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"WORKING TOWARDS BEING THE BEST"

DEPARTMENT OF MECHANICAL ENGINEERING

July- Sep, 2019

LAKSHMI NARAIN COLLEGE OF TECHNOLOGY, BHOPAL

VISION:

To be a premier institute where engineering education and research converge to produce engineers as responsible citizens.

MISSION:

- To improve continually in the teaching-learning process by strengthening infrastructural facilities and faculty credentials.
- To undertake interdisciplinary research and development by engaging the faculty and students in curricular, co-curricular and industry collaborated projects towards problem solving.
- To enhance proportion of skilled based courses beyond curriculum to create more employable graduates.
- To inculcate human values, ethics, patriotism and responsibility in our outgoing engineers by providing conducive environment.

DEPARTMENT OF MECHANICAL ENGINEERING

VISION:

To be recognized in academics and research for producing engineers as responsible citizen who are innovative, choice of employers and able to do further studies & research.

MISSION:

- To provide knowledge and skills of Mechanical Engineering to the students.
- To impart quality education to make students competent mechanical engineer and responsible citizen.
- To provide facilities and environment conducive to grounding scholars for employability, higher studies and research.
- To prepare its students for successful career in engineering.

Program Educational Objectives (PEOs)

To make the students able of applying knowledge of mathematics, science and subjects of mechanical engineering in dealing with engineering problems.

To be able to identify and understand real life problems and suitably design and manufacture, feasible and sustainable mechanical devices and systems.

To be able to carry out the research work in the field of Mechanical Engineering.

To be able to use modern tools and techniques for the efficient working and meeting challenges of modern society and industry.

PROGRAM OUTCOMES (POs)

Engineering Graduates will be able to:

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

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.

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.

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.

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.

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.

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.

Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

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.

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.

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.x

DEPARTMENTAL NEWS

1. Students of Mechanical Engineering department swept the Common Admission Test- 2018 (CAT) Exam, achieving phenomenal results:

a. Pranshu Prabhakar- 96.24 percentile

b. Anmol Seth- 94.83 percentile

c. Vishal Chopde- 93.14 percentile

2. Dr. Shailendra Dwivedi & Mr. Manish Shukla were granted a patent under IPR for the invention under the title of "GROOVED SLEEVE AND CROSS- ARM FOR SLIDING PAIR OF A STEERING MECHANISM"

3. Dr. Anil Singh Yadav and Prof. Josy George, faculties of the Mechanical Engineering Department received Certificate of Copyright Registration for a literary work on "Book 360".

4. Mr. Akhilesh Lomare topped the second semester examinations by scoring 8.76 SGPA.

5. Mr. Abhishek Singh secured first rank among sixth- semester exam takers for session 2018-19 by scoring 9.19 SGPA.

6. Mr. Abhinav Raj Singh was awarded the 'Chancellor's Scholarship' by the Rajeev Gandhi Proudyogiki Vishwavidyalaya for the academic year 2018-2019.

7. Mr. Rishabh Gupta stood first in the fourth semester university exams with a score of 8.83 SGPA.

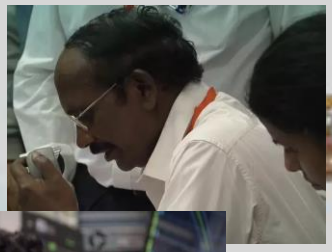
8. Mr. Rishabh Patidar and Mr. Shubham Ojha were selected by Oil and Natural Gas Corporation (ONGC) and Indian Oil Corporation Ltd. (IOCL) respectively.

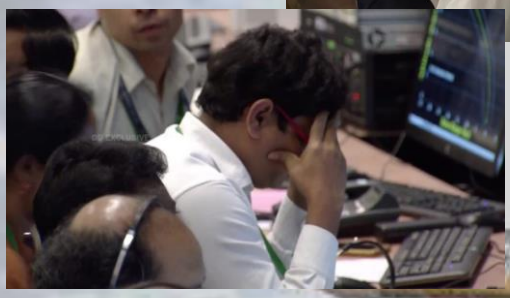
9. Mr. Aditya Pandey, Prof. Pushkal Badoniya & Prof. Josy George had their article, titled- "Rotary Triboelectric Nanogenerators as a Wind Energy Harvester" published in the international "SCOPUS Journal"- International Journal of Recent Technology and Engineering (IJRTE).

