urge to explore more and more avenues to improve, discover, use and sustain the products or processes or ideas for making human lives more productive, useful, comfortable for current and future generations. This quality, as we may call it 'Research' is the base of all discoveries, inventions etc. over the centuries and has made tremendous progress almost in all the systems by discovering better and better methodology and tools for the processes. Higher and technical Education needs to be revamped to educate and train the future manpower of the country. The decision of the Thakur College of Engineering and Technology to conduct MUTICON on 'Inculcating Research Culture in Higher and Technical Education' is, therefore, welcome to attract young minds towards this important aspect not only to sustain the developments which have taken place up to now but also to explore avenues to make education more relevant and productive for future generations.

I wish best wishes and success to organizers of MULTICON and its participants.

Dr. Pankaj Ramesh Natu, Director, Thakur Institute of Management Studies & Research (TIMSR) (Received via e-mail)





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## Programme Chair's Message



TCET, an autonomous technical institute has emerged as a hub for academic excellence in engineering education as it motivates and empowers its students to be globally competent lifelong learners, critical thinkers, and productive members of an ever-changing global society. The institute provides a congenial environment with state-of-the-art infrastructure and technical knowledge for the holistic growth and all-round development of the students through suitably designed teaching learning processes.

The goal of TCET is to bring to light advancements in research findings, disseminate insights, brainstorm among researchers and professional organizations, and forecast future trends in Science, Engineering, and Technology. To commemorate the national technology day and Azadi ka Amrit Mahotsav, institute honoured to organize successfully various symposium and webinars in association with The National Academy of Science, India (Mumbai Chapter) and Technology Information Forecasting and Assessment Council (TIFAC).

Multicon-W 2022 aims to bring together innovative academics, researchers, and experts in the field from across the globe for a constructive discussion of conceptual frameworks, practical applications of emerging technologies, and on-going and prospective developments. This conference aims to foster and magnify the research culture between academia and industry, facilitated by the infused ideas generated during the conference's conduct. With great pleasure and pride, I welcome and extend my wishes to all the participants, delegates, speakers, and organizers and hope that this edition of the conference will reach new heights in its outreach and long-lasting impact.

**Dr. B. K. Mishra** Principal, TCET Programme Chair, Multicon-W 2022





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## Programme Co-Chair's Message



A very warm welcome to all the participants in the 13<sup>th</sup> edition of international conferences and workshops – MULTICON-W 2022. Thakur College of Engineering and Technology, an autonomous, premier technical institute has been always proactive to impart holistic education to its budding engineers with its multidisciplinary curriculum emphasizing extra-curricular and co-curricular activities. Excellency in any work can be achieved with utmost dedication, hard work, and perseverance for lifelong learning.

Institute believes that research and development are the paths to finding solutions to local challenges leading to innovative solutions. The holistic multidisciplinary education of TCET is aptly aligned with the national education policy 2020's objective of research and development which emphasizes research and innovation. To meet the objective, TCET provides a dynamic platform by organizing various events like seminars, conferences, and workshops in collaboration with institutes, industries, and government for all the stakeholders.

I congratulate all the participants and delegates and assure you that TCET will provide the best academic ambiance in the form of the exchange of ideas, points of view, inventions, and innovations through this virtual conference. I take this opportunity to extend my best wishes to all the research scholars and the participants. I am confident that MULTICON W 2022 will provide the researchers and participants with a unique opportunity for a healthy interaction.

**Dr. Deven Shah** Vice-Principal, TCET Programme Co-Chair, Multicon-W 2022



# NULTICON-W 2022 - A platform for Malliple Conferences and Morkshops Proce 2010

## **Programme Technical Chair's Messages**



Research is the key for the advancement of technology and education. It develops critical thinking and creates a new base for future studies. Conference is such an opportunity where researchers can present their new ideas and innovative thinking in order to get some insights to the next generation.

Keeping this vision in mind, Thakur College of Engineering and Technology has taken a strong step in organizing an international and national conferences and workshops annually with grand success. Multicon-W 2022 provides an exemplary platform for budding engineers and academicians to put forward their thoughts and domain knowledge to the international engineering fraternity.

I congratulate all the participants of Multicon-W 2022 for attending this event which will prove to be a source of inspiration and energy to upcoming technocrats and entrepreneurs to identify thrust technology and its advantages for the society.

**Dr. Kamal Shah** Dean - R&D, TCET Programme Technical Chair, Multicon-W 2022





# NULTICON-W 2022 - A platform for Malliple Conferences and Morkshops Proce 2010

## **Programme Technical Chair's Messages**



Multicon-W is a research journey to transform and to stimulate for further research in engineering, technology and holistic development of youths. It is proud and honor for TCET to serve the best recent developments in the relevant field to you through this exciting platform. As rightly said that research is never ending process; TCET has been conducting this conference since 2010 for all stakeholders in order to present new research ideas for shaping their career.

We are firmly committed to excel in technical education and research, and are fully aware of the challenges of the future. Apart from strengthening the teaching-learning process, research and extension programmes, special focus on extra-curricular, sports and other similar activities to foster global competencies among the students is our priority. TCET continues to provide a congenial environment for the holistic growth and all round development of the students through suitably designed teaching learning processes. Conference is an annual research event where technical discussions with different perspectives are developed and enormous possibilities are created to provide the human resource for sustainable development. I wish all the researchers a very great learning experience ahead.

Sally

**Dr. Lochan Jolly** Dean - SSW, TCET Programme Technical Chair, Multicon-W 2022



# MULTICON-W 2022 - A platform for Multiple Conferences and Plothshops Since 2010

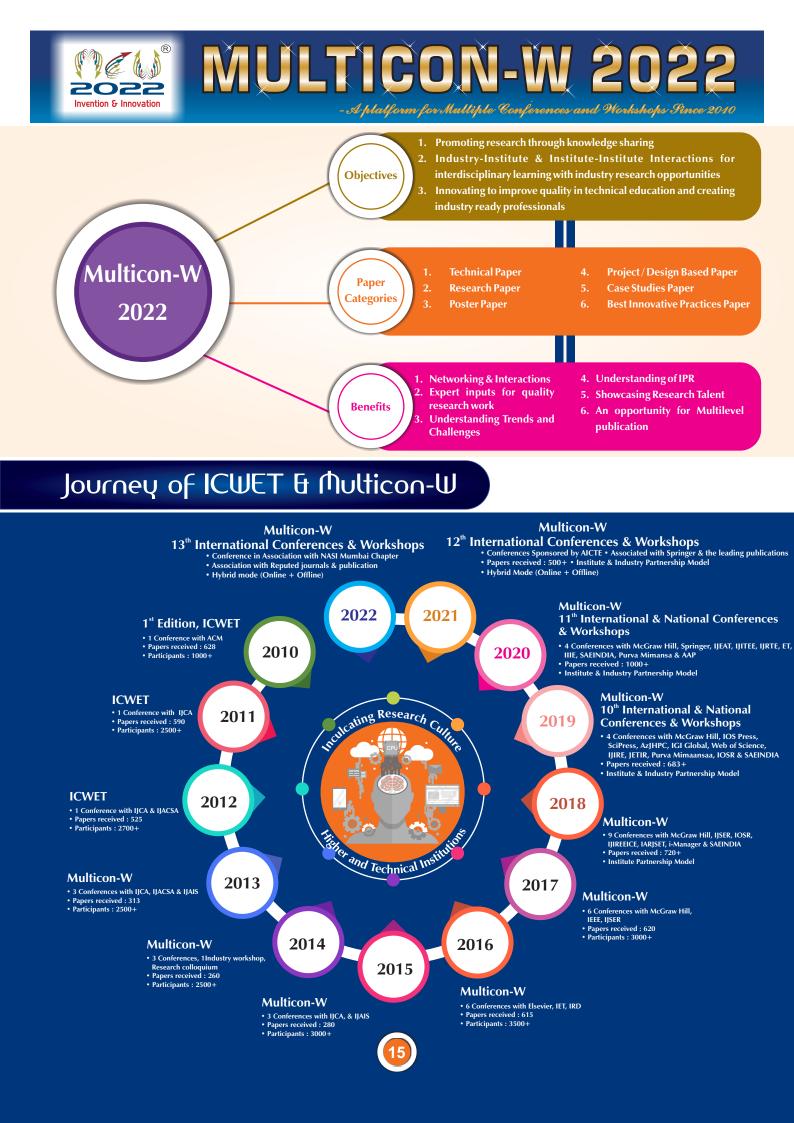
## About Conference

Thakur College of Engineering and Technology is celebrating its 20 years of foundation along with **AZADI KA AMRIT MAHOTSAV** in this celebration MULTICON-W 2022 is organised in collaboration with The National Academy of Sciences (NASI), Mumbai Chapter. MULTICON-W is an initiative of Thakur College of Engineering and Technology (TCET). This platform is created with the objective of inculcating the Research culture in the Higher and Technical Educational Institutes, where the UG and PG programs are evaluated by the accrediting bodies like NBA and NAAC. Research contribution is the major parameter to evaluate the R&D activities. Therefore, it becomes imperative for all the Institutes to develop the research temperament and research paper writing skills of its stake holders.

Thakur College of Engineering and Technology (TCET) is an institute which believes in developing research acumen and research paper writing skills and provide multiple platforms to make it an integral part of the curriculum. Moreover, the research ethics should also be taught and create an awareness among all its stake holders, which make an impact on the development of new projects. The conventional curriculum has a different expectation of assimilating the information and reproducing it in examination, whereas the developments in this new era require a multidisciplinary approach to meet the untapped requirements. Therefore, it is necessary to create a platform for showcasing the research activities of students and teachers to strengthen the curiosity and creativity.

Keeping this in mind, TCET has created a platform of multiple conferences and workshops known as MULTICON-W. The journey of MULTICON-W started with the first edition of International Conference & Workshop on Emerging Trends in Technology from 2010 to 2012. Later in 2013, TCET has started inducting the conferences in almost every domain of Engineering and Technology making it an annual event and changed the name to MULTICON-W. In each successive year, there is a new induction in these conferences in the form of association with publication houses or domain specific conferences. MULTICON-W 2022 is the 13th event in this series with five conferences with the special addition of the Conference on Technology Forecasting- 2022. The special conference has been organized in association with Technology Information, Forecasting and Assessment Council (TIFAC), which is an autonomous organization set up in 1988 under the Department of Science & Technology. TIFAC did the exercise of Technology Vision 2035 in the perspective of India's needs in 2035. Its next exercise is Technology Vision 2047. Keeping this exercise in the perspective, TCET is organizing the Technology Forecasting 2022 conferences for its stake holders.

