

*Report of
2nd International Conference*

On

**Recent Innovations & Technological
Development in Mechanical Engineering**

(RITDME-2019)

[April 6-7, 2019]



JAIPUR ENGINEERING COLLEGE
AND RESEARCH CENTRE

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**Department of Mechanical Engineering
Jaipur Engineering College and Research Centre,
Shri Ram Ki Nangal, Via Sitapura RIICO,
Opp. EPIP Gate, Tonk Road, Jaipur-302022, Rajasthan, India**

Jaipur Engineering College and Research Centre
2nd International Conference on Recent Innovations & Technological Development in
Mechanical Engineering
[ICRITDME-2019]
April 6-7, 2019

April 06, 2019 [Day 1]	
Time	Details
09:00AM – 10:00AM	Registration
Inaugural Session [10:00AM – 11:30AM]	
10:00AM – 11:30AM	Welcoming of Guests, Address by delegates
Conference Group Photograph followed by High Tea [11:30 AM – 12:00NOON]	
Technical Session-I & II [12:00Noon – 2:00PM]	
12:00Noon – 12:30PM	Key Note Address: Prof. Dilip Sharma (MNIT, Jaipur)
12:30PM – 01:00PM	Key Note Address: Giriraj Maheswari (GM, NEI, Jaipur)
Parallel Session [01:00PM – 02:00PM]	
Session- I [Venue: C-401] Session Chair: Dr. J.P. Bhamu (GEC, Bikaner)	Session- II [Venue: CP-19] Session Chair: Dr. Dipak Kumar C. Gosai (SVMIT, Bharuch, Gujrat)
Networking Lunch [02:00PM – 03:00PM]	
Technical Session-III [3:00PM – 5:00PM]	
03:00PM – 03:30PM	Key Note Address: Dr. M. L. Meena (MNIT, Jaipur)
[Venue: C-401] Session Chair: Dr. T.C.GUPTA (MNIT, Jaipur)	

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April 07, 2019 [Day 2]	
Time	Details
09:00AM – 09:30AM	Registration
Technical Session-IV [09:30AM – 11:30AM]	
09:30AM – 10:00AM	Key Note Address: Dr. Anuj Prakash (Manager, TCS, Bangalore)
<p>[Venue: C-401] Session Chair: Dr. B.K. Sharma (Chairperson of IFO, Rajasthan chapter)</p>	
High Tea [11:30AM – 12:00Noon]	
Technical Session-V [12:00Noon – 2:00PM]	
12:00Noon – 12:30PM	Key Note Address: Dr. Ankur Pareek (Consultant-TEQIP III, Rajasthan)
<p>[Venue: C-401] Session Chair: Dr. Jinesh Jain (MNIT, Jaipur)</p>	

