

MECHANICAL

INSIGHTS

School of Engineering

DEPARTMENT OF

MECHANICAL ENGINEERING

NEWSLETTER

July-December

2024



**MECHANICAL
ENGINEERING**



Engineering that deals with tools, machinery, and the application of mechanics in industry

School of Engineering

MECHANICAL ENGINEERING

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Vision & Mission

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Engineering that deals with tools, machinery, and the application of mechanics in industry

ABOUT THE DEPARTMENT

Department of Mechanical Engineering offers a vibrant and engaging environment for teaching, research and learning. It lays the foundation for well-groomed professionals in the field.

The department is equipped with the latest state-of-the-art teaching aids and facilities in the core areas of mechanical engineering.

Students are imparted with education beyond the subject knowledge augmenting classroom teaching with instructional cum research-based laboratory work, project-based learning, intense industrial exposure and hands-on experience in design and fabrication of general products and machine components.

All the students undergo compulsory in-house summer training to develop skills in the application of theory to practical real-life problems. Students also actively organize various programmes and participate in workshops under the aegis of SAE, ISHRAE, and ASME. Students are encouraged to participate in seminars and conferences, and they have demonstrated excellence in practical knowledge by making innovative projects and winning prizes consecutively in last many years in the project competitions in various events.

The department has a pool of highly qualified faculty members having rich experience in teaching, research and industry who have been imparting quality education at both, undergraduate and post-graduate level. The faculty has competency in the areas of Design and Analysis, Tribology, Solar Energy, Applied Mechanics, Turbines and Power Generation, Fluid Machines, Manufacturing Technologies, Material Science and Renewable Energy.

Vision of the Department

To become centre of excellence by providing state-of-art education in teaching, research, innovation, entrepreneurship, environmental sustainability and develop an ethical human beings for service of the society.

Mission of the department

To develop globally competent engineers, who address future issues of the society innovatively.

Operating and maintaining various smart manufacturing aides optimally by providing state-of-art facilities and conduct research in latest technologies.

To nurture talents who strive to serve society through sustainable methods while maintaining the highest professional and ethical standards.

Maintaining highest quality standards and ensure satisfaction of all stakeholders.

To work for continuous improvement in collaboration with Industry.

Engineering that deals with tools, machinery,
and the application of mechanics in industry

MESSAGE FROM THE HEAD OF THE DEPARTMENT

Dear Students and Colleagues,
It is my pleasure to address you as we continue our journey of innovation and excellence in mechanical engineering. Our discipline stands at the forefront of technological advancements, driving solutions to some of the world's most pressing challenges, from sustainable energy to advanced manufacturing.

In our department, we strive to foster a culture of curiosity, collaboration, and continuous learning. Whether you are delving into thermodynamics, exploring robotics, or designing next-generation materials, remember that your work has the potential to shape industries and improve lives.

I encourage each of you to embrace every opportunity to grow—through rigorous coursework, hands-on projects, research, and internships. Let us work together to maintain our tradition of academic excellence while pushing the boundaries of what is possible in mechanical engineering.

Thank you for your commitment, and let us look forward to a future of groundbreaking achievements.



Prof. (Dr.) Ajit

WORKSHOP



The faculty of the Mechanical Department Dr. Pradeep Kumar Mouria, Dr. Prashant Bhardwaj, Mr. Mandeep Bhadana & Dr. Piyush Mahendru participated in a workshop titled "Curriculum Framework as per NEP-2020".

A workshop on "Curriculum Framework as per NEP-2020" was organized to provide valuable insights into the educational reforms and curriculum design strategies outlined in the National Education Policy 2020. The workshop was led by esteemed academicians Prof. (Dr.) Rupinder Singh, Professor at NITTTR Chandigarh, and Prof. (Dr.) Sandeep Grover, Professor at J.C. Bose YMCA University, Faridabad. Both speakers brought their extensive expertise and experience to discuss innovative approaches to curriculum development, emphasizing multidisciplinary and skill-based education.

The session aimed to equip participants with practical knowledge for implementing NEP-2020 principles in academic institutions, fostering a learner-centric and outcome-based educational environment.



WORKSHOP

On Robotic Equipments



A two-day (4th -5th September 2024) workshop on Embedded Systems and Internet of Things (IoT) was organized by IIC in Collaboration with Enthu Academic Solutions under esteemed guidance of Dr. JP Sharma, Associate Professor, Department of Mechanical Engineering.

