



**Swami Keshvanand Institute of Technology,
Management & Gramothan (SKIT), Jaipur**

Department of **MECHANICAL ENGINEERING**

Innovate. Design. Build.



Newsletter Biannual Bulletin

UPDATES AND INNOVATIONS IN ENGINEERING

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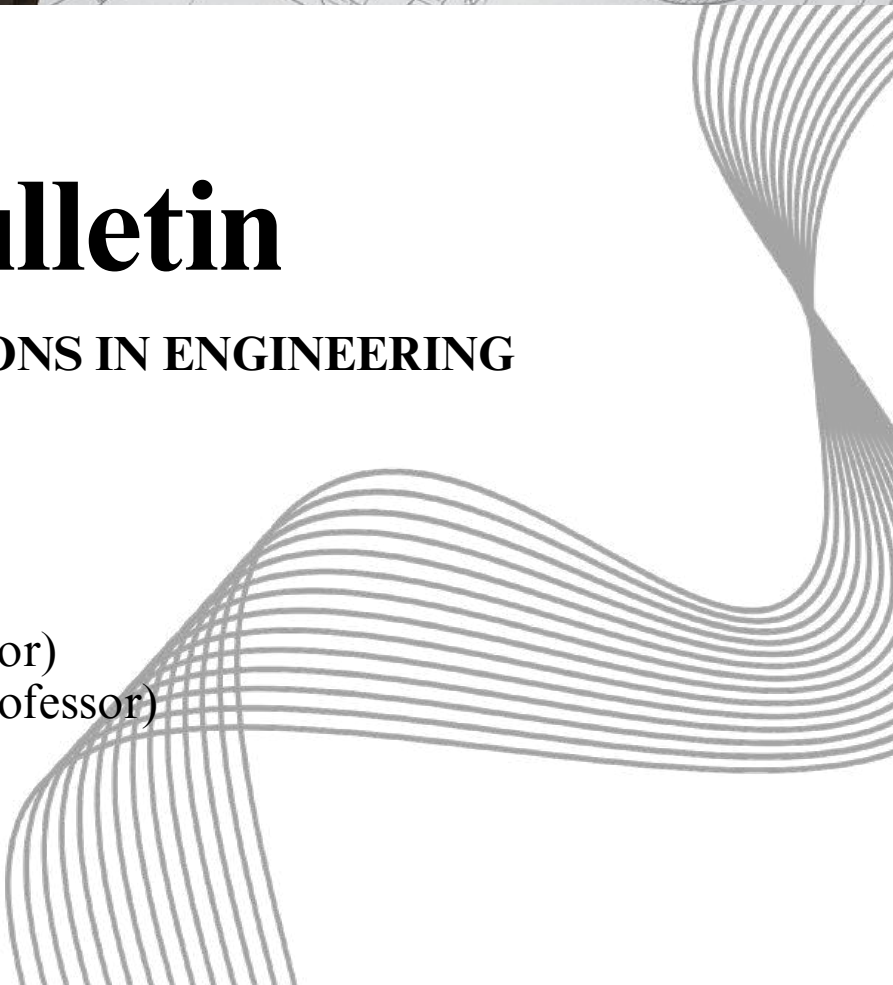
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CONTENTS

- **About the Department**
- **From Editor's Desk**
- **From HOD's Desk**
- **Vision and Mission of the Department**
- **Departmental Activities**
- **Faculty Achievements**
- **Faculty Participations**
- **Contact us**

About the Department

The Department of Mechanical Engineering started its academic activities in the year 2003 with an objective of incorporating excellence in teaching-learning, research and development, entrepreneurship and industry outreach activities. Presently, the department offers B. Tech. (Mechanical Engineering), M. Tech. (Renewable Energy Technology) and PhD programmes. The department has modern laboratories developed and designed from the perspective of the latest requirements of industry and academia. The B.Tech. programme was accredited in 2009 and subsequently re-accredited by NBA.



From the Editor's Desk

It gives us great pleasure to present this edition of the Mechanical Engineering newsletter, capturing the department's academic achievements, innovative projects, and vibrant student activities. Each page reflects the energy, commitment, and progress of our faculty and students. We hope this edition inspires continued excellence and collaboration across our community.



