



Nawab Shah Alam Khan

COLLEGE OF ENGINEERING & TECHNOLOGY

BE: CE, ME, EEE, ECE, CSE, IT - ME: CSE, Embedded Sys, Structural, HVAC - Polytechnic: CE, ME, EEE, ECE

Approved by AICTE | Affiliated to OU | Accredited to NAAC | Permitted by Govt. of TS | Included in 2F UGC

MECHANICAL ENGINEERING



2018-2019



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Mechanical Engineering Department

Hyderabad, Telangana, India



Presents

Mechopedia

Technical Article

2018-2019

Editors

1. Mohammed Taher
2. Ahmed Hussain
3. Syed Aamer Ur Rahman
4. Shaik Hussain

"No one person can shape the life of another. Your success and happiness depends upon your own self. Think for yourself and have a plan of life"

SIR .M .VISVESVARAYA

Mechanical engineering is an evergreen field since it is the only branch of engineering which is immune to the impact of economic recession. Presently, with the broadening of scope and technological advancement, the prospects of mechanical engineering are extending beyond geographical peripheries.

Mechanical engineering is the discipline which applies engineering, physics, materials science principles and engineering mathematics to design, analyses, manufacture, and maintain mechanical systems. This field of engineering is the oldest and broadest of all engineering fields and the job prospects for skilled mechanical engineers are copious and limitless in India and abroad. Future Growth Prospects and How to Get There Faster. The future and scope of mechanical engineers in India and abroad are very bright. Students who complete mechanical engineering have a plethora of opportunities in the areas of aerospace, automobile, chemical manufacturing plants, railway coach factory, oil exploration, research and development, among others. In recent times and owing to the advent in technology, the skills and expertise of a mechanical engineer are required in domains such as robotics, biomedical, nanotechnology, AI, energy conservation and more. The growth in this industry within the next few years will be immense, and mechanical engineering will be the highest-paid career option.

Dr. Syed Mujahed Hussaini
Prof & HOD Mechanical Engineering on
2-Nov-2019



Organised a lecture on Scope and Opportunities for Mechanical Engineers.

He also explain mechanical engineers are visible almost in all sections of the globe today since their experience and qualification are suitable for almost any kinds of businesses. However, mechanical engineering career has its own sets of advantages and disadvantages.

Pros

- It is an evergreen branch and always in demand.
- Wide-range of disciplines/subjects
- Excellent pay potential and exciting workplaces
- Global opportunities
- The forefront of future technologies

Cons

- Competitive atmosphere
- Extreme work pressure and challenging workload and timings
- Educational requirements

VISION AND MISSION OF THE INSTITUTE

VISION

To impart quality technical education with strong ethics, producing technically sound engineers capable of serving the society and the nation in a responsible manner.

MISSION

- M1:** *To provide adequate knowledge encompassing strong technical concepts and soft skills thereby inculcating sound ethics.*
- M2:** *To provide a conducive environment to nurture creativity in teaching- learning process.*
- M3:** *To identify and provide facilities which create opportunities for deserving students of all communities to excel in their chosen fields.*
- M4:** *To strive and contribute to the needs of the society and the nation by applying advanced engineering and technical concepts*

VISION AND MISSION OF MECHANICAL ENGINEERING DEPARTMENT

VISION

To achieve excellence in Mechanical Engineering by imparting technical and professional skills along with ethical values to meet social needs via industrial requirements.

MISSION

- M1:** *To offer quality education with the supportive facilities to produce efficient and competent engineers through industry-institute interaction.*
- M2:** *To prepare the students with academic excellence, professional competence, and ethical behavior for a lifelong learning.*
- M3:** *To inculcate moral & professional values among the students to cater the needs of the society and environment.*

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

- PEO 1:** *Graduates will apply their engineering knowledge and problem solving skills to design mechanical systems and processes.*
- PEO 2:** *Graduates will embrace leadership skills at various roles in their career and establish excellence in the field of Mechanical Engineering.*
- PEO 3:** *Graduates will provide engineering solutions to meet industrial requirements there by full fill societal needs.*

PROGRAM OUTCOMES (POs)

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

- 1. Problem analysis:** Identify, formulate review research literature and analyze complex engineering problems reaching substantiated conclusions using first principle of mathematics, natural science and engineering science.
- 2. 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.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. 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.
- 7. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 8. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- 9. 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.
- 10. 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.
- 11. 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

PROGRAM SPECIFIC OUTCOMES (PSOs)

- PSO-1:*** *Implement new ideas on product design and development with the help of modern computer aided tools, while ensuring best manufacturing practices*
- PSO-2:*** *Impart technical knowledge, ethical values and managerial skills to make successful in career.*
- PSO-3:*** *Develop innovative attitude, critical thinking and problem solving approach for any domains of mechanical engineering*

B.Tech Project - Orientation Program for Final Year – Mechanical Engineering Students.