Technical Schedule for Parallel Session–I & II

Day and Date: Friday 06/04/2019

Venue: C-401& CP-19

Timings: 12:00Noon -2:00PM

12:00Noon – 12:30PM		Key Note Address: Prof. Dilip Sharma (MNIT,Jaipur)		
12:30PM – 01:00PM		Key Note Address: Mr. Giriraj Maheswari (GM, NEI)		
Venue: C-401		Session Chair: Dr. J.P. Bhamu(GEC, Bikaner)		
S. No.	Author Name	Title of paper	Paper Id	Remark
1	Ganesh, Somesh Kr Sharma	Assessing manufacturing threats in aero engine components -Nozzle & Diffuser using Fuzzy logic	RITDME-012	
2	Ashish Ranjan	Automatic Gear shifting in Manual Transmission using Electromagnetic Clutch and Embedded System	RITDME-014	
3	Ajay Bangar, Mugdha Shrivastava, Rajan Sharma	Design and Stress Analysis of Car Chassis Due to Inertia Load	RITDME-025	
4	Jagdish Bhadu, Jaiprakash Bhamu	Implementation of Lean Tools/Techniques in SMEs- A Review	RITDME-039	
5	Badal Sharma, Sunand Kumar	Investigating Dimensional Accuracy of FDM Fabricated Acrylonitrile Styrene Acrylate (ASA) Parts Using Response Surface Methodology	RITDME-041	
6	Aishwerya Johari Dr. Bhuvnesh Bhardwaj	Laser Machining	RITDME-125	
7	Sumit Khurana Manish Shrivastava	Quality Improvement in a Machine in a Fuel Injector Manufacturing Plant	RITDME-136	
8	Rajesh Kumar Ojha	Vibration Analysis of sandwich beam with isotropic skins and viscoelastic core	RITDME-137	
9	Dharmendra Singh C S Rajoria Mohm Yunus Sheikh	Effect of microstructure on corrosion resistance and high cycle fatigue life of Al-Mg Alloy processed through cryorolling	RITDME-141	
Venue: CP-19		Session Chair: Dr. Ankur Pareek(TEQIP Coordinator)		
S. No.	Author Name	Title of paper	Paper Id	Remark
1	Md. Inzamam-ul- Haque, Virendra Kumar, Akhil Vijay	Comparison of the Performance of a Spark-ignited gasoline engine blended with hydrogen-oxygen mixtures	RITDME-018	
2	Shashank Shekhar Singh Dr. Ahmad Ali Khan	Experimental Studies on Ten Bladed Fan Vibration Considering Flexibility of Shaft	RITDME-035	
3	Nikhil Yadav, Vinita Ramnani, Vineet Chak, Yashvin Gupta, Dharmanshu S Sodha	Investigation The Effect of Different Process Parameters on Defects in A713 Aluminium Alloy Castings Produced by Investment Castings	RITDME-042	
4	Pramod Kumar Jaiprakash Bhamu	Process Improvement through Kaizen Lean Tool (A Case study in small scale organization)	RITDME-057	
5	Rajendra Kukana, Omprakash Jakhar	A Review: Recent development on Earth-Air Tunnel Heat Exchanger	RITDME-072	
6	Shweta Sharma RAGHAV S. DHAKER	Application of lean Manufacturing by Value Stream Mapping.	RITDME-091	
7	Sanjay Laxmi narayana	Thermal Modeling of heat requirements for deep space human missions.	RITDME-100	
8	Shubham Garg, Vaibhav Vyas M.P. Singh	Generataion of fuel from plastic waste by pyrolysis method	RITDME-140	
9	Subham Khandelwal Veivek Soni	Testing roughness Carbon fibers	RITDME-142	

