MechTrix

Session: 2023-24

Mechanical Engineering Department

JIT NAGPUR

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DR. NARENDRA BAWANE

Principal, JIT

MR. PRAKASH V. DHOPTE

HoD Mechanical

CREATIVITY

This magazine reflects the creativity of our students and faculty members by showcasing their ideas, projects, and technical knowledge. It highlights their ability to think beyond the classroom, nurture ingenuity, and bring forth new perspectives that inspire others.

MESSAGE FROM PRINCIPAL

INNOVATION

This magazine stands as a testament to the innovative spirit of our students and faculty. It provides them with a platform to express their ideas, technical curiosity, and creative talents, while also showcasing their contributions and achievements in Mechanical Engineering.

MESSAGE FROM HOD

INSTITUTE VISION AND MISSION

Vision

- To become an eminent institution through knowledge and research

Mission

- To produce world class engineers with academics and moral excellence who are not only equipped with cutting edge technology but also possess immense sense of social responsibility.

- To inculcate awareness and acceptance of ethical values through co-curricular activities for overall personality development of students.

MECHANICAL VISION AND MISSION

Vision

The Mechanical Engineering Department strives for making thorough professionals who are employable through quality education.

Mission

To instill best technical knowledge in the students to face intellectual and career challenges.

To make the department a desirable place to study and work by providing opportunities to build and propagate knowledge.

PEO'S

(PROGRAM EDUCATIONAL OBJECTIVES)

- ·Excel in higher education by acquiring knowledge in mathematical, analytical and engineering principles.
- ·To develop the ability among students to analyze data and technical concepts in application of product design.
- ·To provide opportunity for students to work as part of team by working on various projects.
- ·To develop students with various soft skills to make them compatible for pursuing different careers in industries.

PSO'S

(PROGRAM SPECIFIC OUTCOMES)

- **PSO 1**- The student will be able to apply their knowledge in the field of engineering drawing, material sciences, fluid sciences and thermal engineering to solve engineering problems utilizing advanced technology.
- **PSO 2**-The student will be able to recognize, design, evaluate and solve engineering problems related to mechanical systems together with allied engineering streams.
- **PSO 3-**The student will be able to apply economics & managerial skills to enhance the productivity of industries and also implement an idea to set up an enterprise.

PROGRAM OUTCOMES

Engineering Graduates will be able to:

1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PROGRAM OUTCOMES

Engineering Graduates will be able to:

7. **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

MAGZINE COMMITTEE

Students Coordinator

Mr. Nikhar Dholwani
Mr. Anish Patle
Mr. Ashukesh Pagote
Mr. Chandan Yadav
Mr. Darshan Dhoke

Faculty Coordinator

Prof. Bhushan Deshmukh

ISHRAE®

INDIAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS

INAUGURATION OF ISHRAE STUDENT CHAPTER

18TH APRIL 2023

MECHTRIX

STUDENT FORUM

INSTALLATION OF STUDENT FORUM "MECHTRIX"

18TH APRIL 2023

Guest Lecture on

“Career Guidance of Mechanical Engineer”

Scope of mechanical engineering in designing, developing, and testing machines, vehicles, power plants, and industrial systems essential to modern society.

TOPIC HIGHLIGHTS:

- Mechanical Careers Unlocked
- Engineering Career Pathways
- Designing Future Systems

20 Oct 2023

JIT, Nagpur

OUR SPEAKER

MR. SWAPNIL UDAPURKAR

Head Adverciity
CAAD Sadar

MECHANICAL ENGINEERING DEPARTMENT

Guest Lecture on

"Career Guidance of Mechanical Engineer"

Scope of mechanical engineering in designing, developing, and testing machines, vehicles, power plants, and industrial systems essential to modern society.

TOPIC HIGHLIGHTS:

- Mechanical Careers Unlocked
- Engineering Career Pathways
- Designing Future Systems

17 Jan 2024

JIT, Nagpur

OUR SPEAKER

DR. ROOPESH RAO

IBS
Hyderabad

MECHANICAL ENGINEERING DEPARTMENT

Guest Lecture on

“Guest Lecture on Automobile Design”

Explained the intricate process of creating vehicles that balance form and function, emphasizing cohesive design language, rapid prototyping, and digital simulation tools

TOPIC HIGHLIGHTS:

- Automobile Design Insights
- Future Mobility Trends
- Innovative Prototyping Tools