Ms. Namita Soni
(Chief Editor)

From the HOD's Desk

"As we step into the new year, we look ahead with optimism and enthusiasm. January has been a month of fresh starts, academic rigor, and preparing for exciting challenges ahead. Let's continue to push boundaries and build a strong legacy in mechanical engineering."



Dr. Dheeraj Joshi
(Professor and Head)

Vision and Mission of the Department

Vision

To become a nationally visible mechanical engineering department with excellence in teaching-learning, research and development, entrepreneurship and industry outreach activities.

Mission

M1 - To provide facilities and environment conducive to high quality education and research and development in the field of mechanical engineering.

M2 - To inculcate technical, professional and communication skills in students, staff and faculty members.

M3 - To instil innovative skills, critical thinking, leadership & team work in students through various teaching-learning activities and industry linkages

M4 - To inculcate strong ethical qualities in the students and faculty for realizing lifelong learning and serving the society and nation at large.



DEPARTMENTAL ACTIVITIES



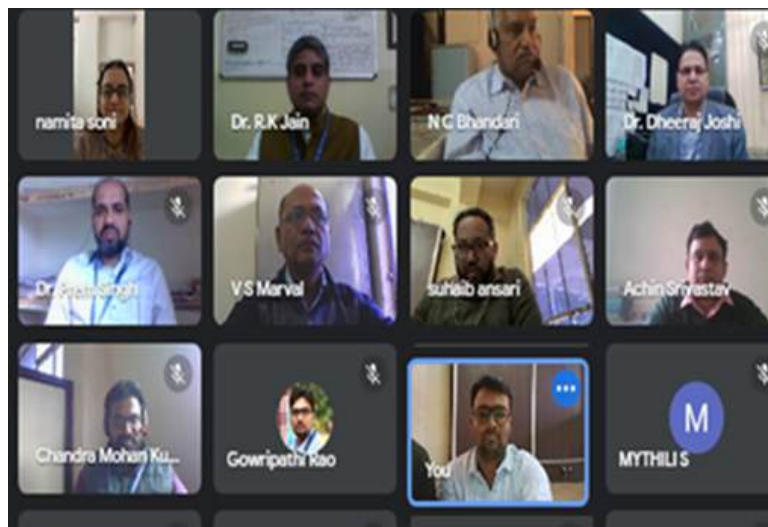
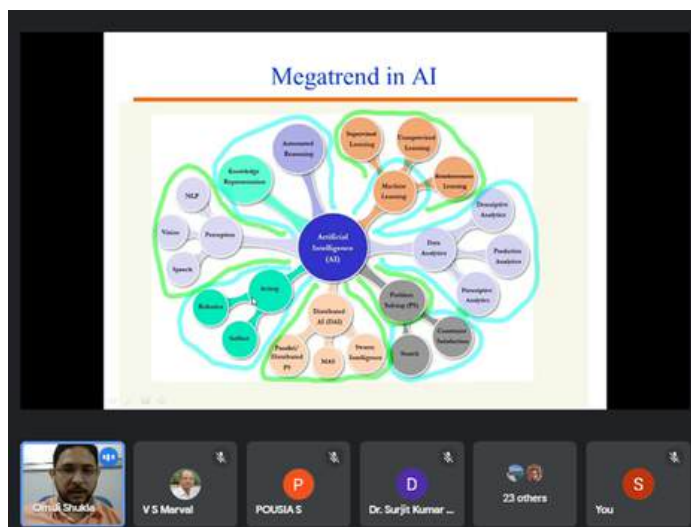
Online Workshop on Virtual Labs organized on 29th July, 2021

A one day College-Level Hands-on Online Workshop on Virtual Labs organized on 29th July, 2021 at SKIT for the students of B.Tech. 1st year II semester (session 2020-21) from (ECE, ME, CE, CSE & EE) by Virtual Labs team, IIT Delhi and supported by Ministry of Education Govt. of India. Virtual Labs experts for this workshop were Mr. Prateek Sharma (Sr. Field Engineer WRL-IIT Delhi) and Mr. Shivam Sundaram (Field Engineer WRL-IIT Delhi). Total of 223 participants attended this workshop. Workshop was started by welcome speech by Dr. Dheeraj Joshi-Head of ME Deptt. SKIT, Jaipur. He said few words regarding the importance and utility of Virtual Labs in current pandemic situations. First session was held by presentation followed by demonstration of stream wise laboratories experiments. Hand on session was covered in post lunch session on Virtual Labs of exploring different laboratories experiments. Workshop was ended by distributing certificates to the participants. Mr. Ajay Kumar Dhanopia Nodal Coordinator, Virtual Labs, SKIT Jaipur delivered a vote of thanks.