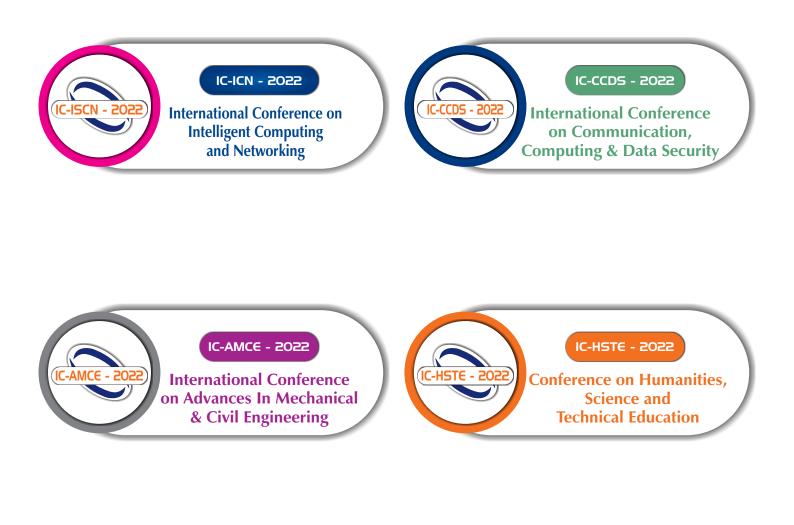






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## Multicon-W 2022 Activities









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## **International Conference on Intelligent Computing and Networking (IC-ICN - 2022)**





#### About the Conference

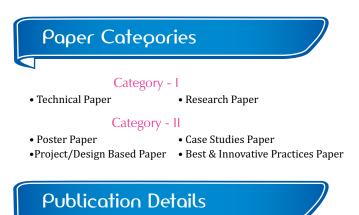
The 13th Annual International Conference, IC- ICN 2022 serves as a premier platform that gathers all academicians, researchers and professionals, in the relevant engineering disciplines and domains, to present their research contributions and share their thoughts. TCET has successfully held 12<sup>th</sup> international events in a row. ICWET 2010-2012 and Multicon-W 2013-2020 in association with international reputed publications (viz. ACM, Springer, IEEE, Elsevier etc.) in IT industry with an objective to reach new horizons. IC-ICN 2021 has got affiliation of Springer. IC-ICN 2021 aims to bring forward quality research in the field of Intelligent Computing and Networking. In order to adapt the rapid development changes in Intelligent Computing and Networking, we provide platform for in-depth exchange of Ideas between researchers, scientific & technical personnel. We specifically invite papers on a wide range of research topics spanning both theoretical & experimental research. The topics of interest for the conference tracks include (but are not limited to) the following:

### Intelligent Computing

- Expert System
- Robotics
- Machine Learning
- Big Data Analytics
- Data Science
- Data Engineering
- Deep Learning
- Natural Language Processing
- Human Machine Interaction
- Applications of Intelligent Computing (Agriculture, Health Care, Education, Recommender System, Transportation, Finance, etc).
- Predictive Analysis,
- Cognitive Computing
- Pervasive Computing

#### **Networking Technologies**

- Wireless Sensor Networks
- Ad-hoc Network
- Network Security
- Cryptography
- Internet of Things
- Mobile sensing
- Pervasive Computing
- Traffic analysis & engineering
- Information & content centric networks
- Internet of Things (IOT)
- Cloud Computing & Security
- Software Defined Network
- Blockchain
- Energy efficient communications
- Caching and content delivery system



All selected quality papers will be published in ICICN Proceedings or Multicon-W 2022 Proceedings with ISBN and few quality papers with modification of 30-40% shall be recommended for publication in Springer -Lecture Notes in Network & Systems (LNNS) Series.

# Invention & Innovatio

## International Conference on Communication, Computing and Data Security - (IC-CCDS-2022)



### About the Conference

The COVID-19 pandemic has accelerated the shift towards a more digital world and triggered changes in online teaching, businesses and behaviours that are likely to have lasting effects. As a result, education has changed dramatically, with the distinctive rise of e-learning, whereby teaching is undertaken remotely and on digital platforms. Electronics and Communication Engineering plays a very vital role in the revolution of current technology, as it is the amalgamation of the Computing, Communication, Data Security, VLSI, Devices and Modelling, Nanotechnology, Automation, Robotics and Control, Embedded systems and IoT, Antennas and Signal Processing. To deliberate on these emerging technologies, TCET has successfully held twelve international events in rows ICWET 2010, 11, 12 and MULTICON W 2013, 14, 15, 16, 17, 18, 19, 20 and 21 in association with international journals of repute and multinationals in the IT industry with an objective to reach a new horizon. This year also we propose to organize International Conference on Communications, Computing and Data Security-ICCCDS 2022 during 25th & 26th February 2022. It is an initiative of TCET, offers multiple platforms for all the stake holders under one roof to contribute their original research work.

International Conference on Communication, Computing and Data Security-(ICCCDS) aims to bring together researchers, engineers and scholar students to exchange and share their experiences, new ideas and research results about all aspects in the field of Electronics Engineering and Communication.

Department of Electronics and Communication and Department of Electronics Engineering of Thakur College of Engineering and Technology, Mumbai takes immense pleasure to invite your contributions for Conference on Trends in Electronics & Communication (ICCCDS-2022) during February 25th-26th 2022.

## **Communication Engineering** and Computing (CEC)

- **Optical Communications & Networking** \*
- ÷ RF Circuit/ Narrow and UWB Antenna Design
- ÷ Wireless Communication & Networking
- \$ Mobile Networks & Software Defined Radio
- \$ Web Analytics
- ÷ Mobile Analytics
- ÷ Web Intelligence Applications and Search
- \* Hybrid Intelligent Systems and Applications
- ÷ Mobile Network Security

#### Artificial Intelligence & Signal Processing (AISP)

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\$ Image and Video Processing

MULTICON-W 2022

- \* Visual & Audio Data Mining
- $\diamond$ Data Mining & AI
- ÷ **Deep Learning Platforms**
- \* Data Clustering

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- Data Security & Internet of Things (DS&IOT)
- ٠. High end Embedded aspects Applications Application Areas in IoT
- ÷ Green Iot: Sustainable Design & Technologies Modern Embedded Software
- and Real Time Application
- & Education Sector ÷ Design and simulations for EV
- System and Designing Energy Management, Military ÷ IoT Security ÷ Big Data Security and Privacy

**Computer Vision** 

and Application

Medical Informatics

**Biomedical Signal Processing** 

- Automation, Robotics & Control (ARC)
- $\diamond$ Analog/ Digital/ Mixed Signal Circuit
- Robotics, Unmanned Vehicle **Design & Simulations**
- $\diamond$ Application areas in Healthcare Sector, Waste Management
- Application areas in health care sector, waste management
- Sensors, Transducers, Opto electronic Devices & MEMS, Power Devices and Applications
- \* Artificial Intelligence in Automation & **Control Mechanism** Biometrics
- \* Applications of Sustainable **Energy and Resources** 
  - Augmnented Reality and Applications

### Paper Categories

Technical Paper

Category - I Research Paper

- Poster Paper
- Category II Case Studies Paper
- Project/Design Based Paper
- Best & Innovative Practices Paper
- **Publication Details**

All selected quality papers will be published in ICCCDS-2022 proceedings with ISBN & few quality papers with modification of 30-40% will be recommended for publication in reputed journals like : (1)International Journal of Forensic Software Engineering (IJFSE) (2) International Journal of Electronics, Communications, and Measurement Engineering (IJECME) (3) Industrial IoT and Future Generation Revolution (4) Journal of Engineering Education Transformations (JEET)



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### **International Conference On Advances In Mechanical & Civil Engineering - 2022**



## About the Conference

IC-AMCE 2022 is the forum for the presentation of advances and research results in the fields of Mechanical and Civil Engineering. The conference will bring together leading researchers, engineers and scientists to share their original research work, practical challenges, recent innovations, trends and to explore methods of application of research to the

technological development leading to social welfare. Advances in mechanical and civil engineering are the order of the day with rapid industrialization and urbanization seen in developed and developing nations. Innovative designed and construction practices are challenging task to the engineers to meet ever growing demands of society. The conference is the premium forum for presentation of new advances and research results in the field of mechanical and civil engineering.

All honorable authors are encouraged to contribute their research through submission of abstracts, papers and e-posters. Also, high quality research contributions describing original and unpublished results of conceptual, constructive, empirical, experimental or theoretical work in all areas of Mechanical Engineering are cordially invited for presentation at the conference

## Manufacturing and Automation

All honorable authors are kindly encouraged to contribute to and help shape the conference through submissions of their research abstracts, papers in areas of:

÷ Quality Engineering

**Quality Management** 

Supply Chain Management

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- Material Science ÷ •
- Metallurgy
- ••• Machine Design •
- Industrial Automation
- **Composite Materials**
- ••• FEM modeling and simulation
- ••• Mechatronics

## Thermal Engineering

- Thermal & Fluid Power
- Heat Transfer
- ÷ Air conditioning
- ÷ **Internal Combustion Engine**
- Refrigeration \*
- Computational fluid dynamics ÷
- ÷ Renewable energy ÷
  - Cryogenics

#### Water Resources Engineering

- \*\* Fluid Mechanics/ Hydraulics
- **Environmental Engineering**
- ••• Impact assessment
- $\dot{\cdot}$ Industrial waste management
- ÷ Water/ Sewage treatment
- ••• Water shed management

### **Structures**

- ••• **Transportation Engineering** •
- Construction Management • Quantity surveying and valuation
- ••• Building risk assessment
- ••• Soil mechanics
- $\dot{\cdot}$ Structural Engineering

## Paper Categories

Technical Paper

Category - I • Research Paper

- Case Studies Paper
- Project/Design Based Paper

## Publication Details

#### **Conference Proceedings:**

All selected quality papers will be published in IC-AMCE-2022 proceeding or Multicon-W 2022 proceeding with ISBN and few quality papers with modification of 30-40% will be recommended for publication in reputed journals. The list of journals is as follows:

#### UGC Care Journal:

Indian Institute of Industrial Engineering (IIIE)



Category - II Poster Paper

- - Best & Innovative Practices Paper

# 

## International Conference on Humanities, Sciences and Technical Education - 2022



#### Scopus' JEEF Journal of Engineering Education Trans Scopus'

## About the Conference

There is an enormous need to embrace interdisciplinary learning in order to support lifelong learning among graduates and professionals. To achieve this, Science, Technology, Engineering, and Mathematics (STEM) education, as well as humanities education, are included in the National Education Policy 2020. The Policy describes the significance of facilitating universal access to high-quality holistic education for all students. It has given students more flexibility in choosing their subjects, and there will be no significant divide between the academics, curricular, extracurricular, and vocational streams because the goal is to ensure holistic growth. Platforms for multidisciplinary learning are needed to boost innovation, adaptation, and productivity.

Thakur College of Engineering and Technology (TCET) created IC-HSTE under the purview of MULTICON-W a decade ago to provide a platform to explore all upcoming research associated to humanities, sciences, and technical education. The Conference on Humanities, Sciences, and Technical Education (IC-HSTE-2022) is a specially designed cluster conference that will provide an interdisciplinary platform for researchers and educators to present and discuss recent innovations and trends, along with practical challenges faced and solutions adopted in the field of Humanities, Sciences, and Technical Education. We are confident that the conference contributes significantly to knowledge in numerous disciplines, enhancing our problem-solving abilities and nurturing our creativity. The conference also aims to bring together the perspectives of these diverse but related domains of knowledge in the aspirations of mutual growth.