10. An expert lecture on "LOAD CALCULATION FOR INDUSTRIES" was organised by the Department of Mechanical Engineering.

11. Team KALAAM, comprising of students of Mechanical Engineering Department, namely- Mr. Akshat Kapoor, Mr. Abhinav Raj Singh, Mr. Abhishek Mohan, Mr. Anish Kumar, Ms. Shivani Sikarwar & Mr. Satyam Singh participated in the grand finale of 'SMART INDIA HACKATHON- 2019, Hardware Edition', held at Warangal with their prototype- "SUSHRUT Stretcher-cum- Wheelchair"

NEWS AROUND THE WORLD





- **Chandrayaan-2: Vikram lander lost contact with ground control**

ISRO lost contact with the Vikram lander around 2.1 km over the lunar surface, while descending over it, in a setback to India's maiden attempt to land a spacecraft on the moon's surface. As the lander began the 15-minute autonomous descent, it overcame a major hurdle of what is called as the rough- breaking phase to go down from a height of 30 km to ground. Soon after, the lander lost contact with ground station. However, the orbiter, which has several instruments on board, continues to hover around 100 kms over the moon. The probe went through a series of manoeuvres to slow down, lower it's altitude and get in position to land near the south pole of the moon. Later, the ISRO chief K. Sivan announced that communications from the lander to ground center were lost.

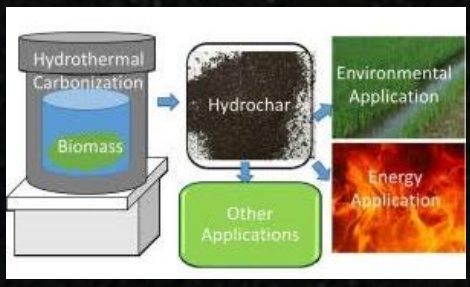
- **ISRO sets up Space Situational Awareness control centre**

ISRO laid foundation stone for Space Situational Awareness control centre in Bengaluru, Karnataka to protect Indian satellites from space debris. It will facilitate intensified activities foreseen for Space Situational Awareness & Management (SSAM), in view of increasing debris- population and operational space assets.

- **FEDOR: Russia launched its first humanoid robot in space**

Russia recently launched life-size humanoid robot called FEDOR to International Space Station (ISS). Fedor is also known as Skybot F850. It is the size of a human i.e., 180 centimeters (5 foot 11 inches) tall and weighs 160 kilograms. It can emulate human body movements. It's main purpose is to be used in operations that are dangerous for humans, onboard spacecraft and in outer space.

- **Indian Researchers developed new waste management technology**



Researcher from Indian Institute of Technology, Kharagpur developed a new technology- Hydro Thermal Carbonisation (HTC) for solid- waste management. This technology can convert municipal solid waste to bio-fuel, soil amendment and absorbents.

- **Indian researchers developed Dye- Sensitized Solar Cell**

Researchers from IIT, Hyderabad have developed a Dye-Sensitized Solar Cell (DSSC) which is based on new Fuchsia (NF) dye with aqueous electrolyte and platinum-free counter electrodes.

- **DRDO transferred a Mobile Metallic Ramp (MMR) to Indian Army**

DRDO transferred the design of Mobile Metallic Ramp (MMR) to Indian Army. It has been designed and developed by Centre for Fire, Explosive and Environment Safety (CFEES), DRDO's premier research laboratory.

- **Ashok Leyland's Trucks become 1St to get BS-VI certification**

Ashok Leyland announced that its entire range of heavy duty trucks has been upgraded to meet BS-VI emission norms, which come into force from 1st April 2020. The 'BS' in BS VI stands for 'Bharat Stage' which signifies the emission regulation standards set by Indian regulatory bodies.

- **Dadasaheb Phalke Award-2018**

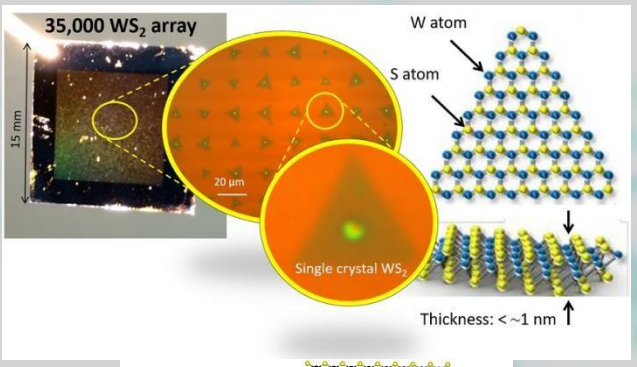
Famous Bollywood actor Amitabh Bachchan has been honoured with India's highest award in cinema, the Dadasaheb Phalke Award for the year 2008.

