

MECHTRIX

SESSION: 2022-23

MECHTRIX

ME

Mechanical Engineering Department

Innovative hub for young and dynamic
Engineers

JIT

Jhulelal Institute of Technology, Nagpur

Eminent Engineering Institute in
Nagpur



SESSION: 2022-23

MECHTRIX

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MESSAGE WINDOW

**To become an Eminent Institution through
Knowledge and Research**



PRINCIPAL MESSAGE

JIT is committed to the holistic development of students, nurturing their latent talents, ingenuity and creativity and instilling sense of discipline and orality. Our aim not prepare our students for university examination but to ensure their 360-degree overall development.

HOD MESSAGE

Our department offers science-based engineering curriculum. The primary focus of our curriculum is to impart technical knowledge to students, promote their problem solving skills and innovation of new technologies.



Vision & Mission

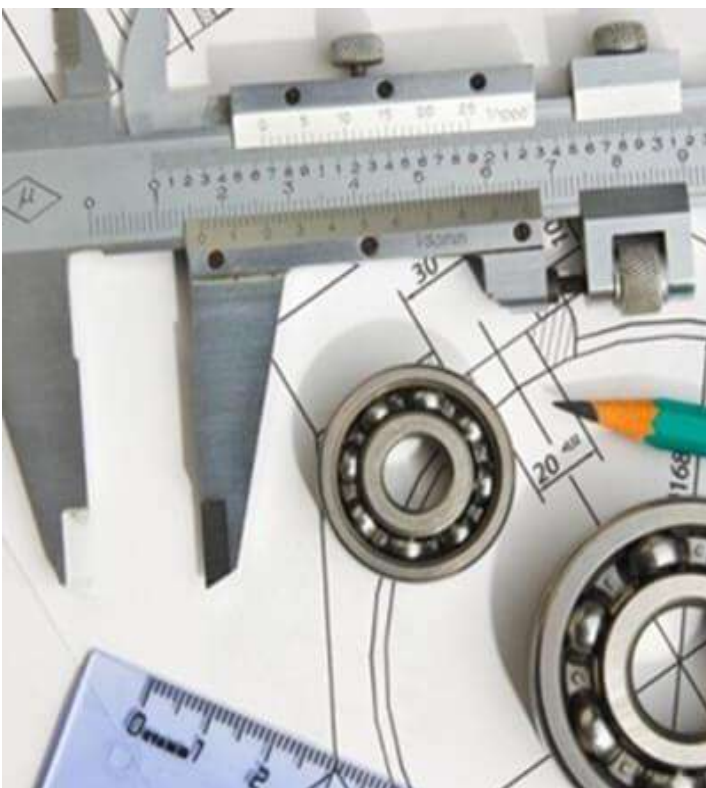
INSTITUTE

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.



Vision & Mission

DEPARTMENTAL

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 OBJECTIVES

- 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.



PO's

PROGRAM OUTCOMES

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.

PO's

PROGRAM OUTCOMES

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.

The page is decorated with colorful confetti (black, blue, orange, pink) and star shapes scattered across the top and bottom edges.

MAGZINE COMMITTEE

STUDENTS COORDINATOR

Mr. Abhay Pardhi

Mr. Tushar Fulzele

Mr. Pranav Thoke

Mr. Mayank Mishra

FACULTY COORDINATOR

Prof. Bhushan Deshmukh



ABOUT FORUM

A STUDENT FORUM



Mechtrix, the Mechanical Engineering Students' Forum, serves as a dynamic platform dedicated to the overall development of students beyond the classroom. It provides opportunities to enhance technical knowledge, practical skills, and professional competencies through workshops, seminars, industrial visits, and technical events.



ABOUT ISHRAE

PROFESSIONAL BODY



ISHRAE is dedicated to knowledge sharing, innovation, and professional growth in the field. Our college proudly hosts an ISHRAE Student Chapter, providing students with valuable opportunities to learn, collaborate, and engage with industry experts while building their technical and leadership skills

Guest lecture on Career options in CAD-CAM-CAE



Discussion on the opportunities for mechanical engineering students in the field of CAD-CAM-CAE. He also tells us about job & career opportunities in design industry.