Technical Schedule for Session–III

Day and Date: Friday 06/04/2019

Venue: C-401

Timings: 03:00PM - 05:00PM

03:00PM – 03:30PM		Key Note Address: Dr. M. L. Meena (MNIT, Jaipur)		
Venue: C-401		Session Chair: Dr. T. C. GUPTA (MNIT, Jaipur)		
S. No.	Author Name	Title of paper	Paper Id	Remark
1	Aditya Malik Bhuvnesh Bhardwaj	Design and Thermal Analysis of Mmc Based Disc Brake	RITDME-026	
2	Chandan Kumar K.B. Rana B. Tripathi Mukesh Kumar	Effect of methanol blended diesel fuel on agriculture based C.I. engine	RITDME-030	
3	Veerendra Kumar, Tejbahadur Singh Md. Inzamam Ul Haq	Effect of various antioxidants on oxidation stability of biodiesel produced from Prunus armeniaca oil, engine emission and engine performance	RITDME-031	
4	Palak Jindal Yogesh Dubey Akhil Vijay	Experimental Evaluation of MRR & Surface Roughness with AISI D3 Die Steel using SiC & Kerosene as Dielectric in EDM	RITDME-034	
5	Manmohan Sidh	Green Supply Chain Management: An Overview	RITDME-036	
6	Jaiprakash Bhamu	IoT-based Lean Logistics: a Case Discussion	RITDME-043	
7	Akhilesh Paliwal Shrikant Bansal Gourav Jain	Lean Thinking Principles Applied in Construction Industries	RITDME-045	
8	Jaiprakash Bhamu	Lean Implementation in Construction Industries for Sustainable Development- Case Study Review	RITDME-046	
9	Ankush Sharma Amar Patnaik	Mechanical and Tribological characterization of natural fiber reinforced composite and its Applications: A review	RITDME-049	
10	Manu Khare R.K. Gupta Bhuvnesh Bhardwaj	Stir Casting fabrication of Aluminum Metal Matrix Composite with Particulate Reinforcement: A Review	RITDME-088	
11	Sanjay Gomasta Manish Shrivastava	Green Practices in Logistics of an Automotive Industry: A case Study	RITDME-089	
12	Sen Kamlesh Akshay vyas Ajay Kumawat	Comparative Study of Inflatable Helmet with Existing Helmets	RITDME-092	
13	Shreya Jain Tushar Khanna Kaushal Singh Chauhan	Green Engine (Turbo Combustion Green Engine)	RITDME-093	
14	Laxman Kumar Pandey S P Singh Dhram Dutt Ankush Sharma	Startdard part library development based on CATIA	RITDME-097	
15	Pankaj Agarwal	A review on Nanomaterials as a filler material in natural Fiber Reinforced Composites	RITDME-099	
16	Varun Vinod Rawat Ashish Kumar Singh M.L Meena	A Review on Effect of Lean Six Sigma frameworks in Manufacturing SMEs	RITDME-117	
17	Ankesh Kumar Yadav Ashish Kumar M.L. Meena	Enablers of agile manufacturing : A Review	RITDME-129	
18	Krishna Kumar Purohit P.M. Meena	Application Improvement of Thermoelectric Generator Device installed at Waste Heat Recovery System Working on Engine Exhaust: An Experimental and Numerical Study	RITDME-143	

Technical Schedule for Session-IV

Day and Date: Friday 07/04/2018

Venue: Conference Room Timings: 09:30AM – 11:30AM

09:30AM – 10:00AM		Key Note Address: Dr. Anuj Prakash (Manager, TCS, Bangalore)		
Venue: C-401		Session Chair: Dr. B.K. Sharma (IFO Chairperson, Raj. Chapter)		
S. No.	Author Name	Title of paper	Paper Id	Remark
1	Vikas Sharma M.L. Meena Mukesh Kumar	A review on tribological behavior of polymeric composites materials	RITDME-006	
2	Chandra Shekhar Pandey Harimohan Sharma	CFD Study of Corrugated Heat Exchanger Using Different Parameters With Taguchi Method	RITDME-016	
3	Harsh Sharma Sandesh Trivedi	Continuum Modeling and Dynamic Analysis of Single Walled Carbon Nanotube Based Mass Sensor	RITDME-021	
4	Vikrant Sharma Jinesh Kr. Jain	Euclidean distance and hierarchical clustering method based on centroid linkage for the cell formation problem in cellular manufacturing	RITDME-033	
5	Chirag Solanki Arpit Akar Kuldeep Sharma	Study of Hybrid Vehicles technology	RITDME-038	
6	Lincoln Gori Nikhil Jain	Micro Machining (Micro EDM)	RITDME-050	
7	Shrikant Bansal Gaurav Jain Akhilesh Paliwal	Project Selction Using Hybrid AHP and Promethee	RITDME-059	
8	Rohit Goyal	Soft Actuation Technologies and Challenges	RITDME-075	
9	Nikhil Jian Ankur Pareek Bhuvnesh Bhardwaj	Investigation of Dry and near dry Electric Discharge Milling Process	RITDME-083	
10	Deepak Singh Ravi Kr. Goyal	Investigation on protection and optimum thermal design solution by using Thermal management for battery bank	RITDME-121	
11	Monika Khurana Jayant Purohit Bhuvnesh Bhardwaj	Investigation on two-body abrasive wear behavior of silicon carbide filled carbon fabric-epoxy composites	RITDME-123	
12	Ayush Kumar Gupta Arpit Agarwal Lalit Kumar Sharma	Application of Ant Colony Optimization in Several Engineering Domains	RITDME-124	
13	Durgesh Kardam Bhuvnesh Bhardwaj	Macine tool design by Innovative material	RITDME-131	
14	Jitendra Kumar Bairwa Bhuvnesh Bhardwaj	Soft Actuation Technologies and Challenges	RITDME-132	
15	Om Prakash Gurjar Bhuvnesh Bhardwaj	Investigation of Dry and near dry Electric Discharge	RITDME-133	
16	Ranjeet Kumar Singh Harimohan Sharma	Thermal Performance Analysis of Solar Air Heater having Rectangular Rib Configuration using Numerical Modeling	RITDME-134	
17	Pramod Kumar Verma Satyendra Kumar Jayesh Raj Singh	Modeling and Analysis of COTTER Joint of Various Materials using CAE tools	RITDME-135	
18	Ramesh Vabanagiri Jinesh Kr. Jain	Time saving with DX tool to reduce Automotive Nonlinear simulations	RITDME-139	