It introduced the fundamental architecture of the ESP32 Micro-Controller, enabling attendees to grasp its core functions. Additionally, the session focused on interfacing peripheral devices such as sensors and actuators, highlighting practical applications. Participants also explored how to integrate the Micro-Controller with IoT platforms, facilitating seamless connectivity. Furthermore, the workshop covered advanced topics such as the AI arm Bot, the Jetson Nano Development board, and the Robotic Drone, offering insights into cutting-edge robotics and artificial intelligence technologies.

WORKSHOP ATTENDED



3-Day Workshop on GRIHA V.2019

Dr. Piyush Mahendru participated in a comprehensive 3-day workshop on GRIHA V.2019, held at TERI Centre, Banagalore from 26th to 28th September, 2024. Organized by GRIHA (Green Rating for Integrated Habitat Assessment), the workshop focused on sustainable design practices and energy-efficient solutions to achieve greener and more sustainable built environments.



Silicon Valley Immersion Program

Panel Discussion on Event



Dr. JP Sharma has attended a significant event, the "Silicon Valley Immersion Program" Held on August 12, 2024, the AICTE (All India Council for Technical Education)

The event commenced with an insightful inaugural session led by Prof. T. G. Sitharam, AICTE Chairman who shared details about the various schemes initiated by AICTE.



Mechanical Engineering

Manav Rachna University

Institution Innovation Council & School of Engineering
ORGANIZES



Dr. JP Sharma, Associate Professor Mechanical Engineering Department had contributed as an organizer of HACKMOR-2024 organized by IIC, on 16th -17th Oct., 2024.



HACKMoR 2024 aims to bring together the brightest minds from universities across the country to showcase their innovative skills, foster collaboration, and tackle real-world challenges through technology. The hackathon is expected to attract over 1000 participants, including students, professionals, and industry experts across India.



Dr. Prashant Bhardwaj, Dr. Pradeep Mouria, Dr. Piyush Mahendru, and Dr. Smriti Mishra served as esteemed committee members for HACKMOR 2024.





"The CAD Quality Quest"

The Department of Mechanical Engineering successfully organized "The CAD Quality Quest" as part of the Quality Month celebration on 18th November 2018. The event aimed to promote precision, creativity, and technical prowess among students through a Computer-Aided Design (CAD) competition. It served as an excellent platform for students to showcase their skills and enhance their understanding of design quality and standards.

Dhruv Verma, a first-year student of Mechanical Engineering, emerged as the winner of "The CAD Quality Quest." Dhruv's design stood out for its exceptional precision and ingenuity, demonstrating a remarkable grasp of CAD tools even as a first-year student.

The Department of Mechanical Engineering extends its heartfelt congratulations to Dhruv Verma and expresses gratitude to all participants, faculty members, and organizers who made the event a memorable success. Special thanks to Dr. Piyush Mahendru for his leadership and dedication to the event



Mechanical Engineering



FACULTY DEVELOPMENT PROGRAMS

FACULTY DEVELOPMENT PROGRAMME ATTENDED BY MECHANICAL DEPARTMENT



CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
An Autonomous Institute | Affiliated to Osmania University
Kokapet Village, Gandipet Mandal, Hyderabad, Telangana-500075, www.cb.it.ac.in

Approved by:  Recognized by:  Programs Accredited by:  Grade A++ by:  All India Ranking 01-030 Best  Quality Assured: ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

COMMITTED TO RESEARCH, INNOVATION AND EDUCATION

45

years

CERTIFICATE OF PARTICIPATION


This is to certify that **Dr. Joginder Singh, Department of Mechanical Engineering, Manav Rachna University, Faridabad** has participated and successfully completed the One-Week Faculty Development Program on **"Technological Advancement in Synthesis of Novel Materials"** organized by the Department of Mechanical Engineering, Chaitanya Bharathi Institute of Technology (A), Hyderabad during 05-08-2024 to 10-08-2024.