Guest: Mr. Swapnil Udupkar

28/9/2022

GUEST LECTURE

Guest Lecture on “Mechanical Engineer Role in Industry”



Mr. Manish Fale explains the expectation and requirements of industry. He further emphasized on today's era of severe competitions wherein industries prefers ready to use product from the institutions.



Guest: Mr. Manish Fale

GUEST LECTURE

14/9/2022

Guest lecture on Career Guidance for UPSC Examination



Mr. Sraman give us brief guidance about how to prepare for UPSC, he also give us some tips to prepare effectively in a short time. It was an amazing and Informative session.

GUEST LECTURE



Guest: Mr. Sraman Wasnik,
The Unique Academy,
Nagpur

3/10/2022

Guest lecture on MBA-CAT Awareness for Higher Studies

Shubham sir guided us about the CAT exam eligibility and how to prepare for it. Job Opportunities & future scope after clearing MBA-CAT.

GUEST LECTURE

The poster features three logos at the top: Jhulelal Institute of Technology (JIT), an A+ accreditation seal, and a winged emblem. The text reads: **JHULELAL INSTITUTE OF TECHNOLOGY**, **DEPARTMENT OF MECHANICAL ENGINEERING**, **MECHTRIX**, **PRESENTS**, **SEMINAR ON**, **MBA-CAT**, **AWARENESS FOR HIGHER STUDEIES**. Below this, a section titled **OUR SPEAKER** includes a circular portrait of Shubham Rathod and the following text: **5 Years of Experience in Teaching CAT**, **Field of Campus Recruitment Training**, **Mentoring in Different Entrances Exam** (ie. BANKING, SSC RAILWAY), **Teach more than 10000 students in the competitive world**, and **Well known Motivational Speaker in the Educational Field**. A name tag at the bottom left of the speaker's photo reads **Shubham Rathod**.

Guest: Mr. Shubham Rathod

15/10/2022

A Guest Lecture on Recent Trends In HVAC And Energy Efficiency



Dr. Asish Raut has explained Energy efficiency is one of the most important goals. Trends are emerging where more than ever before, energy efficiency is at the center of the next level of innovation. Electrification and decarbonization are taking the lead.



Guest: Dr. Asish Raut
ISHRAE Chapter Head

18/4/2023

GUEST LECTURE

One Day Workshop on 3D Model of Car wheel rim using Solidworks



Mr. Siddhant Waghmare, explain the role of Mechanical Engineer in computer aided design. He took Hand on practice of Car wheel rim model in solidworks environment.



Guest: Mr. Siddhant Waghmare
CADD centre Sadar
Nagpur

WORK SHOP

8/10/2022

Student Corner

Shayari

An Engineers dream is always fab.
Strong like a weld, tight like a gear,
Mechanical Engineers are always clear!"

⑧ Our gears never ever rust,
Our spirit make everyone fuss.
We are Mechanical, My friend,
No one can run an Engine better in the end!

③ Our gear always stay high on power,
Mechanical Engineers Shine every hour.
Other may just keep on trying,
But we are the kings, no denying!"

④ Our piston always burn with fire,
Mechanical minds the world admire.
Other may just read the book,
We are the heroes, with a practical look!"

⑤ Cut life like a lathe with steady hand,
Weld your dreams so they firmly stand.
Never give up when failures arrive,
Mechanical Spirit keeps us alive!"