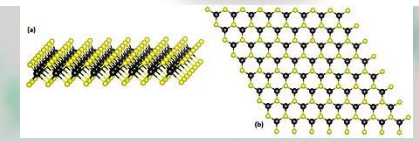
- **Bharat Ratna Awards 2019**

The 2019 Bharat Ratna Award has been bestowed upon former president Pranab Mukherjee, Nanji Deshmukh and singer Bhupen Hazarika.

- **Dr. A.P.J. Abdul Kalam Award**

Indian Space Research Organisation (ISRO) chairman Kailasavadivoo Sivan was awarded Dr. A.P.J Abdul Kalam Award by Tamil Nadu government. He was awarded in recognition of his stellar work in promotion of science and technology.





- **Clarification of a new synthesis mechanism of semiconductor atomic sheet**

Researchers have succeeded in clarifying a new synthesis mechanism regarding transition metal dichalcogenides (TMD), which are semiconductor atomic sheets having thickness in atomic order. Because it is difficult to directly observe the aspect of the growing process of TMD in a special environment, the initial growth process remained unclear, and it has been desirable to elucidate a detailed mechanism of synthesis to obtain high-quality TMD.

- **Using Wi-Fi like sonar to measure speed and distance of indoor movement**

Researchers have developed a technique for measuring speed and distance in indoor environments, which could be used to improve navigation technologies for robots, drones- or pedestrians trying to find their way around an airport. The technique uses a novel combination of Wi-Fi signals and accelerometer technology to track devices in near-real time.

SPORTS NEWS

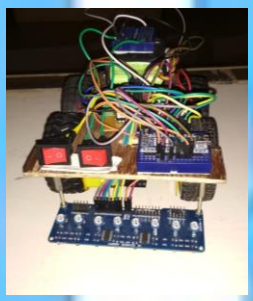
1. Mechanical Department students Mr. Abhishek Mohan and Mr. Romil Patel participated in the Football- Nodals, held at "Corporate College Bhopal". The team once again showcased brilliant performance through-out the tournament and played final match against Oriental College Bhopal. It was a nail-biting end- to- end finish, but in the last few minutes of the match, Mr. Mohan managed to put the ball behind the nets and the goal stood as the difference between the two teams.

Due to Mr. Mohan's brilliant performance in the final match, he won the "Player of the Match Award". He also got selected for the University's State team which will play at IES College, Bhopal in October.

2. Mr. Anas Parvez, a student of Mechanical Department represented Bhopal at the state- level Tennis tournament held at "Vindhya Institute of Technology, Satna ", where he showed great composure and managed to secure Third position. He was then selected for the University- National competition, which will be held at "NIWEC SPORTS COMPLEX (Nasik), conducted by Savitribai Phule University".

3. Mr. Satwik Pandey of the Mechanical Department participated at various state- and college- level tournaments of cricket. He represented Bhopal at the State-level Championship . With Satwik getting two 'Man of the Match' awards, Bhopal won the state Championship .

4. Mr. Shubham Singh Jaat of Mechanical Department is a brilliant Badminton player. With his skills and hard work, he has brought laurels to the college and department. He has represented the college in the Badminton Nodals, held at BHEL SPORTS COMPLEX, conducted by Corporate College, where he secured "Second Position" in the mens' singles category



PRO-TRON
BE THE FUTURE

PROTRON- The Robotics Club

PROTRON club was created two years ago with the purpose of developing interest in the field of robotics among the students. The club provides workspace, tools, and guidance to interested students apart from taking up specific projects.

The aim of this club is to support and foster interest in various aspects related to robotics- in particular- mechanical design. This club is open to all students with or without experience in robotics to learn and grow their knowledge. The club will cater to the interests of hobbyists and beginners. The club tries to reach students to apply innovative ideas. The club flourishes under the umbrella of Department of Mechanical Engineering.

Teams within the club design, build, and program functioning robots using a variety of resources.

- We have represented our Robots at TechFests of IIT Kharagpur & IIT Bombay and also achieved revolutionary laurels.
- We have done workshops on Robotics functioning, controlling and stability of Robot in college premises for our members.
- Recently, we are working on a new seminar- series, to be conducted soon on 'Bluetooth Interfacing with the robots'.

Our focus is to promote the club and provide opportunities to the students and find out the real geeks of robotics.

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For feedback, Contact: melnctnewsletter@gmail.com