Dr. Ashutosh Sahu
Coordinator


Dr. Kiran Kumar Amireddy
Coordinator


Prof. P Prabhakar Reddy
Head, Mechanical Engineering


Prof. C. V. Narasimhulu
Principal




MEASI Institute of Information Technology
No.147, Peter's Road, Royapettah,
Chennai- 600 014


DEPARTMENT OF MCA

Five days International Virtual FDP

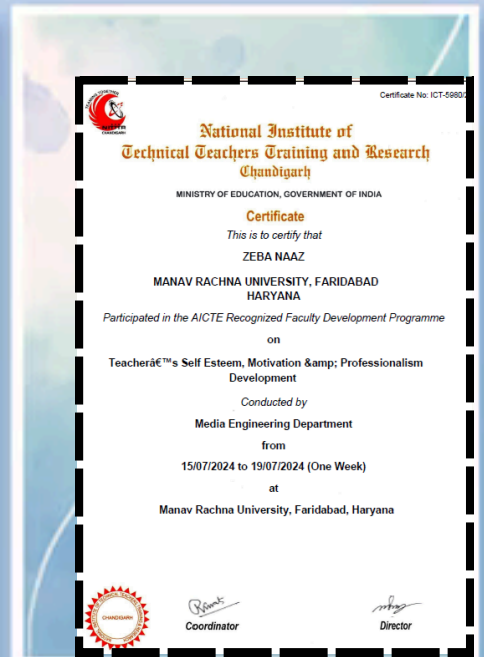
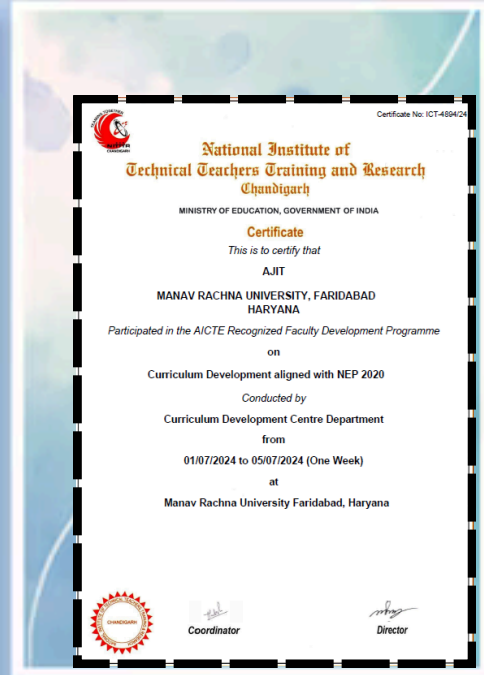
CERTIFICATE OF PARTICIPATION

This is to certify that **Dr./Mr./Ms. NAZISH AHMAD SHAMSI, Assistant Professor** from **MANAV RACHNA UNIVERSITY** has attended **Five Days International Virtual FDP** on **"Exploring New Frontiers in Teaching Tools, AI and Data Analytics"** organized by **MEASI Institute of Information Technology, Royapettah, Chennai** from **29-07-2024 to 02-08-2024**.