## Engineering Sciences & Humanities

- Research in COVID-19
- Electricity and Photonics
- Nano-material, Nano-composites and Novel Materials
- Mathematical Modelling
- Synthetic Green Chemistry
- Environmental Science
- Business Communication, Managerial Competency & Linguistics
   Life Skills
- National Education Policy (NEP) 2020
- Social Policy, Social Work & Social legislation
- Economic and financial law
- Education Communication & Technology

## Technical Education

AIP

Challenges and Opportunities in Technical Education

A platform for Mulliple Conferences and Workshops Since 2010

- Bridging Gaps between Education and Employment
- Implementation of Recent Trends in Teaching-Learning Process
- Best Practices in Skill Development
- Inclusive and Sustainable Growth through Training and Skill Development
- Industry- Institute Interface
- Teaching with Technology
- E-Learning & E-Content

MULTICON-W 2022

- Impact of web Technologies on Education
- Enhancing Employability Skills among youth
- Role of Technical Education in Development of Indian Economy
- Value based education for holistic development

# Evaluation & Assessment

- Plagiarism and Intellectual property rights
- Online examination and Innovations
- Modes and matrices for setting of question papers
- Design of experiment for conduct of laboratory examination, oral & practical examination
- Evaluation and Assessment matrices (parameters)
- Evaluation tools and impact on its stake holders
- Standards to be followed for evaluation
- Program outcome attainment through effective measures
- Use of Technology (Digital transformation)
- Integration of E&A techniques for improving results
- Adopting new standards for E&A
- Quality Assurance
- Laboratory work evaluation
- Collaborative learning assessment

#### Paper Catepories

- Category I
   Technical Paper
- Category II

Research Paper

Poster Paper

- Case Studies Paper
- •Project/Design Based Paper
- Best & Innovative Practices Paper
- Publication Details

All selected quality papers will be published in IC-HSTE Proceedings or Multicon-W 2022 proceedings with ISBN and a few quality papers with modification of 30-40% will be recommended for publication in affiliated journal.



# MULTICON-W 2022 - A platform for Multiple Conferences and Plothshops Pince 2040

## **Industry Oriented Technology Workshop (IOTW - 2022)**



## About the Propramme

India is one of the fastest growing economies in the world and according to the United Nations Report, 356 million youth are in the age group of 10-24 years which constitute 28% youth of the country's population and by 2021, India will become the world's youngest country with 64 percent of its population in the working age group, says a report in The Hindu. This demography will be actively looking for employment, and can potentially drive global demands. To meet the global requirements, technical education plays a vital role in providing the technical human resource. This encouraged many institutes to establish and meet this huge demand. To sustain in the competition, institutes need to constantly evolve themselves to understand the industry requirements and implement the teaching-learning process as per the need.

Looking into these challenges, TCET's Training & Placement (T&P) is organizing Industry Oriented Technology Workshop (IOTW) 2019 to provide identify industry required skills and meet the local and global requirements.

## Unity By Example

- Introduction to a Game engine
- Different Gaming effects and animations
- Introduction to 2D & 3D
   Games
- animations Programming actual games with different characters and levels

## Fipma 101

- UI, UX Design Process, Principles and essentials
- Tools, Animations, Design elements and Features
- Online vs desktop version, and techniques
- Create an E-commerce App

## Dipital Marketing

- Introduction
- SEO, SEM
- Chatbot using Dialogflow
- Email Marketing
- Hashtags analytics Instagram

## **DevOps**

- Introduction to Devops
- Linux Basic, Python Script
- Version control with Git / GitHub
- Continuous integration, Configuration management
- Containerisation using Docker, Testing using Selenium

Application testing and

Build your own App

deployment

Flutter Zero to APP

- Introduction &Dart programming
- Architecture & application
- Accessing Rest API's, Flutter Database

## Finance Enthusiast

- The what and how of finance
   Understanding Stock market,
  - Orderstanding Stock market, Cryptos, Mutual funds and SIP
- Long term preparation mindset and values of compound interest
- The cycle of earning, saving and taxation

## Computer Vision

 Image Processing- Cropping, Blurring, Face detection ,Image Classification methods
 Basics of Optical Character

Recognition - MNIST dataset

 Project - Blurring Faces in a Video Stream, Social Distancing Detection

## Data Science

- C
  - Concept of Data Science
  - Programming Tools for Data Science
- Toolkits and Visualizing Data Working with Data
- Data Science Application

21



# MULTICON-W 2022 - A platform for Multiple Conferences and Markshops Since 2010

## **International Conference On Technology Forecasting - 2022**



## About Institute:

Thakur College of Engineering & Technology (TCET) is an autonomous and linguistic minority Institute. It was established in AY 2001-02 with a clear objective of providing quality technical education in tune with international standards and contemporary global requirements. TCET offers 11 U.G., 3 P.G., and 3 PhD (Tech.) programmes. TCET is ISO 9001:2015 certified and certification has helped Institute to develop a student centric process driven system required for quality education in the 21st century. As a result, Institute is accredited by NAAC with an "A" grade and all eligible programmes are accredited by NBA for three years. Some of the programmes are accredited multiple times. Moreover, all programmes are permanently affiliated with the University of Mumbai.

TCET is the recipient of reputed IMC - Ramkrishna Bajaj National Quality Commendation Certification 2012(Education) followed by IMC -Ramkrishna Bajaj National Quality Award 2015 (Education). In July 2016 TCET has been selected for Asia Pacific Quality Award (APQA) for the best in the class award in the education category from Global Pacific Quality Award (GPQA). TCET has been awarded in the category of "Excellent Performing & Innovative Engineering Institute in Maharashtra" at the National Maharashtra Education Summit & Awards 2016, jointly organized by the University of Mumbai & CMAI Association of India. TCET is a member of the National Entrepreneurship Network (NEN). Confederation of Indian Industry (CII) and Maharashtra Economic Development Corporation (MEDC) for active industry-institute interaction where TCET has been felicitated by CII-Education Excellence Forum for enhancing Industry Connect, Employability and Faculty Competency. For more details one can visit college Website <u>www.tcetmumbai.in</u>

## About TIFAC:

Technology Information, Forecasting and Assessment Council (TIFAC), ever since its inception in 1988 has been making significant contributions as a technology think tank specializing in Technology Information services, Foresight exercises, Innovation support and Technology demonstration programmes. The underlying motto of TIFAC activities during the past three decades has been to guide and catalyse national initiatives in Science and Technology. The crowning glory of TIFAC is the Technology Vision Exercises being carried out TIFAC as a nation-wide foresight exercise; the first vision document, Technology Vision 2020 was released in 1996 and the sequel Technology Vision 2035 was brought in 2016.

The journey of TIFAC has been characterized by a mix of technology foresight and innovation support activities, spanning from individual innovator to small and medium scale enterprises to pre-competitive technology development efforts in consortia mode.

## About the Conference

For years technology has been the dominant force creating change in men's lives. Technology forecasts is done based on past experience and current technological developments. By analyzing future opportunities and threats, the forecaster can improve decisions in order to achieve maximum benefits. India will be the country of young for the next few decades. It is imperative that every youth blossoms to his/her full potential and that the potential is fully tapped for the benefit of the nation. This in turn requires that needs of our children and youth for nutrition, health, knowledge, skill, connectivity and identity are met. This conference is a forum for discussing and presenting results and new challenges in various societal issues. It aims at bringing together the researchers, scientists, engineers, and scholar students in all areas of engineering and technology and provides a platform for the dissemination of original research results, new ideas and practices.

In the two day conference, there will be plethora of activities starting with keynote address followed by workshop on Technology forecasting. Together, the researchers from various domains will discuss and examine how technology-based and data-driven solutions can be applied to long-standing social challenges in areas like understanding national climate patterns and adapting to them , ensuring quantity and quality of water in all rivers and aquatic bodies and ensuring universal ecofriendly waste management.

# Tracks:

- 1. Scenario planning
- 2. Prepation of long term technology report
- 3. Normative foresight
- 4. Technology Prioritisation
- 5. Forecasting of breakthrough technology
- 6. Sustainable energy for future



MULTICON-W 2022 - A platform for Malliple Conferences and Morkshops Since 2010

**Inhouse Workshops** 

# **Professional Body Workshop**

01	TCET - IEEE The Institute of Electrical and Electronics Engineers, INC,		TCET - IETE Institution of Electronics and Telecommunication Engineers
	ta Science Using Python droid App Development		omation using IoT (ELEX & IoT) elopment (ELEX & IoT)
03	TCET - ASME American Society of Mechanical Engineers	04	TCET - ACM Association for Computing Machinery
1. Sur	face Modeling	1. Machine I 2. Angular &	earning with Python
05	TCET - CSI The Computer Society of India	06	TCET - ASCE American Society of Civil Engineers
	1. Blockchain 2. Django	<ol> <li>Automatic</li> <li>Matlab &amp;</li> </ol>	on in Automobile Industry Mahavastu



**Registration Deadline** 

**Registration Deadline** 

# MULTICON-W 2022

- A platform for Multiple Conferences and Horkshops Since 2010

15-02-2022

25-02-2022 (Extended)

## Important Date

#### Conference Announcement to organize the conference 27-02-2021 Conference Pre-announcement 07-09-2021 • **Brochure and Poster Printing** 09-09-2021 : Website Launch 20-09-2021 Website Redevelopment 05-10-2021 Publicity 12-11-2021 Abstract Submission 01-12-2021 : Paper Submission deadline 15-12-2021 • Paper Selection Notification 05-01-2022 : Registration deadline 15-01-2022 • Camera Ready Submission deadline 20-01-2022 : Paper submission deadline 25-01-2022 (Extended) : Paper acceptance deadline 29-01-2022 (Extended) • Date of registration 03-02-2022 (Extended) : Camera Ready Copy (CRC) submission 03-02-2022 (Extended) : Workshop Announcement to organize the Workshop 27-02-2021 Poster Design & Printing 04-10-2021 : Publicity 15-11-2021 •

## Highlights of ICWET 2010, 2011, & 2012 & Multicon 2013-2021

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Patticulars	No. of papers	Participants Participants (project + Woo: Ferror	No. of Trace	No. of papers	Full Length	Short Length	Poster Papers		er la
ICWET - 2010	628	1000+	08	318	113	109	96	ACM-222 Poster-96	
ICWET - 2011	590	2500+	10	495	173	180	84	ACM-290 IJCA-212 Poster-84	
ICWET - 2012	517	2700+	10	308	103	122	87	IJCA-108 IJACSA-8	
Multicon-W 2013	313	2500+	23	206	107	97	02	IJCA-43 IJAIS-41 IJSCSA-8	177
Multicon-W 2014	260	2500+	06	192	81	111	Nil	IJCA-38 IJAIS-43	2
Multicon-W 2015	280	3000+	06	225	94	131	Nil	IJCA-33 IJAIS-45	Z
Multicon-W 2016	615	3500+	16	460	323	137	Nil	Elsevier-130 IET-29 IRD-40	1-110
Multicon-W 2017	620	3000+	31	441	254	187	Nil	McGraw Hill-53 IEEE-23 IJSER-20	Multicon-W 2022
Multicon-W 2018	655	3500+	34	519	335	184	Nil	McGraw Hill-65 <i>i</i> -manager-23 IJSER-SAE India-30 IARJSET-12. IOSR-17	M
Multicon-W 2019	676	3500+	35	558	305	253	Nil	McGraw Hill-61 Special issues IDP 04, SCI press IJET 05, IOSR 44, JETIR 86	
Multicon-W 2020	866	3750+	40	786	287	499	Nil	McGraw Hill-38 Special issues CRC, apple press-21, springer LNNS-27	
Multicon-W 2021	439	2000+	25	292	102	190	Nil	Springer LNNS - 22 SN- Springer - 10	