Hands-on online workshop on “Virtual Labs”

A one-day college-level hands-on online workshop on “Virtual Labs” was organized for the students of B.Tech. 1st year II semester (session 2020-21) by Virtual Labs team, IIT, Delhi on 29 July, 2021 at SKIT. It was supported by the Ministry of Education, Govt. of India. Virtual Lab experts for this workshop were Mr. Prateek Sharma (Sr. Field Engineer, WRL-IIT Delhi) and Mr. Shivam Sundaram (Field Engineer, WRL-IIT Delhi). Total of 223 participants attended this workshop. The workshop began with the welcome speech by Dr. Dheeraj Joshi, Head of ME Deptt., SKIT, Jaipur. He highlighted the importance and utility of Virtual Labs in current pandemic situations. The first session started with the presentation followed by demonstration of stream wise laboratory experiments. Handson session was held post lunch. Mr. Ajay Kumar Dhanopia, Nodal Coordinator, Virtual Labs, SKIT, Jaipur delivered vote of thanks.

DEPARTMENTAL ACTIVITIES



5-days Faculty Development Program

"Robotics and Mechatronics in Manufacturing" RAMM-2021 (15-19 November, 2021)

5-days Faculty Development Program on "Robotics and Mechatronics in Manufacturing" was organized by the Mechanical Department at Swami Kesavananda Institute of Technology Management and Village (SKIT), Jagatpura, Jaipur on 15 November, 2021. The chief guest of the program was Professor Vijay Kumar Gupta, Head of Department, Mechanical Department, IIITDM, Jabalpur. Prof. Gupta, explained the application of Robotics and Mechatronics in manufacturing to develop products, processes and systems with greater flexibility, ease of redesign and reprogramming capability. On this occasion Professor R.K. Jain (Dean, SKIT) welcomed the chief guest and other participants. Convener of the program Vinay Singh Marwal, Sudesh Garg and Dr. Prem Singh told that more than 100 teachers from different states of the country have participated in this program and also presented a brief description of the upcoming speakers.

FDP started on 15th Nov. Participants from various parts of India joined the FDP. FDP was designed – to introduce the applications of mechatronics and robots in manufacturing as we are in era of Industry 4.0.

FDP started with the inaugural session of Prof Vijay Kumar Gupta, Prof, DME IIITDM – Jabalpur. Dr. Gupta talk focused on the introduction of mechatronics and robotics. He explained the elements of mechatronics such as actuators, sensors, feedback systems and given various example of smart machines or automation in manufacturing.