10 Jan 2024

JIT, Nagpur

OUR SPEAKER

MR. ANUBHAV SIGN

Application Engg.
IID, Chennai

MECHTRIX

3 DAYS WORKSHOP ON

16th to 18th Feb 2024

- Car Rim Design
- SolidWorks Training
- Hands-On Modeling
- 3D Drafting Skills
- Expert Industry Guidance

OUR SPEAKER

MR. SWAPNIL UDAPURKAR

Head Adverciity
CAAD Sadar

Mr. Pranav Thoke
3th Sem ME

The Unfolding Map

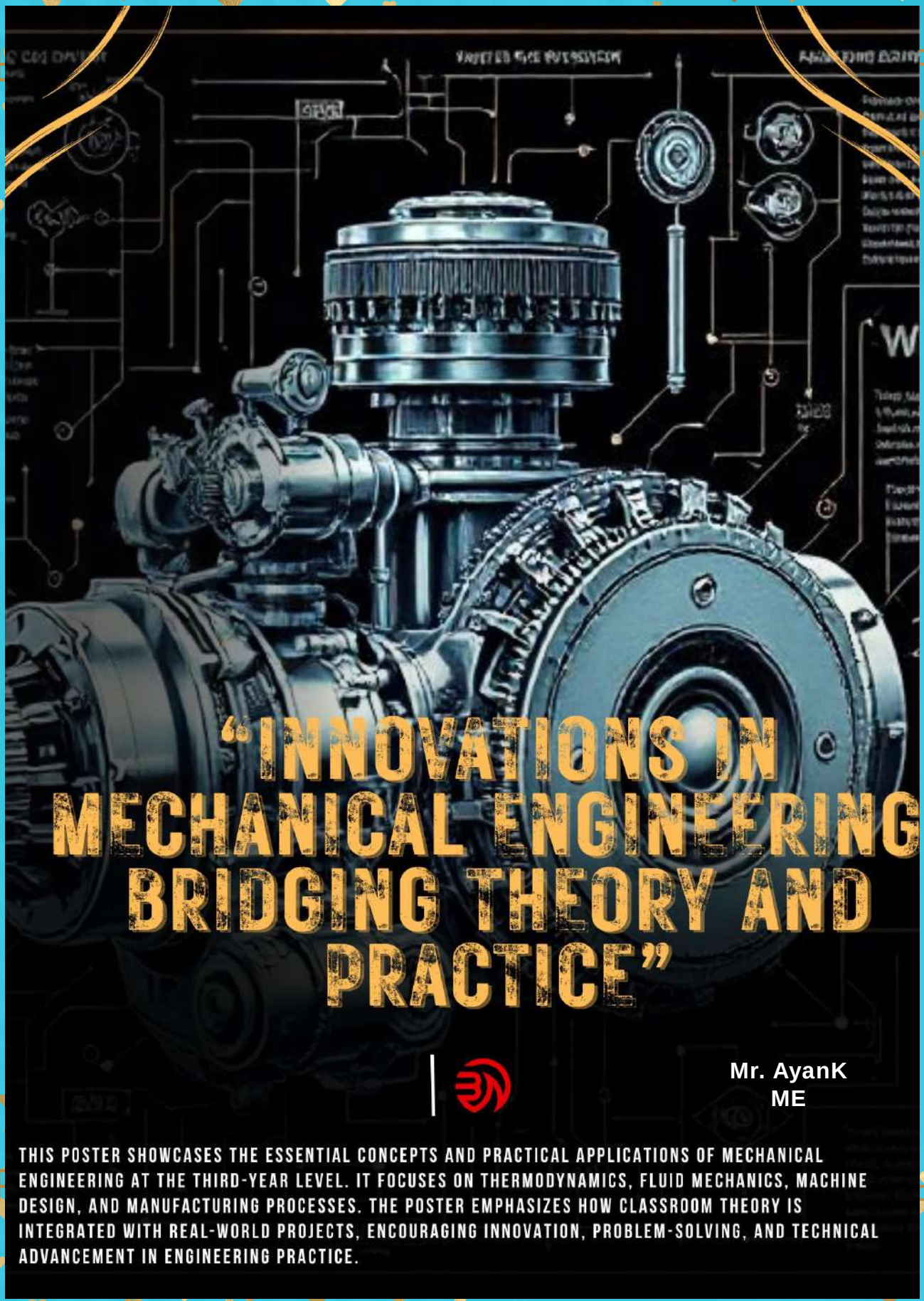
No sudden blast, but a slow, dry sigh—
That's how the change came to the national eye.
Not fire, though fire comes, fierce and fast,
But the patient undoing of all that was built to last.