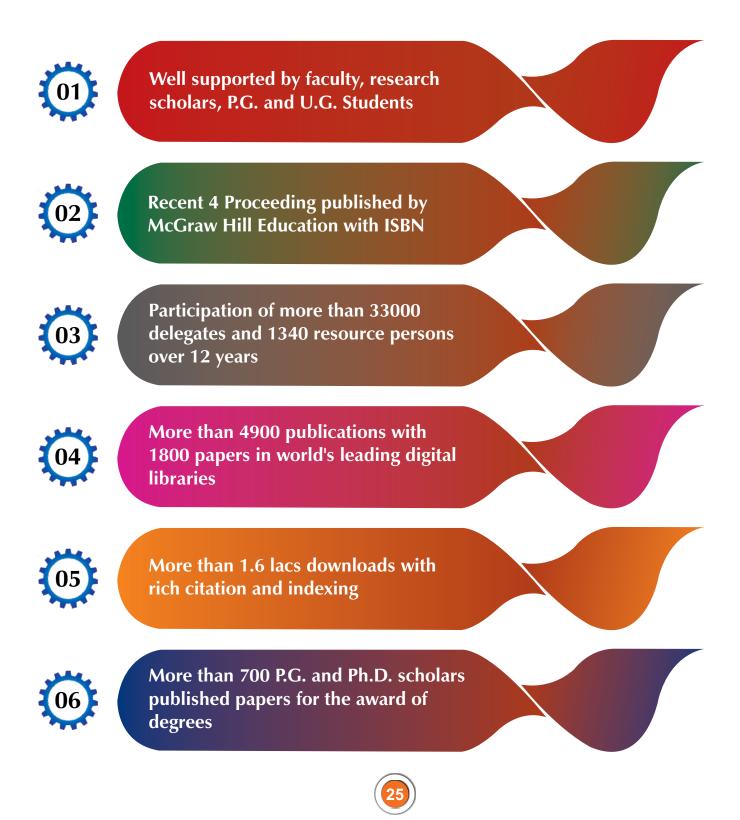




# Outreach of Previous 11 Conferences

MULTICON-W 2022

A platform for Multiple Conferences and Norkshops Since 2010



# ICWET 2010 - 2012 & MULTICON-W 2013 - 2021

*Remembrance* 



# MULTICON-W 2022 - A platform for Multiple Conferences and Marksheps Proce 2010

## **ICWET 2010**

#### Background

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The International Conference and Workshop on Emerging Trends in Technology (ICWET 2010) held on February 26-27, 2010 was committed to provide a common platform to the researchers, industry experts, professionals, delegates and scholars to the upcoming challenges in the area of cutting – edge technology. The conference was jointly organized by TEG institutions i.e. TIMSR, TIMSCDR, TPOLY, TCSC and hosted by TCET in cooperation with Association for Computing Machinery (ACM), New York, U.S.A.

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<ul> <li>Dignitaries</li> <li>Dr. V. N. Magare Dr. D. J. Shah Dr. Prachi Gharpure</li> </ul>	: Chief Guest : Guest of Honour : Keynote Speaker		Image: State
•	: 668 : 87.20% 30 (3 from outside Mumbai algaon, 1 from Tamil Nadu)	TEG :	
Foreign DelegatesPoland: 1Australia: 1Malaysia: 1Bangladesh: 1		Events Organ     Paper presentation     Poster exhibition     Workshop     Panel discussion	on : 222 papers (25 sessions)
Workshop         Non-TEG       :         TEG       :         TCET student       :         Feedback	33 attended out 29 attended out 209 attended out		(80.5%) (87.8%) (100%) Workshop

Rated very high with the following remarks from the delegates:

• Has set new standards • Great hospitality • State-of-the-art infrastructure • Cooperative staff members • Shown interest in our future programmes

Quality of Proceedings / Souvenir was highly appreciated by the resource persons as well as delegates



Background

# MULTICON-W 2022 - A platform for Multiple Conferences and Morkshops Pince 2010

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# **ICWET 2011**

The International Conference and Workshop on Emerging Trends in Technology (ICWET 2011) held on February 25-26, 2011 was committed to provide a common platform to the researchers, industry experts, professionals, delegates and scholars to the upcoming challenges in the area of cutting – edge technology. The conference was jointly organized by TEG institutions i.e. TIMSR, TIMSCDR, TPOLY, TCSC and hosted by TCET in cooperation with Association for Computing Machinery (ACM), New York, U.S.A., and International Journal of Computer Application (IJCA)

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	Dignitaries			inter ipoly icsc
•	Mr. M. K. Singh Mr. Dalbir Singh Virdi Mr. M. M. Shah Shri J. J. Tibrewala Mr. Rajiv Vaishnav	: Chief Guest : Guest of Honour : Key Note Speakers	Registration brea	Feld. 25 <sup>th</sup> 8-26 <sup>th</sup> 2011
	Mr. Ravi Ippaturi Dr. Abhay Wagh Dr. A. Deshpande		(78.50%	
•	Overall response Total delegates : 656		TEG : 130 atte (86.67%) Total : 360 (81	
	% turn out : 88.20% Total resource persons = 30		Events Organised	
•	Foreign Delegates Australia : 1		Paper presentation Poster exhibition Workshop Panel discussion	: 292 papers (35 sessions) : 84 posters (16 sessions) : 10 sessions : 1 session
	Workshop			
		ut of 23 registered (100 t of 105 registered (88.	)%) 57%)	

TCET student : 1059 attended out of 1200 registered (88.25%) Workshop

#### Feedback

Rated very high with the following remarks from the delegates :

- Achieved new standards Awesome hospitality State-of-the-art infrastructure
- Cooperative staff members Well managed tracks• Shown interest in our future programmes

Quality of Proceedings / Souvenir was highly appreciated by the resource persons as well as delegates



# MULTICON-W 2022 - M platform for Multiple Conferences and Markshaps Stree 2010

# **ICWET 2012**

#### Background

The International Conference and Workshop on Emerging Trends in Technology (ICWET 2012) held on February 24-25, 2012 was committed to provide a common platform to the researchers, industry experts, professionals, delegates and scholars to the upcoming challenges in the area of cutting – edge technology. The conference was jointly organized by TEG institutions i.e. TIMSR, TIMSCDR, TPOLY, TCSC and hosted by TCET in co-operation with International Journal of Computer Application, USA &The Science & Information Organization, USA

#### Dignitaries

- Dr. P. Chakrabarti Mr. Dalbir Virdi Dr. S. K. Ukarande Mr. John Kuriakose Dr. D. J. Shah Dr. Ashok Deshpande
- : Chief Guest
- : Distinguished Guest
- : Guest of Honour
- : Keynote Speakers

#### Overall Response

Participation	Participation Participants / Delegates			
Event	Day 1	Day 2	Day 1 + Day 2	Resource Persons
Conference Presentation	90	52	142	31
Conference Workshop	148	152	300	16
Industrial Workshop	398	350	748	06
In-house Workshop	418	390	808	04
Colloquium	80	78	158	11
Inaugural & Valedictory Function				06
Total	1134	1022	2156	74

	Workshop	
•	Non-TEG	: 15 attended out of 15
		registered (100 %)
	TEG	: 28 attended out of
		30 registered (93.33 %)
	TCET student	: 43 attended out of
		45 registered. (95.55%)
	ICWET Colloquium	: 4 sessions

#### Registration break - up

#### Conference

- Non-TEG :164 attended out of 204 registered (80.39%) TEG : 87 attended out of 104 registered
- (83.65%) Total : 308 registered

## Events Organised

Paper presentation: 142 papers (17 sessions)Poster exhibition: 87 posters (7 sessions)Workshop: 10 sessionsPanel discussion: 1 session

#### Feedback

- Rated very high with the following remarks from the delegates :
- Great hospitality
- Knowledge hub
- Excellent infrastructure
- Friendly and helpful staff members
- Shown interest in our future programmes







# NULTICON-V

# Multicon-W 2013

#### Background

•

Multicon-W 2013, a new initiative of TCET, was a platform for all the stake holders to contribute their original research work in three emerging areas : ICWET for Electronics and Telecommunication; ICWAC for Computer and Information Technology and ICWAM for Mechanical. In addition, Industry Workshops, Research Colloquium, Innovation in Technical education were other special features of Multicon-W 2013.





#### Dignitaries

Shri Durga Maruwada Dr. P. Chakrabarti Dr. S. K. Ukarande Mr. Rajul Master Dr. Ashok Deshpande Mr. Parthasarathi Banerjee : Keynote Speakers Dr. D. J. Shah

- : Chief Guest
- : Distinguished Guest
- : Guest of Honour

#### **Overall Response**

Participation	Participation Participants / Delegates			
Event	Day 1	Day 2	Day 1 + Day 2	Resource Persons
Conference Presentation	87	101	188	23
Conference Workshop	330	330	660	11
In-house Workshop	540	540	1080	16
Colloquium	40	30	70	08
Inaugural & Valedictory Function				06
Total	997	971	1998	64

#### Workshop Non-TEG : 20 attended out of 20 registered (100 %) TEG : 30 attended out of 35 registered (93.33 %) TCET student : 40 attended out of 45 registered (95.55%) Colloquium : 4 sessions

#### **Registration break - up**

•	Conference				
	Non-TEG	: 85 attended out of 99 registered (85.8%)			
	TEG	: 103 att (98.1%	tended out of 105 registered		
	Total	: 204 r	egistered		
	Events C	Organised			
•	Paper prese Workshop	entation	: 188 papers (23 sessions) : 28 sessions		

#### Feedback

The overall feedback received from delegates contained following major points :

- Excellent arragement
- Good Hospitality
- Co-operative faculty & Staff
- Good experience & knowledge gain in respective domain





# MULTICON-W 2022 - A platform for Multiple Conferences and Plankshops Stree 2010

# Multicon-W 2014

#### Background

•

Multicon-W 2013, a new initiative of TCET, was a platform for all the stake holders to contribute their original research work in three emerging areas : ICWET for Electronics and Telecommunication; ICWAC for Computer and Information Technology and ICWAM for Mechanical. In addition, Industry Workshops, Research Colloquium, Innovation in Technical education were other special features of Multicon-W 2013.

