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**INTERNATIONAL CONFERENCE ON  
INNOVATIVE TRENDS & TECHNOLOGIES IN  
ENGINEERING SCIENCES & EDUCATION**

**ICITTESE-17**

in association with



**COLUMBIA INSTITUTE OF ENGINEERING AND  
TECHNOLOGY, RAIPUR**

**APPROVED BY AICTE, MINISTRY OF HRD , NEW DELHI  
AND AFFILIATED TO CHATTISGARH SWAMI VIVEKANAND  
TECHNICAL UNIVERSITY, BHILAI(C.G.)**

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**ICITTESE-17**

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## *Preface*

Conference World and AR Research Publication is fast growing group of academicians in Engineering, Sciences and Management. AR Research Publication is also known for fast reply and zero error work. Conference world has organized a various conferences at renowned places namely Delhi University; New Delhi, Jawaharlal Nehru University; New Delhi, PHD Chamber of Commerce and Industry New Delhi, YMCA New Delhi, India International Centre New Delhi Sri Venkateswara college of Engineering and Technology, Andhra Pradesh, Dhananjay Mahadik Group of Institutions (BIMAT), Shivaji University, Maharashtra, Vedant Engineering Kota and many more places across the country.

We are very pleased to introduce the proceedings of the *International Conference on Innovative Trends & Technologies in Engineering Sciences & Education (ICITTESE-17)* .As for previous conferences, the theme was the link between the information provided by conference world and the use made of this information in assessing structural integrity. These were the issues addressed by the papers presented at the conference. The level of interest in the subject matter of the conference was maintained from previous events and over 68 suitable papers were submitted for presentation at the conference.

Papers were well represented in the conference to arouse a high level of international interest. Three countries were represented in the final program from Europe, North America and Asia. In the event, the conference was highly successful. The presented papers maintained the high promise suggested by the written abstracts and the program was chaired in a professional and efficient way by the session chairmen who were selected for their international standing in the subject. The number of delegates was also highly gratifying, showing the high level of international interest in the subject. This is also indicated by the large number of countries, 01 represented by the delegates. This Proceeding provides the permanent record of what was presented. They indicate the state of development at the time of writing of all aspects of this important topic and will be invaluable to all workers in the field for that reason. Finally, it is appropriate that we record our thanks to our fellow members of the Technical Organizing Committee for encouraging participation from those areas. We are also indebted to those who served as chairmen, without their support, the conference could not have been the success that it was. We also acknowledge the authors themselves, without whose expert input there would have been no conference. Their efforts made a great contribution to its success.

### **About the Organizing Institute**

Jan Pragti Education Society, a leading house in the field of pharmacy education was established in the year 2003. CIET is approved by AICTE, HRD Ministry New Delhi and affiliated to swami Vivekananda Technical university, Bhilai (C.G.)As a part of social responsibility the institute is very sensitive to the holistic development of its students and keeps on collaborating with industries for the research and development of institute. This international conference is for all who has interest in engineering and technology.

### **About ICITTESE- 17**

The primary objective of ICITTESE- 17 (Association with ISTE and CIET ) is to provide a platform for researches, academicians, engineers as well as industry professionals from all over the world to present their research result developments in engineering science and education.

### **Vision of ICITTESE- 17**

1. To bring awareness about emerging trends in engineering and technology
2. To provide platform for researchers, academicians student and industry professionals
3. To provide solution for future challenges.

### **Chief Patron:**

Dr. M.K.Verma, Vice chancellor, CSVTU, Bhilai

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## Message from Chairman



**Kishore Jadwani**  
**Chairman, JPES**

It gives me immense pleasure to enlighten that Columbia Institution of Engineering & Technology is an excellent Engineering College in the capital City of Chhattisgarh. We are farsighted, for we aim at giving our students the wings of global excellence, but with our cultural roots firmly held to the ground. The college is styled to bring out the latent talent of students and inculcate in them competitive spirit and confidence so that they can boldly face the complexities of this competitive world. With a highly motivated team of our dedicated teachers, we have been able to achieve university results and earn the stature of being the best. It gives me great pleasure that we are organizing International Conference on “Innovative trends & Technologies in Engineering Sciences & Education” (ICITTESE-17). This conference would serve as a platform for participation & would provide a knowledge sharing pedestal to have an insight into the current scenario.

## Message from Vice-chairman



**Vijay Jadwani**  
**Vice-Chairman, JPES**

Columbia Institute of Engineering & Technology, Raipur, an Institution that stands for excellence and quality. For me, Education does not mean providing answers. It means equipping the pupil with the means to find the answers for himself and within himself. Education empowers students to discover themselves – who they are as people. The importance of education in the life of an individual cannot be overstated. It shapes individuals in their formative years and imbues them with values that would govern all their choices in life. It is said ‘If you are planning for a year, sow rice; if you are planning for a decade, plant trees; if you are planning for a lifetime, educate people’.

It makes me very proud that we are organizing “International Conference on “Innovative trends & Technologies in Engineering Sciences & Education” (ICITTESE-17).

This will work on the cutting-edge of engineering research and education in the nation, and will give opportunities presented by our close affiliation with state of Chhattisgarh and National activities and missions.

## **Message from Secretary**



**Harjeet Singh Hura**  
**Secretary, JPES**

Our Engineering Degree programs and our location in the Capital city of Raipur of state of Chhattisgarh is going to provide outstanding opportunities for intellectual and professional development. We promise a vibrant and exciting environment for research and education and we are committed to enriching our community by recruiting outstanding new members of faculty, staff, and students. Our fundamental principles are systematic functioning, sincerity and an added personal touch. We strongly believe in tradition and culture. We not only strive to train the students to become excellent Engineers, Managers and Leaders of the society, but also help them to mould themselves into better human beings by imparting discipline and good behavior . International Conference on “Innovative trends & Technologies in Engineering Sciences & Education” (ICITTESE-17) will bring the scholars from Engineering, Science & Technology streams to a single platform to exchange their ideas to create new trends with new technological advances for the benefit of the mankind.

## Message from Principal



### **Dr.M.Sridhar** **Principal, CIET**

It is a matter of pride to be associated with Columbia Institution of Engineering & Technology which is undoubtedly the best Engineering College in the Capital city. We also lucky to be in position to contribute our expertise in support of India's continued growth and entry into the 21st Century. It is a privilege to play even a small part in realizing our dreams for our country's future, and we hope to expand that dream beyond our own borders. To keep pace with the hi-tech age, where there is no place for second best, it is quite essential to provide such education which fulfils the ambition of students and make the dream of their parents come true.

International Conference on “Innovative trends & Technologies in Engineering Sciences & Education” (ICITTESE-17) will provide pedestal to have an insight into current world & technological advancements in their concerned fields

Proceeding of the conference has been published with **ISBN: 978-93-86171-62-7**

*International Conference on Innovative Trends & Technologies in Engineering Sciences & Education (ICITTESE-17)* was organized at **Columbia Institute of Engineering and Technology, Raipur, India on 8th & 9th September**

Total 271 papers were received for the conference and 68 papers were shortlisted by the committee.

**All the accepted and presented papers of the duly registered authors will be published in the UGC Approved International Journals**

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