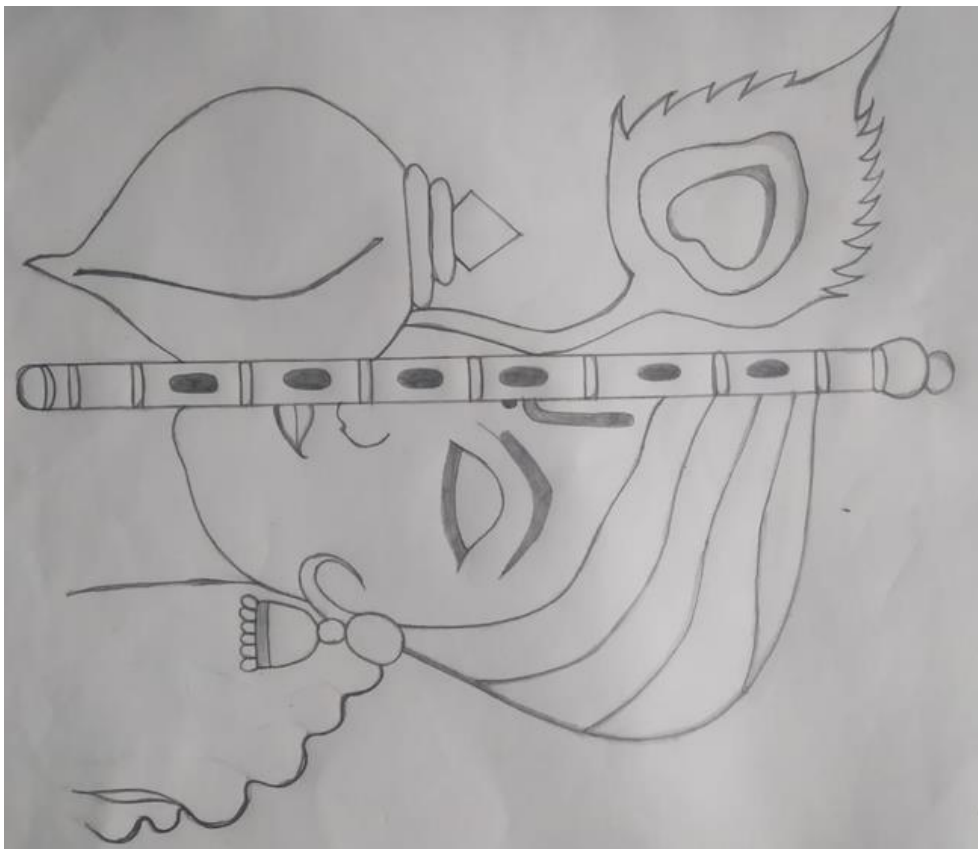
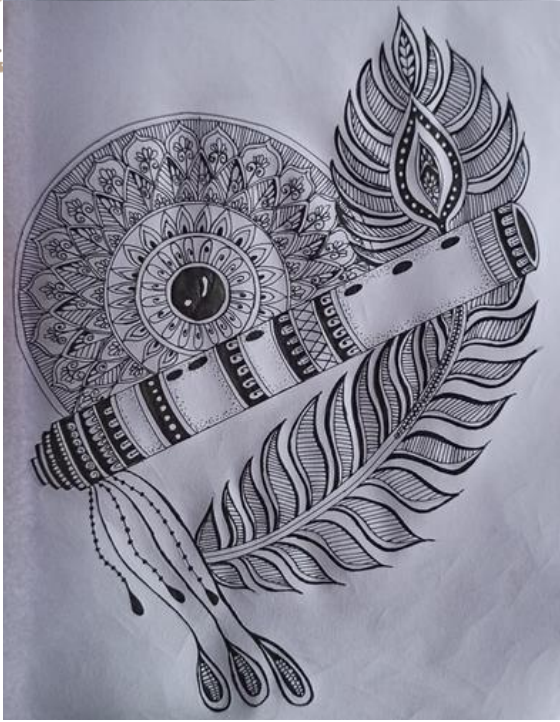
⑥ You are the perfect gear of my heart,
With you alone my life & career start.
If separation comes, my system will crash,
For without you, my engine will seize & dash."

By AYAN KHAN.