#### Dignitaries

- Dr. N.D. Desai Dr. P. Chakrabarti Dr. S. K. Ukarande Dr. Ashok Deshpande Mr. Parthasarathi Banerje Dr. D. I. Shah
- : Chief Guest

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- : Distinguished Guest
- : Guest of Honour

Dr. Ashok Deshpande Mr. Parthasarathi Banerjee : Keynote Speakers Dr. D. J. Shah

#### Overall Response

Participation	Participation Participants / Delegates			
Event	Day 1	Day 2	Day 1 + Day 2	Resource Persons
Conference Presentation	107	125	232	23
Conference Workshop	330	330	660	11
In-house Workshop	540	540	1080	16
Colloquium	40	30	70	08
Inaugural & Valedictory Function				06
Total	1017	1025	2042	64

	Workshop	
•	Non-TEG :	20 attended out of
		20 registered (100 %)
	TEG :	30 attended out of
		35 registered (93.33 %)
	TCET student :	40 attended out of
		45 registered (95.55%)
	Colloquium :	4 sessions

#### Registration break - up

#### Conference

	Non-TEG :	: 127 att (79.9%	tended out of 159 registered
	TEG :	( - · - /	ttended out of 170 registered
	Total :		egistered
	Events Or	ganised	
٠	Paper preser	atation	· 122 papers (27 sossions)
	raper preser	Itation	: 132 papers (27 sessions)
	Workshop		: 28 sessions

#### Feedback

The overall feedback received from delegates contained following major points :

- Good Infrastructure
- Good Hospitality
- Co-operative faculty & Staff
- Very informative sessions









# MULTICON-W 2022 - A Matterne for Multiple Conferences and Ptortshops Proce 2010

# Multicon-W 2015



#### Background

Multicon-W 2015, 4th Multiple conference organized by TCET, was a platform for all the stake holders to contribute their original research work in three emerging areas : ICWET for Electronics and Telecommunication; ICWAC for Computer and Information Technology and ICWAM for Mechanical. In addition, Industry Workshops, Research Colloquium, Innovation in Technical education were other special features of Multicon-W 2015.



#### Dignitaries

Mr. Sunil Khanna Dr. S. K. Ukarande Mr. Jaywant Gawande Dr. Vivek Bhartiya Mr. Ramani Iyer

- : Chief Guest (Industry)
- : Chief Guest (Academia)
- : Distinguished Guest

~

: Guest of Honour

#### **Overall Response**

Participation	Participants / Delegates			
Event	Day 1	Day 2	Day 1 + Day 2	Resource Persons
Conference Presentation	79	147	226	30
Industrial Oriented Workshop	401	401	800	15
EWPPC-2015	608	608	1216	15
Colloquium	50	50	100	06
Inaugural & Valedictory Function	350	440	790	14
Total	1488	1646	3132	80

	Workshop		
•	Non-TEG :	290 attended out of	
		210 registered (100 %)	
	TEG :	111 attended out of	
		111 registered (100 %)	
	TCET student :	: 120 attended out of	
		74 registered (98.38%)	
	Colloquium :	4 sessions	

#### Registration break - up

#### Conference

Non-TEG	: 137 attended out of 150 registered
TEG	: 69 attended out of 76 registered
Total	: 226 registered

#### Events Organised

Paper presentation	: 226 papers (20 sessions)
Workshop	: 39 sessions

#### Feedback

- Rated very high with the following notes from the delegates:
- a) Wide coverage of Topics, Good Technical Presentation
- b) Great hospitality and excellent transportation arrangement
- c) State -of-the-art infrastructure,
- d) Cooperative staff members
- e) Good Quality of Proceedings, Complementary Distribution of Proceedings is welcomed by authors.
- f) Colloquium was a great source of knowledge
- g) Should have more Affiliations in future



# Multicon-W 2016

### Background

Multicon-W 2016, 5th Multiple conference organized by TCET, was a platform for all the stake holders to contribute their original research work in six emerging areas : ICWET for Electronics and Telecommunication; ICCCV for Computer and Information Technology, ICWDMA for Mechanical, ICACE for Civil, NCASH for Humanities and Sciences and LCCP for Librarianship. In addition, Industry Workshops, Research Colloquium, Innovation in Technical education were other special features of Multicon-W 2016.





### Dignitaries

Dr. P. Chakrabarti Mr. Krishna Iyer Dr. S.K. Ukarande : Chief Guest

~

: Distinguished Guest

### Overall Response

Participation	Participants / Delegates				
Event	Day 1 Day 2		Day 1 + Day 2	Resource Persons	
Conference Presentation	123	154	277	52	
Industrial Oriented Workshop	350	350	700	15	
EWPPC-2016	623	623	1246	15	
Colloquium	50	50	100	04	
Inaugural & Valedictory Function	350	237	587	16	
Total	1496	1414	2910	102	

#### Workshop

: 350 attended out of
350 registered (100 %)
: 623 attended out of
623 registered (100 %)
: 50 attended out of
50 registered (100%)
: 4 sessions

### Registration break - up

#### Conference

Non-TEG	: 250 attended out of 290 registered
TEG	: 76 attended out of 99 registered
Total	: 389 registered

#### Events Organised

Paper presentation	: 326 papers (25 sessions)
Workshop	: 84 sessions

- Rated very high with the following notes from the delegates:
- a) Wide coverage of Topics, Good Technical Presentation
- b) Great hospitality and excellent transportation arrangement
- c) State -of-the-art infrastructure,
- d) Good Quality of Proceedings, Complementary Distribution of Proceedings is welcomed by authors.
- e) Colloquium was a great source of knowledge
- f) Should have more Affiliations in future



# Multicon-W 2017

### Background

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Multicon-W 2016, 5th Multiple conference organized by TCET, was a platform for all the stake holders to contribute their original research work in six emerging areas : ICWET for Electronics and Telecommunication; ICCCV for Computer and Information Technology, ICWDMA for Mechanical, ICACE for Civil, NCASH for Humanities and Sciences and LCCP for Librarianship. In addition, Industry Workshops, Research Colloquium, Innovation in Technical education were other special features of Multicon-W 2016.



#### Dignitaries

Dr. B. Satyanarayana Mr. Krishna Iyer Dr. P. Chakrabarti : Chief Guest

~

: Distinguished Guest

### Overall Response

Participation	Partici	Participants / Delegates		
Event	Day 1	Day 2	Day 1 + Day 2	Resource Persons
Conference Presentation	166	177	343	53
Industrial Oriented Workshop	350	350	700	15
EWPPC-2017	638	638	1276	15
Colloquium	50	50	100	06
Inaugural & Valedictory Function	350	237	587	14
Total	1554	1442	3006	103

### Workshop

Non-TEG	: 350 attended out of
	350 registered (100 %)
TEG	: 638 attended out of
	638 registered (100 %)
TCET student	: 50 attended out of
	50 registered (100%)
Colloquium	: 4 sessions

### Registration break - up

#### Conference

Non-TEG	: 205 attended out of 287 registered
TEG	: 137 attended out of 255 registered
Total	: 542 registered

### Events Organised

Paper presentation :343 papers (25 sessions) Workshop : 84 sessions

- Rated very high with the following notes from the delegates:
- a) Wide coverage of Topics, Good Technical Presentation
- b) Great hospitality and excellent transportation arrangement
- c) State -of-the-art infrastructure,
- d) Cooperative staff members
- e) Appreciation of Initiatives for publication of Proceedings with McGraw Hill Education
- f) 1st time advertisement done through whatsapp & images
- g) Should have more Affiliations in future



# Multicon-W 2018

### Background

Multicon-W 2018, 9<sup>th</sup> Multiple conference organized by TCET, was a platform for all the stake holders to contribute their original research work in six emerging areas : ICWET for Electronics and Telecommunication; ICCCV for Computer and Information Technology, ICWDMA for Mechanical, ICACE for Civil, NCASH for Humanities and Sciences and LCCP for Librarianship. In addition, Industry Workshops, Research Colloquium, Innovation in Technical education were other special features of Multicon-W 2018.





### Dignitaries

- Dr. D. K. Paliwal Dr. K. G. Narayankhedkar Dr. P. Chakrabarti Dr. Subhlakshmi Kher Dr. S. K. Ukrande
- : Chief Guest

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- : Distinguished Guest
- : Guest of Honour

### Overall Response

Participation	Partici	Participants / Delegates		
Event	Day 1	Day 2	Day 1 + Day 2	Resource Persons
Conference Presentation	161	173	334	62
Industrial Oriented Workshop	350	350	700	15
EWPPC-2018	623	623	1246	15
Colloquium	30	30	60	04
Inaugural & Valedictory Function	350	237	587	16
Total	1514	1413	2927	112

#### Workshop

	_	
Non-TEG	:	350 attended out of
		350 registered (100 %)
TEG	:	623 attended out of
		623 registered (100 %)
TCET student	:	30 attended out of
		30 registered (100%)
Colloquium	:	4 sessions

### Registration break - up

### Conference

Non-TEG	: 253 attended out of 290 registered
TEG	: 184 attended out of 287 registered
Total	: 577 registered

#### Events Organised

Paper presentation: 334 papers (25 sessions)Workshop: 84 sessions

- Rated very high with the following notes from the delegates:
- a) Wide coverage of Topics, Good Technical Presentation
- b) Great hospitality and excellent transportation arrangement
- c) State -of-the-art infrastructure,
- d) Cooperative staff members
- e) Appreciation of proceeding published with McGraw Hill Publishers
- f) Delegates has appreciated the advertisement of Multicon by small videos
- g) Should have more Affiliations in future



# JLTICON-V 21

# Multicon-W 2019

### Background

Multicon-W 2019, 10<sup>th</sup> Multiple conference organized by TCET, TCET is hosted 10<sup>th</sup> conference in a row and has planned four conferences (IC-ISCN, IC-TELECON, IC-AMCE & CHSTE) and three workshops under Multicon-W2019. During the long journey of one decade of Multicon-W, we have seen the growth of participation from outside India to make it widely known among the researchers and technocrats. Multicon-W 2019 is conducted with the theme inculcating research culture in the campuses.



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Dr. Abhay Wagh Prof. (Dr.) Ganpati D. Yadav Dr. K. G. Narayankhedkar Dr. S. K. Ukarande Dr. Shrihari Honwad

: Chief Guest

: Distinguished Guest

### **Overall Response**

Participation	Partici	Participants / Delegates			
Event	Day 1 Day 2		Day 1 + Day 2	Resource Persons	
Conference Presentation	242	242	484	31	
Industrial Oriented Workshop	255	255	510	10	
EWPPC-2019	542	542	1084	15	
Colloquium	40	40	80	02	
Inaugural & Valedictory Function	350	237	587	14	
Total	1429	1316	2745	72	

### Workshop

Non-TEG	: 316 attended out of
	343 registered (92.12%)
TEG	: 603 attended out of
	603 registered (100 %)
TCET student	: 111 attended out of
	111 registered (100%)
Colloquium	: 4 sessions

### **Registration break - up**

#### Conference

Non-TEG	: 102 attended out of 116 registered
TEG	: 163 attended out of 337 registered
Total	: 453 registered

### **Events Organised**

Paper presentation : 373 papers (26 sessions) Workshop : 100 sessions

- Rated very high with the following notes from the delegates:
- a) Delegates appreciated planning an execution of the event
- b) Reviewer has appreciated the quality of the articles
- c) Wide varity of research topic and category of papers have been appreciated
- d) Cooperative staff members
- e) Appreciation of proceeding published with McGraw Hill Publishers
- f) The effort of the advertising by small videos has been taken positively by the delegates



# Multicon-W 2020

### Background

Multicon-W 2020, 11<sup>th</sup> Multiple conference organized by TCET, TCET is hosted 11<sup>th</sup> conference in a row and has planned four conferences (IC-ISCN, IC-TELECON, IC-AMCE & CHSTE) and three workshops under **Multicon-W 2020**. During the long journey of one decade of Multicon-W, we have seen the growth of participation from outside India to make it widely known among the researchers and technocrats. Multicon-W 2020 is conducted with the theme inculcating research culture in the campuses.