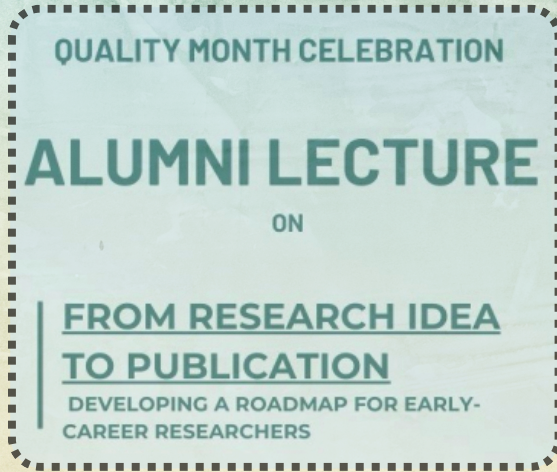

Dr. Usha M
Assistant Director / HOD


Dr. Ahmed Mudassar Ali
Director

FACULTY LEARNING



ALUMNI MEET 2024



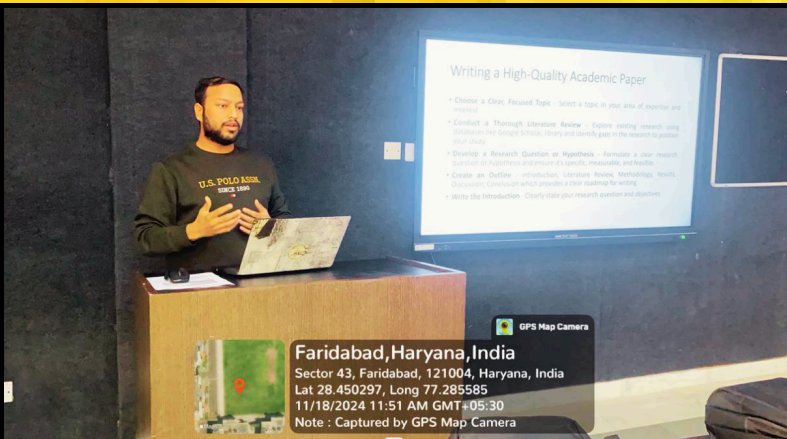
MR. HIMANSHU GARG

Alumni Lecture Highlights on “From Research Idea to Publication”

An alumni lecture was conducted on 18th Nov. 2024, by the Department of Mechanical Engineering, bringing together students, researchers, and faculty members to gain insights into the research process from conception to publication. The lecture on the topic “From Research Idea to Publication” was delivered by Mr. Himanshu Garg, alumni 2019 batch, Mechanical Engineering Department. A brief introduction about the guest was given by Dr. Gianender Kajal, a faculty of the Mechanical Engineering Department. Mr Himashu Garg is currently working as a Product Development Engineer at Cummins Inc., Columbus, Indiana, USA. He completed a Master’s degree in Mechanical Engineering at Texas Tech University, USA in 2023. Previously, he was employed with Adroit Engineer under the control division for the past two years. He was a splendid student not only academically but in extracurricular exercises as well. He has great experience in designing and has done several research papers in Scopus and presented them at the National Conference and also published patents in multidisciplinary areas. He was bestowed with the ‘Outstanding Achievers Award’ in research and innovation by Manav Rachna University in 2019.

Mechanical Engineering

Glimpses of the session



ALUMNI LECTURE

ON

SUPPLY CHAIN
MANAGEMENT



Mr. HITESH JAIN
SCM MANAGER

Alumni Lecture Highlights on “Supply Chain Management”

On November 19, 2024, the Department of Mechanical Engineering organized an Alumni Lecture on “Supply Chain Management”. The lecture was delivered by Mr. Hitesh Jain, a distinguished alumnus from the 2016 batch of the Mechanical Engineering Department. The event brought together students, researchers, and faculty members to gain valuable insights into the intricacies of supply chain management, particularly in the context of mechanical engineering and industrial applications.

Mr. Hitesh Jain, SCM Manager working with Carrier India Ltd since 2021, has more than 8 years of experience in Supply Chain Management for organizations like LG Electronics & Carrier Corporation, directly working with the management, Strategic Sourcing, Inventory Management, and vendor management & development for various projects.

The Alumni Lecture on “Supply Chain Management” was a highly informative and engaging session that left participants with a deeper understanding of the subject and its real-world applications. The event highlighted the critical role of SCM in driving business success and navigating the complexities of global trade.

The lecture was both enlightening and inspiring for students, providing them with a renewed motivation to pursue research and careers in the field. Dr. Gianender Kajal, Assistant Professor, delivered the vote of thanks, expressing heartfelt gratitude to Mr. Jain for his valuable time and expertise. The event was a resounding success and left participants eager to apply their newfound knowledge to their academic and professional pursuits.

Glimpses of the session



Journal/Conference Publications



Dr. Gianender Kajal published a research paper titled "Finite Element Analysis and Experimental Investigation in Incremental Sheet Metal Forming of Composite Matrix of Grade-V Titanium" in the esteemed journal IJIDM, which is indexed in **Scopus**.

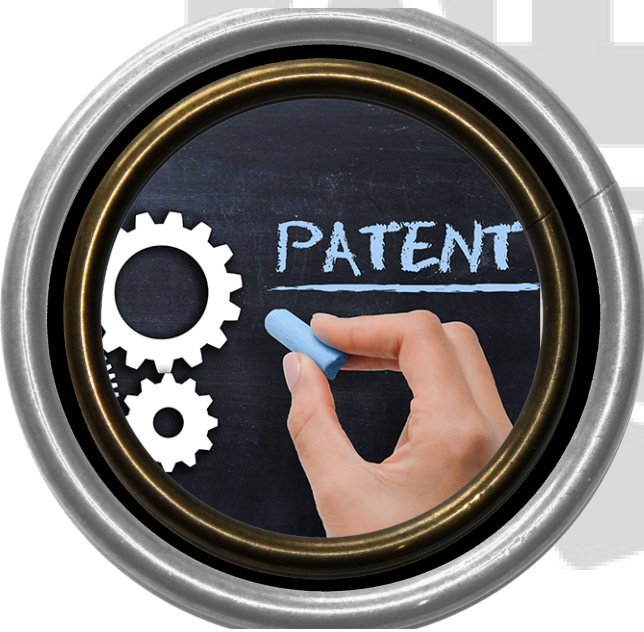
Dr. Zeba Naaz presented her paper titled "Impact of Geometric Variables on the Functionality of Downdraft Biomass Gasifiers Across Diverse Dimensions" in a **SCI** journal.