The river, once the vein of this green land,
Is now a silver thread across the sand.
The wheat-gold plains now crack and gasp for rain,
A brittle memory of the fertile grain.
The ancient farmers, hands calloused deep,
Look to a sky that has forgotten sleep,
A furnace-blue where clouds no longer climb,
And measure life in dust, not passing time.

The coast, where towers of ambition stand,
Feels the tide's slow, insistent demand.
The seawall's breath is shallow, broken, weak,
Against the rising answer the ocean speaks.
And in the high hills, the white, eternal crown
Wastes to a trickle, washing forests down.
The vibrant, loud democracy of bloom and root
Is silenced by a shadow, bitter fruit.

This is the map redrawn by human hand,
A history etched in scars upon the land.
The promise of the future, once so clear,
Is now a question held in silent fear.
Yet, in the failing light, a thought takes hold:
The nation is a story to be told
By those who stay, who plant the seed in stone,
Who learn to love the wildness they have known.
For if the earth is broken, parched, and stained,
The spirit to rebuild must be unchained.

STUDENT CORNER



STUDENT CORNER

Achivements

Intra College

Samridhi Sarwajanik Charitable Trust's

JHULELAL INSTITUTE OF TECHNOLOGY

An Autonomous Institute affiliated to RTM Nagpur University

Off Koradi Road, Nagpur-441111

PRESENTS

SHIKHAR

A National Level Tech-Fest

Certificate

This is to certify that Mr./Ms. Nihal Ganesh Dalne

from Jhulelal Institute of technology participated in NIVAARAN -Ideathon

and has secured Participation rank in SHIKHAR - 2024 organized by Jhulelal Institute of Technology, Nagpur, on 15th and 16th March 2024.

Dr. Uma Patel, Convenor | Dr. Sohel Bhura, Vice Principal, IIT | Dr. Narendra Bawane, Principal, IIT | Dr. Madhavi Wairagade, Executive Director & Advisor

Mr. Nihal Dalne

8th Sem ME

Samridhi Sarwajanik Charitable Trust's

JHULELAL INSTITUTE OF TECHNOLOGY

An Autonomous Institute affiliated to RTM Nagpur University

Off Koradi Road, Nagpur-441111

PRESENTS

SHIKHAR

A National Level Tech-Fest

Certificate

This is to certify that Mr./Ms. SAHIL SAWARKAR

from Jhulelal Institute of Technology, Nagpur participated in Project Competition

and has secured ——— rank in SHIKHAR - 2024 organized by Jhulelal Institute of Technology, Nagpur, on 15th and 16th March 2024.

Mr. Sahil Sawarkar

8th Sem ME

Intra College

STUDENT CORNER

Achivements

Inter College

Lokmanya Jankalyan Shikshan Sanstha's
Priyadarshini Bhagwati College of Engineering,Nagpur
Harpur Nagar Umred Road,Nagpur-24
Internal Quality Assurance Cell Initiative

CERTIFICATE

We take pleasure in presenting this certificate to Mayank Fulper for qualifying for the "SMART CITY QUIZ CONTEST" Organised by Priyadarshini Bhagwati College of Engineering,Nagpur during 26th to 28th of August 2023.

We wish you all the best for your future.

Dr.N.K.Choudhari
Principal

Dr.(Mrs.)A.R.Chaudhari
IQAC Coordinator

CERTIFIED

Mr. Sankalp Khobragade

8th Sem ME

CAMPUS: Survey No. 13/2, Mahurzari, Near Fetri, Katol Road, Nagpur-441501
Presents

GEN Z IDEA GENESIS 2K24

National Level Project Competition

Certificate

This certificate is proudly awarded to Mr./Ms. MOHAMMAD SHADAB
of JIT, NAGPUR to participate/Console Prize/Secure
Rank with Project entitled Back rest for bike
GEN Z IDEA GENESIS 2k24 Organized by E-Cell, Nagpur Institute of Technology, Nagpur on 15th April 2024.