### Dignitaries

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Dr. P. Chakrabarti Mr. Ashok Shahane Mr. P. N. Jumle Dr. D. G. Wakde Dr. S. V. Rasal

- : Chief Guest
- : Guest of Honour

### Overall Response

Participation	Participants / Delegates			
Event	Day 1	Day 2	Day 1 + Day 2	Resource Persons
Conference Presentation	352	392	744	45
Industrial Oriented Workshop	468	468	936	17
EWPPC-2020	580	580	1160	15
Colloquium	35	35	70	02
Inaugural & Valedictory Function	385	290	675	09
Total	1820	1765	3585	88

#### Workshop

Non-TEG	: 478 attended out of
	490 registered (97.55%)
TEG	: 558 attended out of
	558 registered (100 %)
TCET student	: 90 attended out of
	90 registered (100%)
Colloquium	: 4 sessions

### Registration break - up

#### Conference

Non-TEG	: 94 attended out of 112 registered
TEG	: 650 attended out of 674 registered
Total	: 786 registered

### Events Organised

Paper presentation : 463 papers (45 sessions)
 Workshop : 112 sessions

- Rated very high with the following notes from the delegates:
- a) Delegates appreciated planning an execution of the event
- b) Reviewer has appreciated the quality of the articles
- c) Wide varity of research topic and category of papers have been appreciated
- d) Cooperative staff members
- e) Appreciation of proceeding published with McGraw Hill Publishers
- f) The proposal of partnership and collaboration has been appreciated by the delegates



# Multicon-W 2021

### Background

Multicon-W 2021, 12<sup>th</sup> Multiple conference organized by TCET, TCET is hosted 11<sup>th</sup> conference in a row and has planned four conferences (IC-ISCN, IC-CCDS, IC-AMCE & IC-HSTE) and three workshops under **Multicon-W 20**20. During the long journey of one decade of Multicon-W, we have seen the growth of participation from outside India to make it widely known among the researchers and technocrats. Multicon-W 2020 is conducted with the theme inculcating research culture in the campuses.

### Dignitaries

Prof. Anil D. Sahastrabudhe: •Prof. Prabhat Ranjan: •Dr. Vijay Kumar Shriwastawa·Mr. Ashok Shahane·Dr. M. Madheswaran: •Prof. Prashant Pillai: •

- : Chief Guest
  - : Guest of Honour
  - : Guest of Distinguish

### **Overall Response**

Participation	Participants / Delegates			
Event	Day 1	Day 2	Day 1 + Day 2	Resource Persons
Conference Presentation	70	128	198	20
Industrial Oriented Workshop	108	108	216	04
Technical & Social Webinaar	787	757	1544	05
Colloquium	25	25	50	02
Inaugural & Valedictory Function	989	892	1881	05
Total	1979	1910	3889	36

### Workshop

Non-TEG :	108 attended out of
	111 registered (97%)
TEG :	1585 attended out of
	1585 registered (100 %)
TCET student :	1585 attended out of
	85 registered (100%)
Colloquium :	4 sessions

### Registration break - up

#### Conference

Non-TEG	: 95 attended out of 146 registered
TEG	: 103 attended out of 175 registered
Total	: 321 registered

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COLLEGE OF

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### Events Organised

Paper presentation : 198 papers (40 sessions)
 Workshop : 70 sessions

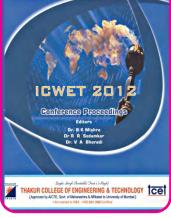
- Rated very high with the following notes from the delegates:
- a) Delegates appreciated planning an execution of the event in the online mode.
- b) The AICTE funding for the conference
- c) Wide varity of research topic and category of papers have been appreciated
- d) The proposal of partnership and collaboration has been appreciated by the delegates



# MULTICON-W 2022 - A platform for Malliple Conferences and Morkshops Since 2010

### **Glimpses of Conference Publications**



















# MULTICON-W 2022 - A platform for Malliple Conferences and Morkshops Since 2010

### **Glimpses of Conference Publications**









## **Conference Publication**

Particulars	Name of Journal	No. of Papers
ICWET 2010	ACM Digital Library	222
ICWET 2011	ACM Digital Library / IJCA	290 / 212
ICWET 2012	IJCA / IJACSA	108 / 8
Multicon-W 2013	IJCA / IJAIS / IJSCSA	43 / 41/ 8
Multicon-W 2014	IJCA / IJAIS	38 / 43
Multicon-W 2015	IJCA / IJAIS	33 / 45
Multicon-W 2016	Elsevier Digital Library (Procedia) / IET Digital Library / IRD	130 / 29 / 40
Multicon-W 2017	Mc-Graw Hill Proceeding / IEEE Xplore Digital Library / IJSER	53 / 23 / 20
Multicon-W 2018	Mc-Graw Hill Proceeding / i-Manager Publications / IJSER-SAE India / IARJSET / IOSR	65 / 23 / 36 / 12 / 17
Multicon-W 2019	Mc-Graw Hill- Special Issues IDP / SCI Press / IJET / ISOR / JETIR	04 / 05 / 44 / 86
Multicon-W 2020	Me-Graw Hill Speciali Isseus CRC - Apple Press / Springer LNNS	21 / 27
Multicon-W 2021	Springer LNNS / SN- Springer	22 / 10





### MI JLTICON-W 2022 - A platform for Multiple Conferences and Workshops Since 2010

### **Glimpses of ICWET 2010**











THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY



Glimpses of ICWET 2011





























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# MULTICON-W 2022 - of platform for Multiple Conferences and Morkshops Since 2010

### Glimpses of Past few years Student Workshop of IOW



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# MULTICON-W 2022 - A platform for Multiple Conferences and Morkshops Since 2010

### Glimpses of Past few years Student Workshop of IOTW 2019







# MULTICON-W 2022 - A platform for Multiple Conferences and Morkshops Since 2010







# MULTICON-W 2022 - A platform for Malliple Conferences and Morkshops Since 2010

### Glimpses of Past few years Student Workshop of IOW







# MULTICON-W 2022 - A platform for Malliple Conferences and Morkshops Since 2040

### Glimpses of Past few years Student Workshop of IOTW 2020







# MULTICON-W 2022 - A platform for Multiple Conferences and Morkshops Since 2010

### Glimpses of Multicon - W 2021













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# MULTICON-W 2022 - A platform for Malliple Conferences and Plorkshops Prace 2010

### **Eminent Personalities Visited to The Institute**



Dr. Abhay Wagh Director, DTE, Maharashtra State, Mumbai, India



Shri. D. Maruwada Lead-Head, Public Services & Director of Deliveries Technology, Accenture, Mumbai, India



Dr. K. G. Narayankhedker Chancellor at MGM Institute of Health Sciences



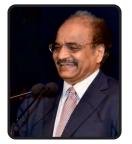
**Dr. P. Chakrabarti** Director, IIEST, Shibpur Professor, Administration Howrah, West Bengal, India



**Dr. Shubhlakshmi Kher** Director and Professor of Electrical Engineering Arkansas State University (USA)



**Dr. V. N. Magare** Board of College and University Development



Prof. (Dr.) Ganapati D. Yadav Vice Chancellor, ICT, Mumbai, India (Renowned Researcher)



Dr. Deepak Phatak Indian Institute of Technology Bombay



Dr. Krishna lyer Businessman



**Dr. D. K. Paliwal** Former Member Secretary NBA & Deputy Educational Advisor, Covt. of India.



**Mr. Dalbir Virdi** Strategic Advisor to the Chairman Datamatics Group of Companies



Dr. John Kuriakose Accenture





Mr. Sunil Khanna Dr. Satyanarayana Bheesette President & Managing Director - Vertiv Scientific Officer (H), Energy Pvt Ltd , India Department of High Energy Physics, & Chairman - CII (WR) Skill Deve]ata Institute of Fundamental Research



**Prof. Prabhat Ranjan** Vice Chancellor of D.Y. Patil International University, India



Dr. Vjay Shrivastav G.E. Aviation USA



**Thakur Education Group** 

The Host Institute,

**Partner Institutions** 

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Collaborators



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### **Thakur Education Group**

Thakur Education Group (TEG), Mumbai is a premier educational group committed to deliver quality education. The Group continuously adds to the national intellectual wealth by training generations that exude our rich culture, human values, discipline, social responsibilities and national pride. TEG has constantly created assets that our society will always be proud of and cherish for a long time to come. Today, TEG comprises of three Trusts, 22 educational institutes on 8 spacious campuses with state-of-the-art infrastructure, accommodating over 50,000 students and over 4000 employees.

## Institutes Managed by TEG

### **INSTITUTES MANAGED BY**



### THAKUR EDUCATION GROUP (TEG)





Thakur Institute of ement Studies & Research (2002) Manag







Thakur Public School (2003)







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Thakur Toonskool Advanced Animation Academy (2005)



Thakur School of Architecture & Planning (2014)





Q R



Thakur Institute of Aviation Technology (2006)



Thakur Vidya Mandir Global School (Azamgarh, U.P.) (201





Thakur Institute of Management Studies, C D and R (2001)



Thakur Shyamnarayan College of Education and Research (2007)



Degree College (2016)







Thakur International School (2008)



(2021)



# MULTICON-W 2022 - A platform for Multiple Conferences and Marksheps Prace 2010



The **Thakur College of Engineering & Technology (TCET)**, an Autonomus Hindi Linguistic Minority Institute established in the AY 2001-02 with a clear objective of providing quality technical education in tune with international standards and contemporary global requirements. TCET offers 6 UG, 3 PG and 3 Ph.D. (Tech.) programmes. TCET is an **ISO 9001:2015** certified Institute. Certification has helped Institute to develop a process driven student centric system required for quality education in 21<sup>a</sup> century. As a result Institute is accredited by **NAAC with "A" grade** for five years which has been extended by two years to 2024 and programmes are **accreditated by NBA** for three Years.

In the last decade the institute has put its best efforts to focus on outcome based education leading to holistic student development as per international graduate attributes (GA). Based on our strengths, the University Grants Commission (UGC) has conferred "Autonomous Status" for 10 years under the revised UGC graded Autonomy Scheme 2018.

As per the mandate of UGC under Graded Autonomy Scheme, TCET aspires to strengthen its program offerings to develop budding Engineers "Globally Competent, Locally Relevant and Skill Oriented" through:

- + Cutting-edge Curriculum focused on Industry & Research needs with Innovative Teaching Learning Methodology.
- + Specialization Courses in emerging technologies offered by the departments.
- + Panoramic blend of academic and industry meets for domain research and specialization.
- + Holistic approach for lifelong learning with Employability Skill Development (ESD) Curriculum.