Prof. (Dr.) Joginder Singh has presented the paper titled "Design and Manufacturing of Steel Model of Eiffel Tower" at the 2nd International conference on Developments in Sustainable Materials, Infrastructure, Manufacturing and Energy Engineering (ICDSMIME-2024) held during 13-14 December, 2024 at Chaitanya Bharathi Institute of Technology, Hyderabad, India.



An Invention Entitled “FRUIT HARVESTING INCHWORM ROBOT”

PATENTED



PROF.
DR. AJIT

Patent no-546855

Application No: - 202211057825

A PATENT HAS BEEN GRANTED TO PROF. (DR.) AJIT FOR HIS INNOVATIVE INVENTION TITLED “FRUIT HARVESTING INCHWORM ROBOT”. THIS GROUNDBREAKING DEVELOPMENT IN AGRICULTURAL ROBOTICS IS A TESTAMENT TO PROF. (DR.) AJIT’S DEDICATION TO ADVANCING TECHNOLOGY IN THE FIELD.

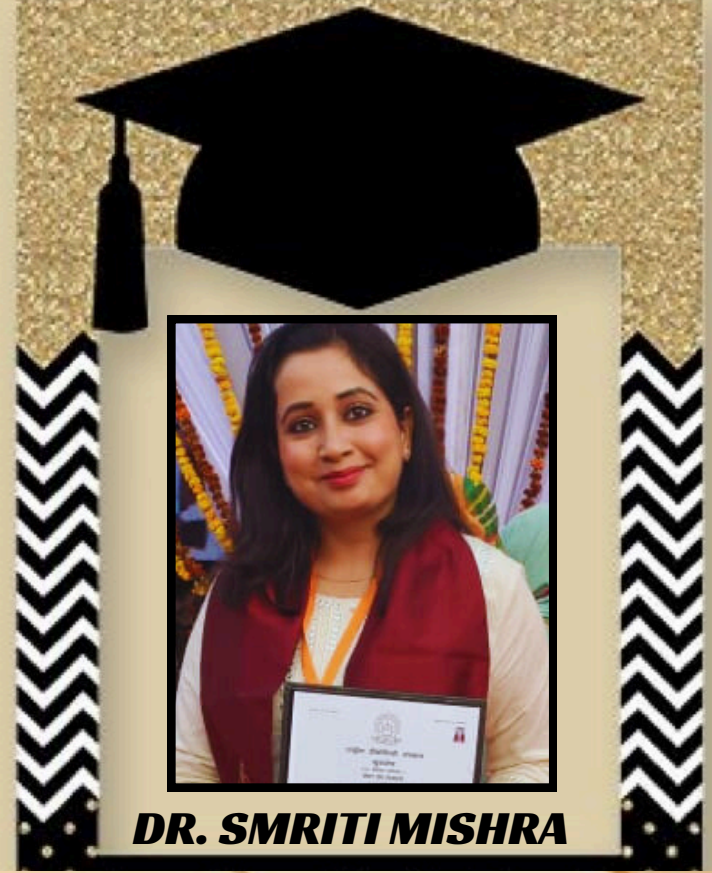




Doctorate Degree



DR. GIANENDER KAJAL



DR. SMRITI MISHRA



DR. PIYUSH MAHENDRU



**DR. PRADEEP KUMAR
MOURIA**





DR. GIANENDER KAJAL, had grabbed his Ph.D degree of “Finite element analysis and Experimental Study of Single Point Incremental Forming for the Biomedical Sector”.



DR. SMRITI MISHRA, had grabbed her Ph.D. degree of “Parametric Study of Al8090 foam fabricated by friction stir processing through Taguchi’s DOE Approach”.



