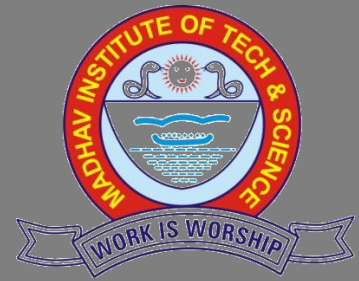


Newsletter

Department of Mechanical Engineering



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Volume 5 Issue 1

Madhav Institute of Technology &
Science, Gwalior-474005

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Vision

"To develop innovative and creative Mechanical & Automobile Engineers catering the global industrial requirements and social needs".

Mission

1. To prepare effective and responsible graduate engineers for global requirements by providing quality education.
2. To enhance knowledge through project and internship in the field of Mechanical, Automobile and allied engineering.
3. To guide students in acquiring career-oriented jobs in the field of Mechanical and Automobile engineering.
4. To provide academic environment of excellence, leadership, ethical values and lifelong learning to cater the need of society by sustainable solutions.

Editorial Team

- Mr. Vaibhav Shivhare
- Mr. Shubham Shrivastava
- Mr. Sayed Faiz Ahmad

Students

- Ravi Kushwah
- Aniket Gupta
- Kabir Saraswat

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

1. Graduates of the program will be able to have successful professional career.
2. Graduates of the program will be able to develop attitude of learning and become adaptable to dynamic industrial and social environment.
3. Graduates of the program will be able to design and develop mechanical system by using skills and knowledge of core competency along with allied engineering skill.
4. Graduates of the program will be able to undertake interdisciplinary research needed to build a sustainable society.

PROGRAM OUTCOMES (POs)

Mechanical and Automobile Engineering Graduates will be able to:

- PO 1** Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO 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.
- PO 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.
- PO 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.
- PO 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.

- PO 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 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.*
- PO 8** *Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.*
- PO 9** *Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.*
- PO 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.*
- PO 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.*
- PO 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.*

Faculty Awards & Honours

1. Dr C S Malvi received Elite certificate for an online NPTEL course on 'Roadmap for Patent Creation'.

Faculty Outreach

1. Dr C S Malvi delivered an expert talk on Innovations in Solar Energy in ATAL FDP on Green Technology and Sustainable Engineering organised by Gautam Buddha university, Noida, UP on Jan 20, 2021.
2. Dr C S Malvi delivered Two sessions; (1) Solar Energy Advances and Opportunities and (2) SOLar PVT Technology in ATAL FDP on Solar Energy Technology organised by University Institute of Technology, R.G.P.V., Bhopal, MP on Feb 09 & 11, 2021.
3. Dr C S Malvi delivered a lecture on Mar 26, 2021 at Faculty Development Program, Jiwaji University, Gwalior under DST, New Delhi. Topic was on "Solar Energy Opportunities".
4. Mr. Neeraj Mishra delivered an expert lecture on "Spatial Representation of Rigid Bodies" on March 25, 2021 in a two-day workshop titled "ROBOTRIX 2.0" Organized by ROBO CLUB, Department of Mechanical Engineering, Panipat Institute of Engineering & Technology.

The screenshot shows a Zoom meeting interface. The main window displays a presentation slide titled "Position of a Rigid Body". The slide content includes:

- How to represent the **position** of a rigid body?
 - Through the position of a point P fixed to the body
 - Position vector: $\mathbf{P} = \overline{OP}$
- How many **coordinates** are needed?
 - In 2D: 2 coordinates (2 dof)

The slide also features a 3D coordinate system with axes \hat{x} , \hat{y} , and \hat{z} and a point P with position vector \overline{OP} . A hand-drawn diagram shows a rectangular rigid body in a 2D plane with axes x and y , and a center point C . Handwritten notes indicate "2 dof" for the body's position and "3 dof" for its orientation. A small text at the bottom right of the slide reads "dof: degrees of freedom".

The Zoom interface includes a top bar with "NEERAJ MISHRA is presenting", a "Press Esc to exit full screen" button, and a top right corner showing "12:52 AM" and "You". A video feed on the right shows a classroom with students. The bottom bar contains icons for "Robotics", "Raise hand", "Turn on captions", and "NEERAJ MISHRA is presenting".

1. Dr Jyoti Vimal chaired a session in the International Conference on Advances in Materials, Mechanics, Mechatronics and Manufacturing held online during March 06-07, 2021.
2. Mr. Dhruv Maggu participated in a TEQIP-III sponsored one week online short term course on "Computational and Experimental Techniques in Heat Transfer and Fluid Flows" organized by Department of Mechanical Engineering, NIT Uttarakhand, Srinagar (Garhwal) during 01 – 05 March 2021.