#### **UNDERGRADUATE COURSES (B.E. & B.Tech DEGREES)**

Programmes	Current intake	Year of Starting the Course	NBA Accreditation Status
B.E Computer Engineering (COMP)	180	2001	3 <sup>rd</sup> time accredited UG Level
B.E Electronics & Telecommunication Engineering (E&TC)	120	2001	programmes for COMP, E&TC & IT (3 years w.e.f. 01.7.2019)
B.E Information Technology (IT)	120	2001	Permanent affiliated UG programme w.e.f. A.Y. 2015-16 onwards
B.E Electronics and Computer Science Engineering Change in name of course w.e.f. A.Y. 2021-22	60	2008	2 <sup>nd</sup> time accredited UG Level Programme (3 years w.e.f. 01.7.2019) Permanent affiliated UG programme w.e.f. A.Y. 2017-18 onwards
B.E Mechanical Engineering (MECH)	60	2012	Accredited UG Level Programme (3 years w.e.f. 01.7.2021)
B.E Civil Engineering (CIVIL)	60	2014	Accredited UG Level Programme (3 years w.e.f. 01.7.2021)
B.E. Mechanical and Mechatronics Engineering (Additive Manufacturing) A.Y. 2021-22	60	2021	Eligible after 2 batches passout
B.E. Computer Science and Engineering (Cyber Security A.Y. 2021-22)	60	2021	Eligible after 2 batches passout
B.Tech Artificial Intelligence and Data Science	60	2020	Eligible after 2 batches passout
B.Tech Internet of Things (IoT)	30	2020	Eligible after 2 batches passout
B.Tech Artificial Intelligence and Machine Learning	60	2020	Eligible after 2 batches passout

In addition there is Supernumerary seats viz TFWS, J&K quota, GOI quota and these seats are filled up by AICTE / DTE.

### POSTGRADUATE COURSES (M.E. DEGREE)/ Ph.D. (TECHNOLOGY) (DEGREE)

Programmes	Current intake		Year of Starti	ng the Course	Award (Degree)
riogrammes	M.E.	Ph.D.	M.E.	Ph.D.	Award (Degree)
Electronics & Telecommunication Engineering (E&TC)	18	10	2008	2014	M.E. / Ph.D. (Technology)
Computer Engineering (COMP)	18	10	2011	2016	M.E. / Ph.D. (Technology)
Information Technology (IT)	18	10	2011	2017	M.E. / Ph.D. (Technology)



# MULTICON-W 2022 - A platform for Multiple Conferences and Mediahelps Since 2010

### **Institutional Partner**



### Muthayammal Engineering College (Autonomous), Tamil Nadu

Muthayammal Engineering College, an Autonomous Institution affiliated to Anna University, Chennai, was established in the year 2000 under the aegis of Muthayammal Educational Trust and Research Foundation with the motto to uplift the rural community through Technical Education. The College has grown as a reputed Institution in the past 20 years and progressing with the aim to become Centre of Excellence in Engineering Education, Research and Development. MEC started 3 Under Graduate Programmes in Engineering in the year 2000 and presently offers 14 Under Graduate and 6 Post Graduate Programmes. Based on the quality of Teaching, Research and Placement Records, the Institution is Accredited by NAAC and the Undergraduate Programmes are accredited by NBA. Anna University has also recognized Four of our Departments as Research Centres to conduct Ph.D. and M.S. (By Research) Programmes. The college is granted 12(b) and 2(f) status by UGC. Anna University, Chennai has also granted Permanent Affiliation for 10 Programmes.

#### The salient features of the Muthayammal Engineering College

- Well experienced and dedicated Faculty Members
- Research Centres with Advanced Facilities
- NAAC Accredited Institution
- NBA Accredited Departments
- Accredited by Tata Consultancy Services (TCS) and Wipro Technologies
- MoUs with reputed Academic Institutions and Industries for collaborative activities in Research and other Academic Interactions
- Industry Linked Laboratories for equipping students with the Industry needed Technologies
- Entrepreneurship Development Cell and Technology Learning Centres
- Exclusive Cell for Higher Studies, Women Empowerment and Yoga
- Dedicated Placement Cell and well designed Sandwiched Training
- Technology Learning Groups (TLeG) formed with students to learn Emerging Technologies
- Student's participation in Conference, Symposium, Project Competitions and On-line International Certifications
- Proven track records by students in National Competitions
- More Innovative student Projects and Products
- Student Centric Learning with Practical Training



### Parul University

A state of the art campus, situated in Gujarat's cultural capital, Vadodara. From the date of its inception in 1993, to the point of its recognition as Parul University in the year 2015, the University has grown into one of India's leading academic Institutions. Parul University is an embodiment of the essence of cultural heritage and diversity with a blend of 21st century modernity. The University is an amalgamation of 20 faculties and 36 institutes, with a plethora of diploma, undergraduate and post graduate programs in numerous disciplines. Offering a range of over 450 uniquely structured programs, designed to suit the career prospects of every student aspirant. The 150-acre lush green campus is home to over 35,000 national and international students from 64 countries, making Parul University a culturally global destination. As a mark of excellence, the University has been awarded as Best Private University in Western India by Praxis Media, Best University in Placements by ASSOCHAM and ranked among the Top 50 Private Universities for Leading Innovation Achievements 2020 by ARIIA, Ministry of Human Resource Development. Our Multidisciplinary network of expert faculties, corporate ties, collaborative research and global partnerships provide our students with an enriching University experience, uniquely shaping every student, to shape the world.



# MULTICON-W 2022 - A platform for Multiple Conferences and Mortusheps Since 2010

### **Institutional Partner**



### Vishwakarma Institute of Technology, Pune (An Autonomous Institute affiliated to Savitribai Phule Pune University)

Vishwakarma Institute of Technology, Pune, a highly commendable private institute, occupies a place of pride amongst the premier technical institutes of the western region of India. Established in the year 1983, financed and run by the Bansilal Ramnath Agrawal Charitable Trust, Pune. It is affiliated to the University of Pune. Within three decades, the institute marched towards the pinnacle of glory through its remarkable achievements and laurels in the field of engineering education of high calibre. According to Indian history, 'Vishwakarma' is a divine architect-engineer. It is believed that He fashioned this world with His rare engineering skills. The Trust adopted this name with a vision to develop engineers of high caliber, who could take up challenges of any type of engineering job and become successful in the chosen career.

The campus spread over 17.625 acres of land, boasts of lush green lawns that provide an ambience and a serene atmosphere of ancient Gurukuls far from the madding crowd. Vishwakarma Institute of Technology hereafter called, as 'The Institute' is one of the leading autonomous Institutes permanently affiliated to Savitribai Phule Pune University. It was started in 1983 with an objective to impart quality technical education for the overall development of students and the latest need of Society in general and Industry in particular.

#### Salient Features of Institute:

The Institute is running 7 under graduate 4 post-graduate &

The Institute was accredited ('A++' Grade ) by National

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	3 Ph.D. Programme which are affiliated to the University of		Assessment and Accreditation Council (NAAC), Bangalore
	Pune.		from November 2018 for the next five years.
	The Institution was selected under the world bank project		NIRF India Ranking 2021-Ranked 122 in Engineering
	TEQIP Phase- I i.e. Technical Education Quality Improvement		Category
	Programme by Ministry of HRD, New Delhi.		ARIIA 2021-Ranked under Band-Excellent.
	The Institution is ISO 9001-2015 certified by BSI, India.		The WEEK survey 2021-Ranked 12 in Private Engineering
	The Institute has been granted autonomous status since		Colleges, India
	academic year 2008-09 and has autonomous status upto		India Today Survey-Overall Ranked 36.
	2030.		



### Shri Vile Parle Kelavani Mandal (SVKM) Institute of Technology, Dhule

Shri Vile Parle Kelavani Mandal's Institute of Technology, Dhule Campus is affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere. Established in 2017, SVKMIOT Dhule is largely emerging as one of the biggest future hubs of technology and education. It offers 5 Under Graduate Programmes in Engineering. It has gained a strategic advantage for being on the junction of three National Highways viz. NH-3, NH-6, and NH-211. Dhule is aiming to develop into an industrial town which may provide next generation technologies across infrastructure sectors. The institute is active in various govt initiatives such as Unnat Bharat Abhiyan, Institute Innovation Council, Atmanirbhar Bharat as well as it hosts number of quality chapters as ISTE, ACM and IETE for staff and students.





# MULTICON-W 2022 - A platform for Multiple Conferences and Merksheps Since 2010

### **Institutional Partner**



### Dr. D Y Patil Institute of Technology

Dr. D. Y. PatilUnitech Society's Dr. D Y Patil Institute of Technology Pimpri Pune, is situated in the vicinity of Pimpri – Chinchwad industrial belt, which is one of the biggest industrial belt in Asia, and is very close to the Rajiv Gandhi IT Park as well as Auto cluster –the automotive hub of India. Since its inception the Institute has grown leaps and bounds to reach the present state of education colossal. The institute caters to seven UG engineering programmes like Mechanical, Civil, Computer, E&TC, Electrical, Instrumentation & IT, five PG programs like Mechanical, Civil, E&TC, Computer & MBA and four PhD programs Mechanical Engg., E&TC Engg., Civil Engg. & Computer Engg., affiliated to SavitribaiPhule Pune University (SPPU). The Institute is NAAC accredited by 'A' Grade with 3.26 CGPA. In this journey college has been accredited by NBA for engineering 7 out of 8 programmes like Mechanical, Computer, E&TC, Instrumentation, Civil, Electrical and MBA. Institute was been awarded by SPPU as "Best College" under professional category (Urban) for the Year 2015.



Established in 2015 with a concept to bring the authenticity of Italian wood-fired pizza to India.

1441 Pizzeria a venture by Trofi Chain Factory Private Limited is the first initiative from this culinary art house. It will be a one of its kind, traditional Italian Wood Fired Pizzeria with all of its food being made solely in the wood oven. The concept and menu have been designed and created by the Italian Pizza Master chef Renato Viola who will also be training the chefs personally.





# MULTICON-W 2022 A platform for Multiple Conferences and Merkshops Since 2010

### Collaborators



Springer is a leading global scientific, technical and medical portfolio, providing researchers in academia, scientific institutions and corporate R&D departments with quality content through innovative information, products and services. Springer has one of the strongest STM and HSS eBook collections and archives, as well as a comprehensive range of hybrid and open access journals and books under the SpringerOpen imprint. Springer is part of Springer Nature, a global publisher that serves and supports the research community. Springer Nature aims to advance discovery by publishing robust and insightful science, supporting the development of new areas of research and making ideas and knowledge accessible around the world. As part of Springer Nature, Springer sits alongside other trusted brands like Nature Research, BMC and Palgrave Macmillan.



AIP Publishing is a wholly owned not-for-profit subsidiary of the American Institute of Physics (AIP). Our portfolio comprises highly regarded, peer-reviewed journals, including a growing portfolio of Open Access titles, that cover all areas of the physical sciences.