Dr. A[illegible]l Desh[illegible]ukh
Principal
NIT, Nagpur

Mr.Rupak Ingle
President
ISHRAE, Nagpur

E-CELL

Prof. Abhijeet Raut
Incharge
GEN Z IDEA GENESIS

Prof. Chetan Gawali
Co-ordinator
GEN Z IDEA GENESIS

Mr. Mohammad Shadab

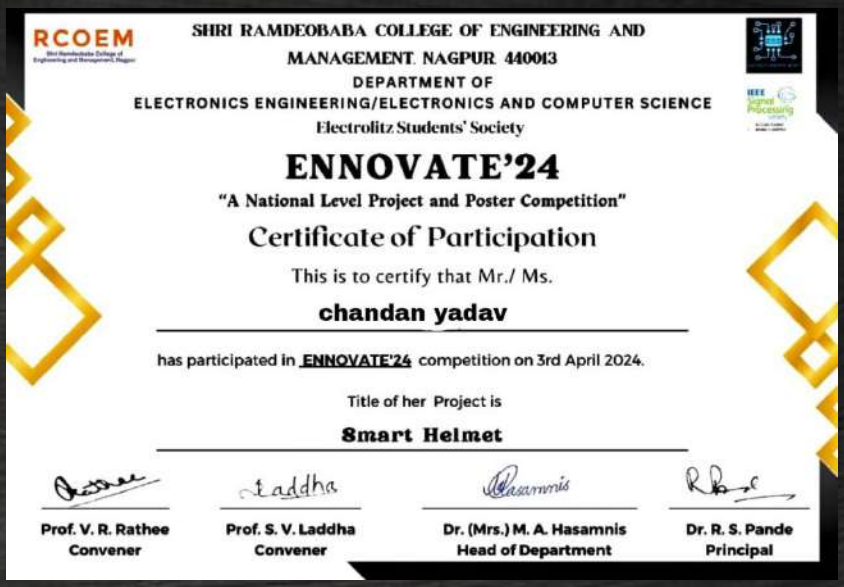
8th Sem ME

Inter College

Inter College

STUDENT ACHIVEMENT

- Mr. Chandan Yadav
  8th Sem ME


RCOEM

SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT, NAGPUR 440013

DEPARTMENT OF ELECTRONICS ENGINEERING/ELECTRONICS AND COMPUTER SCIENCE

Electrolitz Students' Society

ENNOVATE'24

"A National Level Project and Poster Competition"

Certificate of Participation

This is to certify that Mr./ Ms.

chandan yadav

has participated in ENNOVATE'24 competition on 3rd April 2024.

Title of her Project is

Smart Helmet

Prof. V. R. Rathee, Convener | Prof. S. V. Laddha, Convener | Dr. (Mrs.) M. A. Hasamnis, Head of Department | Dr. R. S. Pande, Principal

- Mr. Mayank Fulper
  8th Sem ME


Lokmanya Jankalyan Shikshan Sanstha's

Priyadarshini Bhagwati College of Engineering, Nagpur

Harpur Nagar Umred Road, Nagpur-24

Internal Quality Assurance Cell Initiative

CERTIFICATE

We take pleasure in presenting this certificate to **Mayank Fulper** for qualifying for the "SMART CITY QUIZ CONTEST" Organised by Priyadarshini Bhagwati College of Engineering, Nagpur during 26th to 28th of August 2023.

We wish you all the best for your future.

Dr.N.K.Choudhari, Principal | Dr.(Mrs.)A.R.Chaudhari, IQAC Coordinator

- Mr. Mohammad Shadab
  8th Sem ME


SHRI SAI SHIKSHAN SANSTHA

NAGPUR INSTITUTE OF TECHNOLOGY

CAMPUS: Survey No. 13/2, Mahurzari, Near Fetri, Katol Road, Nagpur-441501

Presents

GEN Z IDEA GENESIS 2K24

National Level Project Competition

Certificate

This certificate is proudly awarded to Mr./Ms. MOHAMMAD SHADAB of JIT, NAGPUR to participate/Console Prize/Secure Rank with Project entitled Back rest for bike

GEN Z IDEA GENESIS 2k24 Organized by E-Cell, Nagpur Institute of Technology, Nagpur on 15th April 2024.