Student Corner



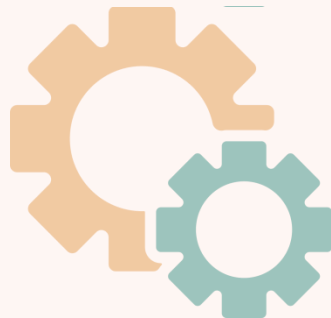
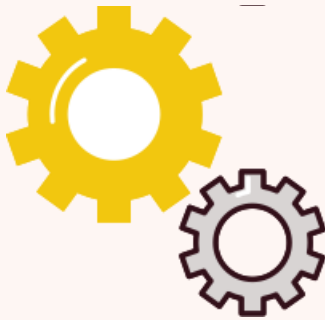
Student Corner



STUDENT CORNER ACHIVEMENT



Mr. Pratik Lanjewar
ME, JIT, Nagpur



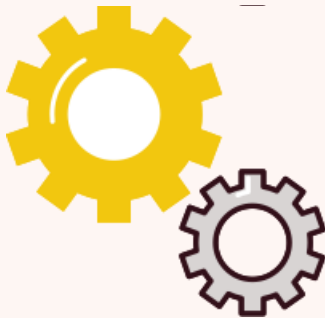
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STUDENT CORNER

NPTEL



Mr. Nikhar Dholwani
ME, JIT, Nagpur



Mr. Harshal Bagde
ME, JIT, Nagpur



**NPTEL Online Certification**
(Funded by the MoE, Govt. of India)



This certificate is awarded to
DHOLWANI NIKHAR KISHORKUMAR
for successfully completing the course

Manufacturing Automation

with a consolidated score of **46** %

Online Assignments	11.67/25	Proctored Exam	34.5/75
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Total number of candidates certified in this course: **141**


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

Jan-Feb 2023
(4 week course)


Prof. Satyaki Roy
NPTEL Coordinator
IIT Kanpur

 Indian Institute of Technology Kanpur



Roll No: NPTEL23ME62545241258

To validate the certificate 

No. of credits recommended: 1 or 2

**Elite NPTEL Online Certification**
(Funded by the MoE, Govt. of India)



This certificate is awarded to
HARSHAL CHANDRABHAN BAGDE
for successfully completing the course

Laser Based Manufacturing

with a consolidated score of **67** %

Online Assignments	25/25	Proctored Exam	42/75
--------------------	-------	----------------	-------

Total number of candidates certified in this course: **340**

Aug-Oct 2022
(8 week course)