Technical Schedule for Session–V

Day and Date: Friday 07/04/2018

Venue: Conference Room Timings: 12:00Noon – 02:00PM

12:00 Noon – 12:30 PM		Key Note Address: Dr. Jinesh Jain (MNIT,)		
Venue: C-401 Session chair: Dr. Dipak Kumar C. Gosai (SVMIT, Bharuch, Gujrat)				
S. No.	Author Name	Title of paper	Paper Id	Remark
1	Aditya Khandal Ravi Yadav	Advancements in Abrasive Jet Machining	RITDME-009	
2	Ashish Kumar Gupta Tejbahadur Singh	Application of Quality Function Deployment in New Product Development	RITDME-011	
3	Neeraj Sharma, Satyendra Kumar	Biodiesel: A substitute to Conventional Fuel	RITDME-015	
4	Amitesh Sharma Bhuvnesh Bhardwaj Varun Sharma, Kedar narayan Bairwa	Investigation of the effect of GMAW parameters on tensile strength of weldment during the welding of ST-35 steel plates	RITDME-017	
5	Satyendra Kumar	Computational Study of Distribution of Mechanical Stress in Artificially Replaced Hip Joint Implants Using Mathematical Model	RITDME-019	
6	Rajendra Kr. Gupta	Current Implementation on Lean Manufacturing: A review	RITDME-022	
7	Brijesh A. Patel Hitesh H. Patel Dileep G. Patil	Design Simulation for Plate Fin Heat Exchanger Use in Screw Compressor	RITDME-027	
8	Hemant Bansal Lalit Kumar Sharma	Designing Welding Fixture in Order to Reduce Rejections of Welded Lever Assembly in Manufacturing Unit	RITDME-028	
9	Gaurav Jain Shrikant Bansal Akhilesh Paliwal	Developing a Coordination Framework for a Supply Chain Using Fuzzy Analytical Hierarchy Process in Small Scale Manufacturing Firm	RITDME-029	
10	Bhanu Pratap R.K. Gupta Bhuvnesh Bhardwaj	Surface Treatment Methods of Fibres of Polymer Composites - A Review	RITDME-073	
11	Sandeep Kumar Vikrant Bharath Vinay Verma	Laser Ignition System for IC Engine	RITDME-074	
12	Deepak Kachhot Rishi Dewangan	Effect of TiO ₂ , CaF ₂ , Fe ₂ O ₃ and MnO additions on impact strength and hardness in submerged arc welding through regression analysis using developed flux by use of bauxite ore	RITDME-080	
13	Jogendra Choudhary Ramesh Vabanagiri Dr. Jinesh Kumar Jain	Quality Value Stream Mapping	RITDME-081	
14	Yashdeep S. Chauhan Sarthak Jain Sourabh Parihar Rishi Dewangan	Development of metal matrix composite reinforced with red mud and coconut shell ash	RITDME-090	
15	Sanjeet Kumar Bhasker Shrivastava Bhuvnesh Bhardwaj	Effect of welding parameters and electrodes on bead width using gas metal arc welding	RITDME-094	
16	Anand Pandey	Machining Performance Improvements By Adding Fine Powders In Electrical Discharge Machining	RITDME-096	
17	Mihir Mehta Chirag Taneja Vaibhav Gupta Ashish Mogra Ankush Sharma	Fabrication and finite element analysis of carbon fibre reinforced components used in automobile structure: A Concise Review	RITDME-113	
18	Anirudh Jain Mudit Garg Lalit Kumar Sharma	Analysis of Blended Wing Body Aircraft	RITDME-126	

International Conference on Recent Innovations & Technological Development in Mechanical Engineering

2nd International Conference was organized by Department of Mechanical Engineering JECRC Jaipur.