Dr. Amol Deshmukh, Principal, NIT, Nagpur | Mr.Rupak Ingle, President, ISHRAE, Nagpur chapter | E-CELL | Prof. Abhijeet Raut, Incharge, GEN Z IDEA GENESIS | Prof. Chetan Gawali, Co-ordinator, GEN Z IDEA GENESIS

Best regards

NPTEL

STUDENT ACHIVEMENT

- Mr. Nihal Dalne

  ME, JIT Nagpur


NPTEL Online Certification
(Funded by the MoE, Govt. of India)
This certificate is awarded to
NIHAL DALNE
for successfully completing the course
Automation in Manufacturing
with a consolidated score of 55 %

Online Assignments	21.5/25	Proctored Exam	33/75

Total number of candidates certified in this course: 1610

Jul-Oct 2023
(12 week course)

Prof. T. V. Bharat
Head, Centre for Educational Technology
NPTEL Coordinator, IIT Guwahati

Indian Institute of Technology Guwahati
swayam

Roll No: NPTEL23ME105S742800141 To verify the certificate No. of credits recommended: 3 or 4

- Mr. Nikhar Dholwani

  ME, JIT Nagpur


Elite
NPTEL Online Certification
(Funded by the MoE, Govt. of India)
This certificate is awarded to
DHOLWANI NIKHAR KISHORKUMAR
for successfully completing the course
Computer Integrated Manufacturing
with a consolidated score of 61 %

Online Assignments	21.25/25	Proctored Exam	39.8/75

Total number of candidates certified in this course: 1352

Prof. B. V. Ratish Kumar
Chairman, Centre for Continuing Education
IIT Kanpur

Jan-Apr 2024
(12 week course)

Prof. Satyaki Roy
NPTEL Coordinator
IIT Kanpur

Indian Institute of Technology Kanpur
swayam

Roll No: NPTEL24ME27S662901333 To verify the certificate No. of credits recommended: 3 or 4

- Mr. Chandan Yadav
  ME, JIT Nagpur


Elite
NPTEL Online Certification
(Funded by the MoE, Govt. of India)
This certificate is awarded to
CHANDAN YADAV
for successfully completing the course
Inspection and Quality Control in Manufacturing
with a consolidated score of 61 %

Online Assignments	20.83/25	Proctored Exam	40.5/75

Total number of candidates certified in this course: 950

Prof. Kaushik Ghosh

Jan-Feb 2024
(4 week course)

Prof. Ranjana Pathania

Indian Institute of Technology Roorkee
swayam

To verify the certificate No. of credits recommended: 1 or 2

FACULTY CORNER
Achivements

2nd INTERNATIONAL CONFERENCE ON TRENDS IN MATERIAL SCIENCE AND MANUFACTURING ENGINEERING

(ICTMSME 2024)

April 6-7, 2024

Publication in Scopus Index

AIP Conference Proceedings

Certificate of Appreciation

This is to Certify that

Prof. Bhushan Deshmukh

in the Gratitude for Outstanding Contribution as

Conference Co-cordinator

in the 2nd International Conference on Trends in Material Science and Manufacturing Engineering (ICTMSME-2024) (Virtual Mode)

Organized by

Innovative Scientific Research Association, India

Dr. Jayant Supe, conference Co-ordinator | Dr. Chetan Tembhurkar, conference convenor | Dr. Nitin K. Mandavgade, Conference Chair

Mr. Bhushar Deshmukh
Assistant Professor
ME, JIT Nagpur

Samridhi Sarwajanik Charitable Trust's

JHULELAL INSTITUTE OF TECHNOLOGY

An Autonomous Institute affiliated to RTM Nagpur University

Off Koradi Road, Nagpur-441111

DTE Code: EN4139 | NAAC A+ Grade

DEPARTMENT OF MECHANICAL ENGINEERING

One Week Faculty Development Program (Hybrid Mode)

on

Empowering Educators in Production & Manufacturing Technology

In association with : ISHRAE Nagpur Chapter

Certificate

This is to certify that PROF. PRAKASH V DHOPTE .....

has successfully completed One Week Faculty Development Program (Hybrid Mode) on Empowering Educators in Production & Manufacturing Technology organized by Department of Mechanical Engineering, JIT, Nagpur, from 10th to 15th January 2024.

Prof. Prakash Dhopte, Convener | Dr. Narendra Bawane, Principal, JIT | Dr. Madhavi Wairagade, Executive Director & Advisor

Mr. Prakash Dhopte
Assistant Professor
ME, JIT Nagpur

FACULTY ACHIVEMENT

- Mr.Bhushan Deshmukh
  Assistant Professor
  ME, JIT, Nagpur

- Mr. Amar Kawale
  Assistant Professor
  ME, JIT, Nagpur

- Mr. Pravin Petkar
  Assistant Professor
  ME, JIT, Nagpur

Thank you

for your support.