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

 Indian Institute of Technology Guwahati



Roll No: NPTEL22ME92563872527

To validate the certificate 

No. of credits recommended: 2 or 3

MECHTRIX

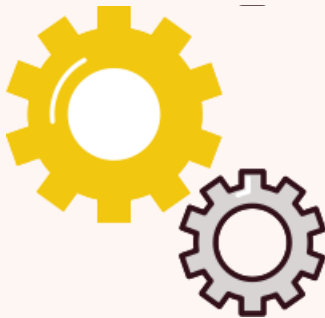
STUDENT CORNER

NPTEL



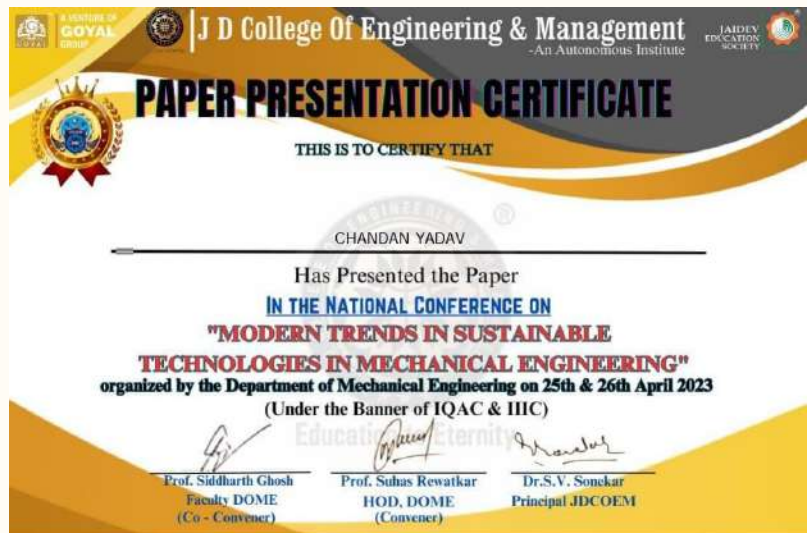
Mr. Sankalp Khobragade

ME, JIT, Nagpur



Mr. Chandan Yadav

ME, JIT, Nagpur



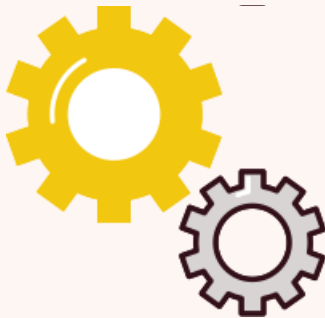
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STUDENT CORNER CERTIFICATION



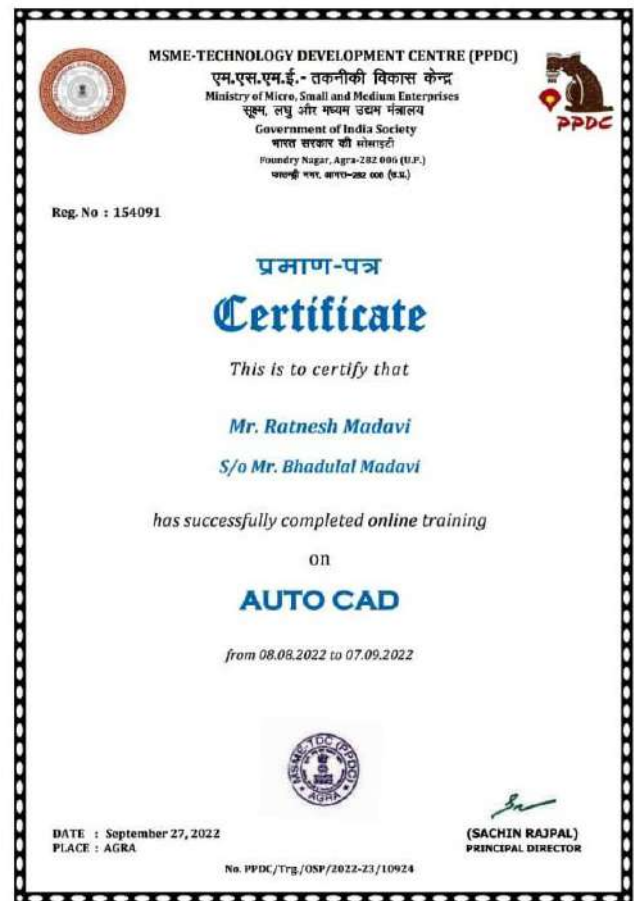
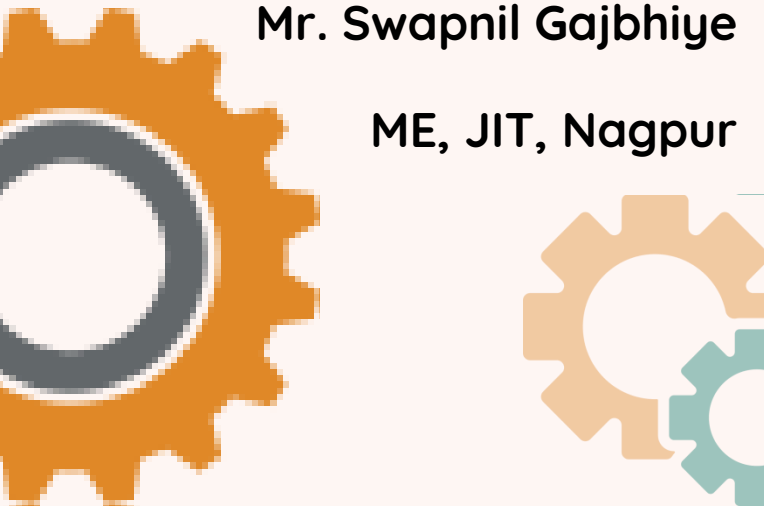
Mr. Ratnesh Madavi