DR. PIYUSH MAHENDRU, had grabbed his Ph.D. Drgree of “Development of Non Equi Atomic High Entropy Alloys on SS316L using Laser Cladding Deposition Technique for Hydro Turbine Blades”



DR. PRADEEP KUMAR MOURIA, had grabbed his Ph.D. Drgree of “Experiment investigation in friction stair welding of non ferrous dissimilar material”.



BEST TEACHER AWARD

KARMSU KAUSHLAM



MANAV RACHNA ACADEMIC EXCELLENCE AWARDS 2024
KARMSU KAUSHLAM

This award is proudly presented
to

Dr. Prashant Bhardwaj

Associate Professor
Manav Rachna University

for outstanding accomplishments, perseverance,
meritorious service
and
contribution towards the
growth and achievement of
Manav Rachna.



Date: 26 October 2024


Mrs. Satya Bhalla
Chief Patron-MREI



Teaching excellence award

"Heartiest congratulations to Dr. J.P. Sharma, Associate Professor of Mechanical Engineering, for being honored with the prestigious Best Teaching Excellence Award at Convershine 2024.

This remarkable achievement is a testament to his dedication, expertise, and commitment to academic excellence.



Certificate for Teaching Excellence

This Certificate is Presented to:

Dr. Jai Prakash

In recognition of your exceptional ability to inspire and empower students, foster intellectual growth, and promote scholarly contributions. Your innovative, creative, and engaging teaching methods have set a standard of excellence, leaving a lasting impact on Manav Rachna University.

21st December, 2024

PROF. (DR.) DEEPENDRA KUMAR JHA
Vice Chancellor



NPTEL ONLINE CERTIFICATION COURSE

Elite
NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
PROF DR JOGINDER SINGH
for successfully completing the course

Sustainable Transportation Systems

with a consolidated score of **79 %**

Online Assignments	23.72/25	Proctored Exam	55.1/75
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Total number of candidates certified in this course: **624**

Jul-Oct 2024
(12 week course)

Prof. Kaushik Ghosh, Professor (ISEE), Coordinator CEC
Prof. Ranjana Pathania, Professor (ISEE), Coordinator (NPTEL)

Indian Institute of Technology Roorkee

Roll No: NPTEL24CE65S450402746 To verify the certificate No. of credits recommended: 3 or 4

NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
TANAY MISHRA
for successfully completing the course

Fundamentals of Manufacturing Processes

with a consolidated score of **49 %**

Online Assignments	18.97/25	Proctored Exam	30/75
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Total number of candidates certified in this course: **584**

Jul-Oct 2024
(12 week course)

Prof. Kaushik Ghosh, Professor (ISEE), Coordinator CEC
Prof. Ranjana Pathania, Professor (ISEE), Coordinator (NPTEL)

Indian Institute of Technology Roorkee

Roll No: NPTEL24ME12IS950400431 To verify the certificate No. of credits recommended: 3 or 4

NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
NIKHIL JAISWAL
for successfully completing the course

Fundamentals of Manufacturing Processes

with a consolidated score of **47 %**

Online Assignments	16.78/25	Proctored Exam	39/75
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Total number of candidates certified in this course: **584**

Jul-Oct 2024
(12 week course)

Prof. Kaushik Ghosh, Professor (ISEE), Coordinator CEC
Prof. Ranjana Pathania, Professor (ISEE), Coordinator (NPTEL)

Indian Institute of Technology Roorkee

Roll No: NPTEL24ME12IS950400326 To verify the certificate No. of credits recommended: 3 or 4

NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
KHWAHISH FARID
for successfully completing the course

Sustainable Transportation Systems

with a consolidated score of **63 %**

Online Assignments	23.88/25	Proctored Exam	38.8/75
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Total number of candidates certified in this course: **624**

Jul-Oct 2024
(12 week course)

Prof. Kaushik Ghosh, Professor (ISEE), Coordinator CEC
Prof. Ranjana Pathania, Professor (ISEE), Coordinator (NPTEL)

Indian Institute of Technology Roorkee

Roll No: NPTEL24CE65S450602723 To verify the certificate No. of credits recommended: 3 or 4

NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
RAHUL
for successfully completing the course

Sustainable Transportation Systems

with a consolidated score of **60 %**

Online Assignments	23.38/25	Proctored Exam	36.21/75
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Total number of candidates certified in this course: **624**