FACULTY ACHIEVEMENTS

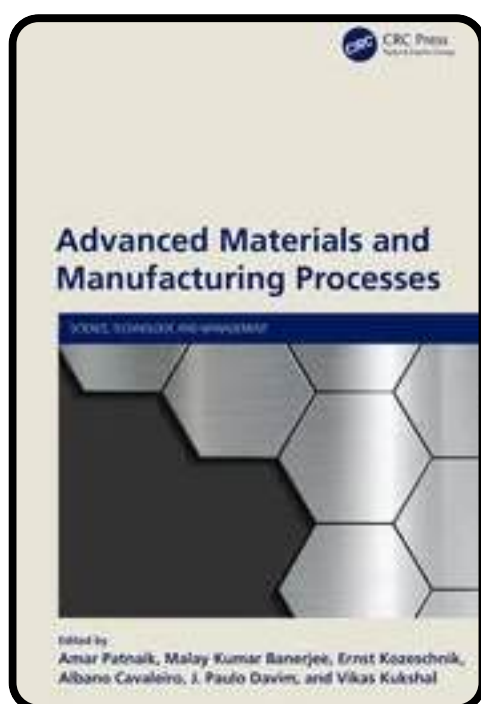
PAPERS PUBLISHED IN JOURNAL

AUTHOR/S	TITLE	JOURNAL
Chandan Kumar, K. B. Rana, M. L. Meena	Design, development and performance analysis of modified solid fertilizer spreader equipped with air blower	International Journal of Environment and Sustainable Development (Inderscience), Vol. 20, Nos. 3/4, pp. 264-278, 2021
Dinesh Kumar Sharma, Dilip Sharma, Ahmed Hamza H. Ali	Selection of phase change materials for thermal energy storage integrated with a solar powered vapour absorption system	International Journal of Environment and Sustainable Development (Inderscience), Vol. 20, Nos. 3/4, pp. 279-300, 2021
M.J.Pawara, Vikash Gautam, Ashiwani Kumar, VikasKukshal	Computational analysis of aluminium alloy plates against conical-nose steel projectile	Material Today: Proceedings, <u>Volume 46, Part 15</u> , pp-6552-6557, 2021
Ashiwani Kumar, Mukesh Kumar, Vikas Kukshal, Akhileshwar Pandey, M.J.Pawar, Vikash Gautam	Investigation on mechanical and tribological characterization of Gr filled AA7075 alloy composite using Taguchi method	Material Today: Proceedings, <u>Volume 46, Part 15</u> , pp-6534-6540, 2021
Hemant Raj Singh, Dilip Sharma, Rahul Goyal, Dinesh Kumar Sharma, Sonali Chadha	Study on some aspects of adoption of Solar Cooking System: A review	International Journal of Business and Systems Research, Vol. 15(1), pp. 112-121, 2021
Hemant Raj Singh, Dilip Sharma, Dinesh Kumar Sharma, Sonali Chadha	Low-Cost Novel designed Receiver Heat Exchanger for Household Solarized Cooking System: Development and Operationalization	Material Today: Proceedings, <u>Volume 47, Part 11</u> , pp-3018-3023, 2021

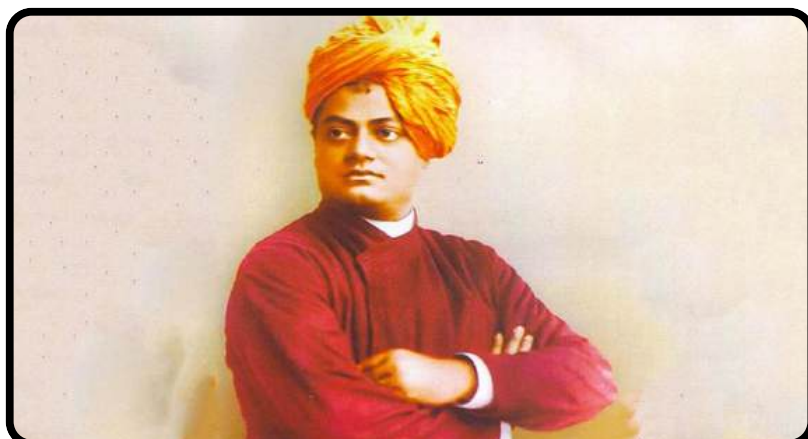
FACULTY ACHIEVEMENTS

BOOK CHAPTERS PUBLISHED

AUTHOR/S	TITLE	BOOK	PUBLISHERS
M.J. Pawar, Amar Patnaik, Vikas Kukshal, Ashiwani Kumar,Vikash Gautam	Modal Analysis of a Wind Turbine Blade Using a Computational Method	Advanced Materials and Manufacturing Processes	CRC Press and Taylor and Francis Group
Ashiwani Kumar, Amar Patnaik, Mukesh Kumar, Vikas Kukshal, M.J. Pawar,Vikash Gautam	Analysis of Mechanical and Sliding Wear Performance of AA6061–SiC/Gr/MD Hybrid Alloy Composite Using a PSI Approach for Rotor Applications	Advanced Materials and Manufacturing Processes	CRC Press and Taylor and Francis Group
Vikash Gautam, M.J. Pawar, Amar Patnaik, Vikas Kukshal, Ashiwani Kumar	Microstructural and Tribological Behavior of 5083-TiB ₂ Cast Composites Fabricated by a Flux- Assisted Synthesis Technique	Advanced Materials and Manufacturing Processes	CRC Press and Taylor and Francis Group