ME, JIT, Nagpur



Mr. Swapnil Gajbhiye

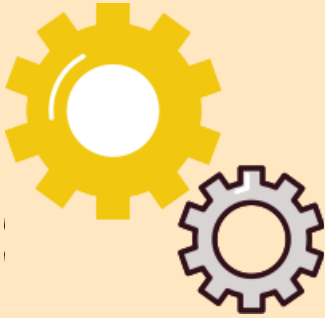
ME, JIT, Nagpur



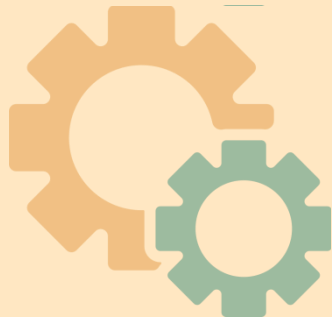
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FACULTY CORNER ACHIVEMENT

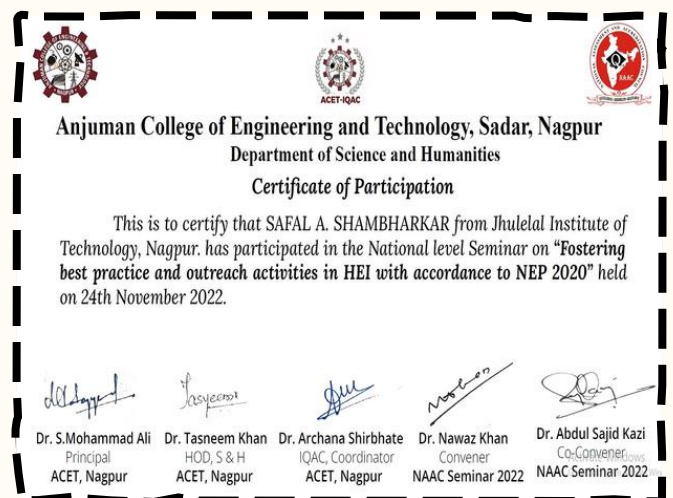
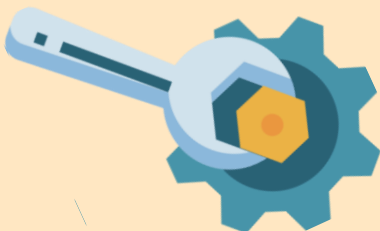
Prof. Amar Kawale
Assistant Professor, ME,
JIT, Nagpur



Prof. Bhushan Deshmukh
Assistant Professor, ME,
JIT, Nagpur



Prof. Safal Shambharkar
Assistant Professor, ME,
JIT, Nagpur

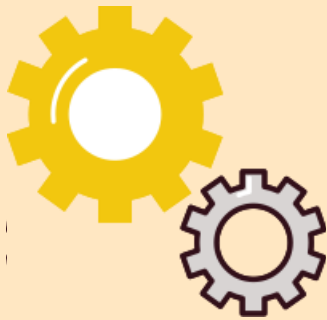


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2022

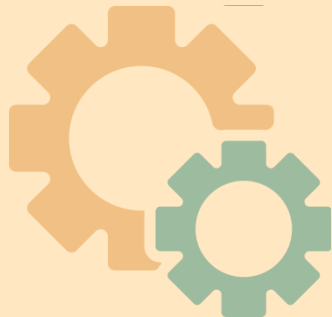
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FACULTY ACHIVEMENT