International Conference on Recent Innovations & Technological Development In Mechanical Engineering (ICRITDME-2019) It was technically supported by IFO-Published by IJSER and GJEIS Journal on **5th-7th April 2019** . The conference brought academicians and industrial experts together to make efforts and explore the undiscovered aspects of engineering. The idea was to provide a common platform for researchers to learn and explore different dimensions with the motive to find solutions for the common good of the society.

Inauguration of this 3-days conference was done by our honorable guests **Dr. Raphael Guerrero**, Acting Dean School of Science and Engineering, Quezon City, Philippines, **Dr. Dilip Sharma**, Professor & Head of Department, Mechanical Engineering, MNIT, Jaipur., **Shri Giriraj Maheswari**, Senior General Manager (Marketing), National Engineering Industries, **Shri Ashok Kumar Agarwal**, Associate Professor, Electrical Engg. MNIT Jaipur & **Shri Anil Pilonia**, Senior Manager, Salesforce Consulting Services Appiriro Jaipur.

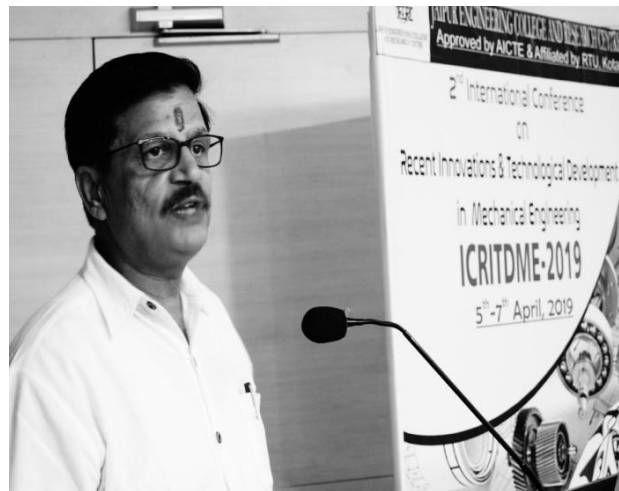




We were also honoured to have **Dr J.P Bhamu**, Principal GEC Bikaner and **Dr. B. K. Sharma** Designated Chairman of IFO ,Rajasthan Chapter assession chairs ,Dr Dilip Sharma Head & Professor of MNIT Jaipur , **Dr. Anuj Prakash Ph.D.**

Postdoctoral Research Fellow at HongKong Currently working as Manager in TCS Bangalore, **Dr. Giriraj Maheswari** General Manager, NEI as keynote speakers. He focused on making the system highly efficient and eco friendly. Mr Giriraj Maheshwari in his keynote address provided an introduction about the National Bearing Company and the advancements that have been made in the production and the bearing technology.





To guide the authors & fertilize the raw brains of young talents with their experience we invited to chair the session **Dr M.L Meena & Dr. T.C Gupta**

Associate Professor, Mechanical Engineering, MNIT Jaipur, **as a key notes and session chair for session 1, Dr. Ankur Pareek** Consultant ,TEQIP III ,Jaipur We were honored to have such eminent personalities as our **session chairs**. After presentation each author was awarded **certificate of participation** from our eminent academicians/ session chairs. **ICRITDME-2019** Received 268 papers and after reviewing and scrutinizing we selected 97 papers for oral presentation. The conference has significantly contributed to the society by serving the engineering community thereby providing innovative results.





JAIPUR ENGINEERING COLLEGE AND RESEARCH CENTRE

Approved by The All India Council for Technical Education (*AICTE*)
and
Affiliated to Rajasthan Technical University (RTU)



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