**“Books suggest the inner light and
the method of bringing that out...”
— Swami Vivekananda**



FACULTY PARTICIPATIONS

FDP ATTENDED

TITLE	DATE	ATTENDED BY	ORGANIZED BY
3D Printing Technology	12 to 16 July, 2021	Achin Srivastav, Prem Singh	Govt. Engineering College, Jhalawar
Thermodynamic Analyses of Energy Systems	12 to 16 July, 2021	Arun Beniwal	AICTE Training and Learning (ATAL) Academy
Green Modern Innovations and Development in Renewable Energy Technology	12 to 16 July, 2021	Naveen Kumar Sain	AICTE Training and Learning (ATAL) Academy & University of Lucknow
Recent Trends in Mechanical Engineering	20 to 24 July, 2021	Achin Srivastav, Amit Kumar Bansal, Arun Beniwal, Ashish Nayyar, Deepak Kumar, Dharmendra Hariyani, Madhukar Kumar, Manoj Kumar, Manoj Kumar Sain, Sunil Kumar, Yogesh Kumar Sharma	RTU (ATU) TEQIP III & SKIT, Jaipur
Introduction to Discrete-Event Modelling and Simulation	26 to 30 July, 2021	Achin Srivastav	Visvesvaraya National Institute of Technology, Nagpur
Outcome-Based Education	26 to 30 July, 2021	Vishnu Jangid	Engineering College, Bikaner
Smart Materials for Energy and Environment: An Experimental and Theoretical Perspective	26 to 30 July, 2021	Monu Gupta	AICTE Training and Learning (ATAL) Academy
Advancement in Material Processing Technologies	9 to 13 August, 2021	Monu Gupta	AICTE Training and Learning (ATAL) Academy

FACULTY PARTICIPATION

FDP ATTENDED

TITLE	DATE	ATTENDED BY	ORGANIZED BY
Internet of Things (Applications in Medical Science)	9 to 13 August, 2021	Naveen Kumar Sain	AICTE Training and Learning (ATAL) Academy & Women Engineering College, Ajmer
Industrial Automation using CNC and Intelligent Systems	16 to 20 August, 2021	Manoj Kumar Sain, Praveen Saraswat	AICTE Training and Learning (ATAL) Academy
Code of Conduct & Professional Ethics	16 to 21 August, 2021	Achin Srivastav, Chandan Kumar, Dharmendra Hariyani, Madhukar Kumar, Manoj Kumar, Nitin Goyal, Prem Singh, Sandeep Kumar Bhaskar, Sanjay Choudhary, Sudesh Garg, Sunil Kumar, Trivendra Kumar Sharma, Yogesh Kumar Sharma	UHV & EC, SKIT, Jaipur
Life Skill Development of Educators Through Inner Transformation by Art of Living	16 to 20 August, 2021	Monu Gupta, Yogesh Kumar Sharma	AICTE Training and Learning (ATAL) Academy
Outcome-Based Education: A Paradigm for Assessment & Accreditation	24 to 28 August, 2021	Amit Kumar Bansal, Dheeraj Joshi, Sudesh Garg, Madhukar Kumar, Chandra Mohan Kumar	SKIT, Jaipur
Green Technology: Applications in Manufacturing	20 to 24 September, 2021	Manoj Kumar Sain	AICTE Training and Learning (ATAL) Academy & NIT Patna

FACULTY PARTICIPATION

FDP ATTENDED

TITLE	DATE	ATTENDED BY	ORGANIZED BY
Excellence in Higher Education: Perspective of NEP	18 to 22 December, 2021	Arun Beniwal, Dinesh Kumar Sharma, Manoj Kumar Sain, Praveen Saraswat, Vikash Gautam	Bhartiya Vidya Bhavan's Sardar Patel College of Engineering and FELA in collaboration with SAE India Western Section and IIIE SPCE Student Chapter under IQAC SPCE
Effective Teaching and Research Skill in Science and Engineering	6 to 10 December, 2021	Raj Kumar	Department of Mechanical Engineering, RCERT, Jaipur
Wearable Robotics Design, Sensing and Support	24 to 28 December, 2021	Vinay Singh Marwal	Indian Institute of Information Technology, Kota

WORKSHOPS ATTENDED

TITLE	DATE	ATTENDED BY	ORGANIZED BY
AICTE- Examination Reforms	13 to 15 December, 2021	Dinesh Kumar Sharma, Naveen Kumar Sain	Faculty Development Cell (AICTE) and NITTTR, Chennai





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