Jul-Oct 2024
(12 week course)

Prof. Kaushik Ghosh, Professor (ISEE), Coordinator CEC
Prof. Ranjana Pathania, Professor (ISEE), Coordinator (NPTEL)

Indian Institute of Technology Roorkee

Roll No: NPTEL24CE65S390402168 To verify the certificate No. of credits recommended: 3 or 4

NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
SUMIT TIWARI
for successfully completing the course

Sustainable Transportation Systems

with a consolidated score of **61 %**

Online Assignments	21.47/25	Proctored Exam	38.8/75
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Total number of candidates certified in this course: **624**

Jul-Oct 2024
(12 week course)

Prof. Kaushik Ghosh, Professor (ISEE), Coordinator CEC
Prof. Ranjana Pathania, Professor (ISEE), Coordinator (NPTEL)

Indian Institute of Technology Roorkee

Roll No: NPTEL24CE65S450402171 To verify the certificate No. of credits recommended: 3 or 4

NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
KUSHAL MITTAL
for successfully completing the course

Sustainable Transportation Systems

with a consolidated score of **62 %**

Online Assignments	22.5/25	Proctored Exam	38.8/75
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Total number of candidates certified in this course: **624**

Jul-Oct 2024
(12 week course)

Prof. Kaushik Ghosh, Professor (ISEE), Coordinator CEC
Prof. Ranjana Pathania, Professor (ISEE), Coordinator (NPTEL)

Indian Institute of Technology Roorkee

Roll No: NPTEL24CE65S450401897 To verify the certificate No. of credits recommended: 3 or 4

NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
NEHA CHAUDHARY
for successfully completing the course

Sustainable Transportation Systems

with a consolidated score of **53 %**

Online Assignments	22.72/25	Proctored Exam	30.62/75
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Total number of candidates certified in this course: **624**

Jul-Oct 2024
(12 week course)

Prof. Kaushik Ghosh, Professor (ISEE), Coordinator CEC
Prof. Ranjana Pathania, Professor (ISEE), Coordinator (NPTEL)

Indian Institute of Technology Roorkee

Roll No: NPTEL24CE65S450401937 To verify the certificate No. of credits recommended: 3 or 4

NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
SAKSHAM GUPTA
for successfully completing the course

Sustainable Transportation Systems

with a consolidated score of **55 %**

Online Assignments	23.1/25	Proctored Exam	32.15/75
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Total number of candidates certified in this course: **624**

Jul-Oct 2024
(12 week course)

Prof. Kaushik Ghosh, Professor (ISEE), Coordinator CEC
Prof. Ranjana Pathania, Professor (ISEE), Coordinator (NPTEL)

Indian Institute of Technology Roorkee

Roll No: NPTEL24CE65S450401632 To verify the certificate No. of credits recommended: 3 or 4

NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

This certificate is awarded to
CHIRAG SAINI
for successfully completing the course

Sustainable Transportation Systems

with a consolidated score of **60 %**

Online Assignments	22.72/25	Proctored Exam	37.74/75
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Total number of candidates certified in this course: **624**

Jul-Oct 2024
(12 week course)

Prof. Kaushik Ghosh, Professor (ISEE), Coordinator CEC
Prof. Ranjana Pathania, Professor (ISEE), Coordinator (NPTEL)

Indian Institute of Technology Roorkee

Roll No: NPTEL24CE65S450401908 To verify the certificate No. of credits recommended: 3 or 4

BATTLE OF THE ENGINEERS



The Volleyball team of Manav Rachna University (MRU) participated in the prestigious North Zone Volleyball Championship 2024-25, held at Gurukul Kangri University, Haridwar, from 22nd to 26th November 2024. This annual tournament brought together talented teams from universities across the North Zone, showcasing skill, teamwork, and sportsmanship.

The MRU Volleyball team extends its gratitude to the university administration, the Sports Head Dr. Piyush Mahendru, and the Dean-Student Welfare Prof.(Dr.) Yogita Sharma for their unwavering support in facilitating participation.



Department of Mechanical Engineering



Thank you



hodme@mru.edu.in

MANAV RACHNA UNIVERSITY

**Plot B- Sec 43, Delhi Surajkund Road, Aravali
Hills, Faridabad-121010, Haryana, India**