Departmental Activities

Energy Swaraj Yatra

The Solar Man of India Dr Chetan Singh Solanki, Professor, IIT, Bombay is on his 10 years journey in his 'Energy Swaraj Yatra' and passing by Gwalior. Dr CS Malvi invited him and coordinated his lecture and visit to the MITS Campus on 25 March 21.

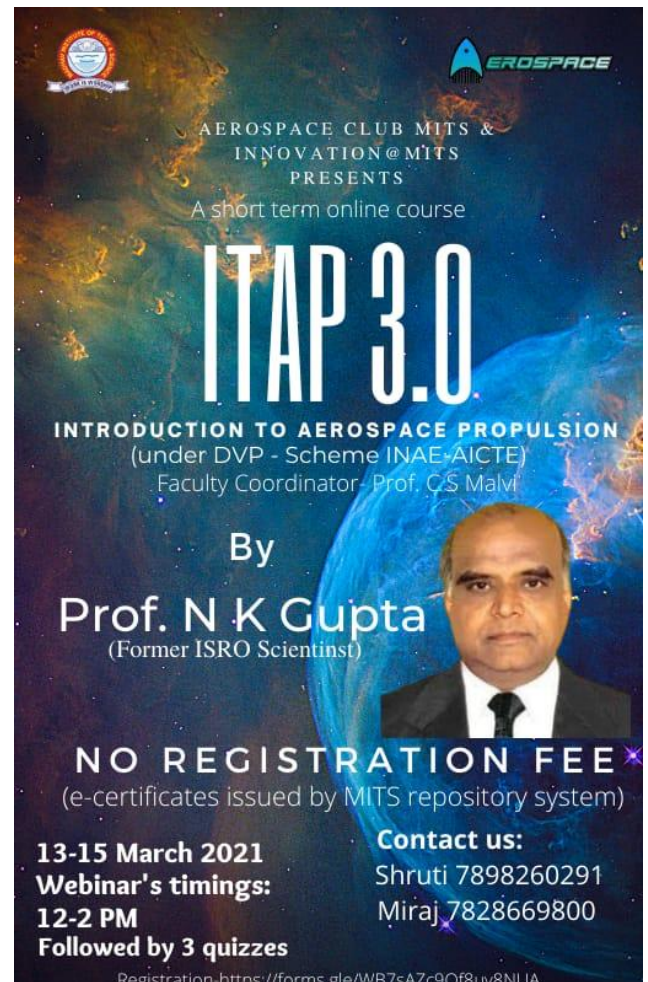


ITAP 3.0

An Online Short-term course titled "INTRODUCTION TO AEROSPACE PROPULSION 3.0" successfully held during March 13-15, 2021 in MITS Gwalior. Total 120 students attended the course. Shruti and Miraj from Aerospace Club were the student coordinators. Distinguished Professor NK Gupta, Ex-deputy Director of LPSE, ISRO delivered the full course. It was sponsored Under DVP Scheme of INAE – AICTE and organized by Aerospace Club MITS and Dr C. S. Malvi was the coordinator of this event and DVP scheme.

Holiviz Quiz

On the occasion of Holi, Mechanical Engineering department successfully organised Holiviz quiz online under the club of Innovation cell MITS Gwalior on 28 March 2021 from 12:00 PM to 01:00 PM. Total 122 participants attended the quiz under Innovation Cell and faculty advisor Dr C. S. Malvi, Professor, Mechanical Engineering Department.



AEROSPACE CLUB MITS & INNOVATION@MITS PRESENTS
A short term online course

ITAP 3.0

INTRODUCTION TO AEROSPACE PROPULSION
(under DVP - Scheme INAE-AICTE)
Faculty Coordinator- Prof. CS Malvi

By
Prof. N K Gupta
(Former ISRO Scientist)

NO REGISTRATION FEE ✨
(e-certificates issued by MITS repository system)

13-15 March 2021
Webinar's timings:
12-2 PM
Followed by 3 quizzes

Contact us:
Shruti 7898260291
Miraj 7828669800

Registration-<https://forms.gle/WB7sAZc9Qf8uy8NUA>

A collage of NBA visit



Patent

Dr Jyoti Vimal filed a patent on “An Intelligent Electric Moving Machine (IEMM) Embedded System”.

Application number: 202011057348 A

Publication Date: 08/01/2021