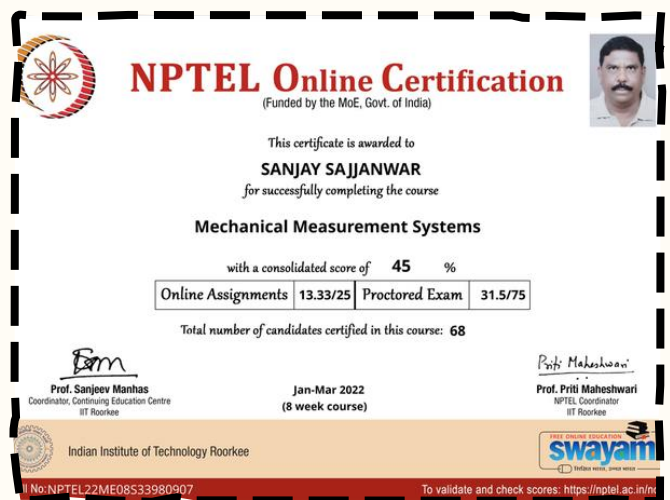
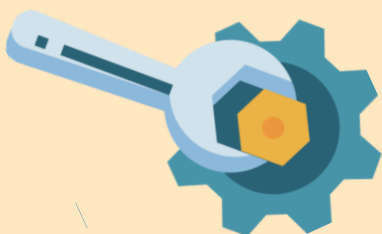
Prof. Sanjay Sajjanwar
Assistant Professor, ME,
JIT, Nagpur



Prof. Pravin Petkar
Assistant Professor, ME,
JIT, Nagpur



Prof. Sanjay Sajjanwar
Assistant Professor, ME,
JIT, Nagpur



DEC
2022

MECHTRIX

Patents



Office of the Controller General of Patents, Designs & Trade Marks
Department for Promotion of Industry and Internal Trade
Ministry of Commerce & Industry,
Government of India



Application Details	
APPLICATION NUMBER	202221069355
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	01/12/2022
APPLICANT NAME	1 . Dr. PRAVIN CHINDHUJI TIWADE 2 . Dr. KISHOR NARAYANRAO WAGH 3 . Dr. DINESH SHEGOJI BODHANKAR 4 . Dr. MANOJ SURESH BASESHANKAR 5 . Mr PRAKASH V DHOPTÉ
TITLE OF INVENTION	EXPERIMENTAL INVESTIGATION OF EFFECT OF PITCH AUGMENTATION IN FLURO POLYMER SPIRAL TUBE IN TUBE HEAT EXCHANGER AND OPTIMIZATION OF FLOW PARAMETER FOR MINIMUM FOULING
FIELD OF INVENTION	MECHANICAL ENGINEERING



Office of the Controller General of Patents, Designs & Trade Marks
Department for Promotion of Industry and Internal Trade
Ministry of Commerce & Industry,
Government of India



Application Details	
APPLICATION NUMBER	202321013658
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	28/02/2023
APPLICANT NAME	1 . Mr. Safal Ashok Shambharkar 2 . Mr. Rahul Waghmare 3 . Dr. Vandita T Shahu 4 . Prof. Akansha Dhoke (Kale) 5 . Dr. Smita Prakash Dhopte
TITLE OF INVENTION	SYSTEM FOR AUTOMATED SEPARATION OF GRAINS
FIELD OF INVENTION	MECHANICAL ENGINEERING

Paper Published



IJARSCT

ISSN (Online) 2581-9429

International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 2, Issue 3, June 2022

Implementation of Multimodal Evaporator for Water filtration at Alkyl Amine Plant Pune

Pravin Petkar^a, Amit Sukhdeve^b, Gourav Gajbhiye^b, Pratik Bhoyar^b, Arpit Thakre^b, A. Kolhatkar^b

^aAssistant Professor, Mechanical Engineering Department

^bStudents, Mechanical Engineering Department,
Jhulelal Institute of Technology, Nagpur, Maharashtra

Prof. Pravin Petkar

Assistant Professor, ME

JIT, Nagpur



IJARSCT

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International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 2, Issue 3, June 2022

Design and Development of Biomass Briquetting Machine

Bhushan Deshmukh^a, Nikhil Khubalkar^b, Palash Pathak^b, Manish Narwade^b, Fardin Ali^b

^aAssistant Professor, Department of Mechanical Engineering

^bStudents, Department of Mechanical Engineering
Jhulelal Institute of Technology, Nagpur, Maharashtra

Prof. Bhushan Deshmukh

Assistant Professor, ME

JIT, Nagpur



Thank
You,