**Transstellar Journal Publications and Research Consultancy Private Limited (TJPRC Pvt. Ltd.)** is a privately held company, dedicated to the global dissemination of information through an unparalleled commitment to quality, reliability, and innovation.



**International Journal of Forensic Software Engineering (IJFSE)** proposes and fosters discussions on the definition and identification of methods, techniques, approaches, patterns and tools for systemic analysis and investigation of software failures encompassing the retrospective analysis of the impact on processes for software products and systems specification, design, development and maintenance.



Journal of Engineering Education Transformations (JEET) is a scholarly journal committed to the advancement of theory, research and practice in the field of engineering education. Published from India, the world's largest hub of engineering education, JEET is international in its scope inviting scholars and experts from across the globe to share their theoretical insights and innovative practices for the enhancement and transformation of engineering education.





# MULTICON-W 2022 - A platform for Multiple Conferences and Morksheps Pince 2010

### Collaborators



**International Journal of Electronics, Communications, and Measurement Engineering (IJECME)** is a dedicated source for high quality papers in the electronics, communications, and measurement domain.



**Industrial IoT and Future Generation Revolution (IJIN)**: The advent of modern digital technology has sparked the fourth industrial revolution. Known as Industry 4.0. (I4.0), it uses technologies such as Cloud, Big Data Analytics and the Internet of Things (IoT) to capture, connect and analyse data.



**Institute of Research and Journals-IRAJ** is an advanced Nonprofit technological forum registered under Peoples Empowerment Trust, situated at Bhubaneswar, Odisha, for the Researchers & Scholars by displaying their knowledge in the vicinity of Science Technology. The objective is to provide a platform which will promote, encourage and support Scholars, Researchers & Professionals to carry and accomplish their research work.



The International journal of analytical and experimental modal analysis is a branch of mathematics which deals with mathematical methods that are basically used including weather forecasting, engineering, business and finance, science, and medicine. The International journal of analytical and experimental modal analysis (IJAEMA) is an international peer reviewed journal devoted towards mathematical sciences.

### **Print Media Partner**



The Free Press Journal is one of the oldest English Daily newspapers from Mumbai with a heritage of more than 88 years. And yet, The Free Press Journal is a contemporary paper and rooted in current urban realities.

In keeping with the international trend, it has reinvented itself in terms of design, get up and content. It means different thing to different people – a platform for the articulate, a trendsetter for the young and a chronicle for the old.

It was at the forefront of freedom struggle against the British and continues with the free and fearless journalism till date. Indeed, the history of The Free Press Journalism mirrors that of Indian independence.





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- 7. Dr. Sanjay Kumar(Mech)
- 8. Dr. ZahirAalam (T&P) (IOTW)
- 9. Dr. Vivek Mishra (ES&H)

#### **Valedictory Function**

Same as Conference Venue Arrangement

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- 12. Dr. Zahir Aalam (IOTW)



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## TCET Student Development & Welfare (TSDW)

With a goal of providing a common platform to students for co-curricular and extra-curricular activities the Students' Council – TCET was formed in the academic year 2004-05 as per the guidelines of the Mumbai University. The Students' Council is the representative body of the students of the College. It is responsible for all the major sports and cultural activities that are organized like SOJOURN, ENERTIA and 'SPECIAL DAYS'. Activities under the council are well supported by the team of faculty members.

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	Dheeraj Jain	Cultural Secretary COMP	
	Nitesh Mourya	Sports Secretary ELEX	
	Sunil Sharma	Discipline Secretary CIVIL	
	Natasha Shetty	Academic Secretary E&TC	
	Rohan Sharma	HSD Secretary IT	
	Prince Pandey	Technical Secretary IT	
	Dhruv Tiwari	Outreach Secretary MECH	
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Hardik Ramparia	(Outreach Secretary)	(Technical Secretary)	Lovlesh Dagar
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Ishaan Mane	Shreshtha Bhargava	Aaryan Dixit	Avisha Jain
Suhani Pandya	Pranav Rane	Nimish Vardham	Core Team
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Nidhi Kadam	Mohit Gupta	Shantanu Kudav	Aniket Singh
Vivek Pandey	Kiran Maharana	Aman Rawat	Urvi Shukla
Tanishq Suryawanshi	Janani Menon		Arpit Sharma Anurag Singh
			Rishabh Mishra Ritesh Pandey Fatima Momin

Manwitha Anchan



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## TCET Institution's Innovation Council (IIC)

Ministry of Education (MoE), Govt. of India has established 'MoE's Innovation Cell (MIC)' to systematically foster the culture of Innovation amongst all Higher Education Institutions (HEIs). The primary mandate of MIC is to encourage, inspire and nurture young students by supporting them to work with new ideas and transform them into prototypes while they are informative years.MIC has envisioned encouraging creation of 'Institution's Innovation Council (IICs)' across selected HEIs. A network of these IICs will be established to promote innovation in the Institution through multitudinous modes leading to an innovation promotion eco-system in the campuses.

TCET-IIC (Institution's Inne	ovation Council)	Faculty Team
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Dr. Bijith Marakarkandy	(HOD-IT)	Vice-President
Dr. Hemant Kasturiwale	(Dy-HOD-ELEX)	Convener
Dr Rekha Sharma	COMP	
Dr Shailendra Shastri	E&TC	
Dr Aaditya Desai	IT	
Mr Sunil Khatri	ELEX	
Mr Mahendra Shelar	MECH	
Mr Anuj Pawar	CIVIL	
Dr Vinta Gupta	ES&H	

	IIC 4.0 S	Students List	
Mr. Mihir Gharat	COMP	TE	Member
Ms. Aroma Sinha	COMP	TE	Member
Mr. Vikas Lodh	E&TC	TE	IPR
Mr. Yash Dubey	E&TC	TE	Member
Mr. Ranveer Shah	IT	TE	Startup
Mr. Ranjeet Saw	IT	TE	Member
Ms Janani Menon	ELEX	TE	Innovation
Mr Aniket Singh	ELEX	TE	Member
Mr. Anuj Kokate	MECH	TE	Social Media
Mr. Prithviraj More	MECH	TE	Member
Mr. Kishan Kumbhar	CIVIL	TE	Internship
Ms. Ragini Mahajan	CIVIL	TE	Member





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### Vote of Thanks

Believing in the dictum of John F. Kennedy, "As we express our gratitude, we must never forget that the highest appreciation is not just to utter words but to live by them", we always ensure to work on living the indebtedness in our heart and soul for a long term relationship. Thanksgiving is a way to open the door to the power, the wisdom, and the creativity of the universe. Therefore, I propose the vote of thanks for making this event successful with your presence.

An event of this magnitude would not have been possible without the support of the management in providing the state-of-the-art-infrastructure and all necessary arrangements. I would like to express my sincere thanks to the Chairman, Secretary, Trustees, CEO and COO for their constant encouragement and continued valuable support for organizing programme.

I feel a deep sense of honour and privilege to express my gratitude to the Chief Guests and Guest of honours along with all the resource persons, delegates, and other participants of this conference. The healthy discussions and deliberations by them in each session are going to bring constructive suggestions which certainly improve the understanding about the emerging trends in the field of Engineering & Technology. Their devotion and dedication in their respective fields of expertise has made this conference truly a knowledge hub. I also thank the patrons and the advisory committee for their co-operation and support.

I feel deep honour to get the association of TIFAC and NASI for their active involvement in organizing this conference. I would also like to thank our collaborator institutes for associating with us. Their active engagement in organizing this conference is truly commendable to meet the futuristic requirements in the field of engineering and technology.

In addition to this, I would fail in my duty if I would not appreciate and acknowledge the participants, programme committee, teaching & non-teaching staff members, students, and the support staff for their constant endeavour to make this conference a great success. Organizing any such event is a Herculean task which cannot be accomplished without the support of a strong and motivated team. I really thank them for their involvement and willingness to take on the completion of task beyond their comfort zones.

Lastly, I am indebted to those who directly or indirectly encouraged and supported us to make this conference an event of great learning!

**Dr. B. K. Mishra** Principal, TCET Program Chair, Multicon-W 2022



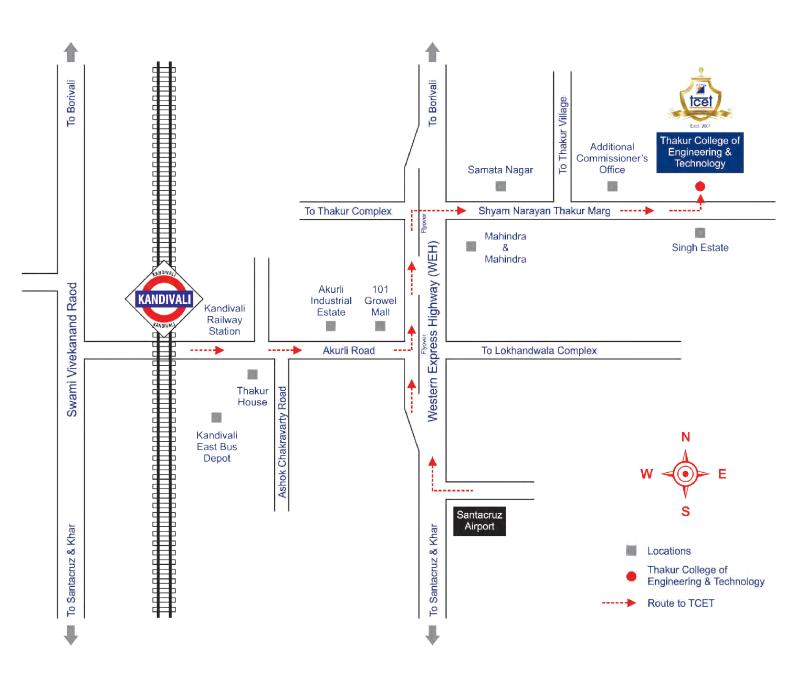
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# Programme Schedule

Day - 1	Conference			
07.30 am - 08.30 am	Reporting			
08.45 am - 09.15 am	Assembling in the SH - I			
09.30 am - 12.00 pm	Inauguration Session			
12.00 pm - 12.15 pm	Tea Break			
12.15 pm - 01.15 pm	Keynote speech of respective conference & Followed by the paper presentation			
Lunch Break (01.15 pm - 02.00 pm)				
02.00 pm - 03.45 pm	Paper Presentation Session			
03.45 pm - 04.00 pm	Tea Break			
04.00 pm - 05.30 pm	Paper Presentation			
Day - 2	Conference			
09.30 am - 11.15 am	Paper Presentation			
11.15 am - 11.30 am	Tea Break			
11.30 am - 01.00 pm	Paper Presentation			
Lunch Break (01.00 pm - 02.00 pm)				
02.00 pm - 03.30 pm	Paper Presentation			
03.30 pm - 05.00 pm	Valedictory Function			



### **Location Plan**



A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg, Thakur Village, Kandivali (E), Mumbai - 400 101.
 Tel: 022-6730 8000 / 8106 / 8107 Telefax : 022-2846 1890 E - mail: tcet@thakureducation.org
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