An Orientation Program was organized by Mechanical Engineering Department, for the 3rd year and 4th Year Students of Mechanical Engineering on **3th January 2019**. The major aim of the program was to introduce the second year students to various aspects of the mechanical engineering course and the department.

The event started with **Dr. S M Hussaini** addressing the students and introducing them to the faculty members of the mechanical engineering department. He also gave a detailed presentation on the **Vision; Mission and Program Specific Outcomes (PSO)** of the department. Various activities carried out by the department; industry collaborations; funded projects and other key points were also shared with the students.

Assoc Prof. Sabbir Ahmed spoke on Industry Internships and placements emphasizing on the recruitment process and eligibility. He also addressed the students on the disciplinary aspects of the department.

Prof. gave an introduction of **NBA accreditation** process and its importance. He also spoke about the **Institutional Innovation Cell (IIC)**.

Prof. S M Hussaini addressed the students about the **NPTEL** certification courses.

Assoc Prof. Raza Ahmed Khan introduced the students to **ISHRAE Deccan chapter** and its benefits. He also shared the information about **ISHRAE Deccan Chapter** and emphasized on Job Junction organized by **ISHRAE**.

Assoc Prof. Mohammed Abdul Moyeed spoke briefed them on the **NSS-NSKACET** unit.

Dr. Zahir Hasan spoke about the **TASK** unit in Nawab shah Alam khan College of Engineering & Technology and the values it adds to an Engineers' Profile.

Students were also oriented to the subjects of 2nd year the respective subject teaching faculty explained about the importance of each subject and also the exam structure. The event was co-ordinated by **Asst Prof. Mohammed Taher., Assist Prof. Ahmad Hussain , and Asst Prof. Mriza Haroon Baig**.

Guess Lecture



Lecture on programmes, **“Career opportunities and future prospects in the department of Atomic Energy”** was Conducted at Nawab Shah Alam Khan College of Engineering and Technology on 22-January-2019 by Scientific Officers Mr. Vishwa Prasad and Mr. D. Hemasunder.

The Bhabha Atomic Research Center (BARC) Nuclear Fuel Complex (NFC) Department of Atomic Energy (DAE) Govt. Of India.

Students From B.Tech 3rd and 4th year Students (Civil Engineering, Mechanical Engineering, Electrical & Electronics Engineering, Electronics & Communication Engineering and Computer Science & Engineering, Information Technology. Participated In this Lecture.

Mr. Vishwa Prasad and Mr. D. Hemasunder spoke briefly on Nuclear Fuel Complex, an industrial unit of the Department of Atomic Energy, Government of India offers creative and rewarding career opportunities to young qualified men and women who like challenges in frontline areas of Nuclear Science and Technology and are keen to be a part of the expanding Indian nuclear power programme.

He also spoke on the Company has a conducive and challenging work environment and offers attractive opportunities for growth through various training and development programs and a forward looking & performance driven promotion policy. A meritorious and hardworking employee can, thus look forward to a very good career development prospects.

Mr. Mohammed Altaf Hussain spoke the modern world, we take climate control for granted. We have become accustomed to staying warm indoors without having to pile on hats, coats, socks, and other clothes; we turn to fans and air conditioners to build a cool summer climate. Data centers rely on a carefully controlled temperature to keep our information safe and always-available. Hospitals rely on climate control to keep patients comfortable and strategically designed airflow to keep patients healthy. In addition, the proper disposal, purification, and reuse of refrigeration chemicals at the end of a cooling appliance's life is an essential part of the solution to the climate crisis.

Heating, air conditioning, and ventilation (HVAC) systems make much in our society possible, and HVAC technicians are the professionals that put those systems in and keep them running.





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Seminar on

CAREER OPPORTUNITIES IN HVAC INDUSTRY

by

Mohammed Altaf Hussain, BE (Mech)
Managing Partner-EDS ENGINEERS

Date : 04-02-2019 11:00AM
Venue: Seminar Hall, NSAKCET Campus, New Malakpet - Hyderabad

With growing populations, warming temperatures, increased reliance on data, and a need to be mindful of how our appliances affect our earth, the field for careers in the HVAC field is growing.

He spoke further, homes built between 2002 and 2006 will start needing their HVAC systems replaced since most systems last between 10 to 15 years. A modern emphasis on pollution reduction will likely lead to the retrofitting of equipment and systems so that they are energy efficient and no longer use prohibited refrigerants.


New regulations require homes to be more energy-efficient than in the past, and those in HVAC careers need to have more technical skills to understand these new systems.

For example, some homeowners now opt for two-stage furnace systems that create more balanced heating and lead to improved energy efficiency. Homeowners may also be more interested in savings and invest in better equipment up front to be able to save on costs in the future.

HVAC technicians install, care for, repair, and help with the proper disposal of heating and air-conditioning systems units. HVAC technicians also work with ventilation and refrigeration systems in residential and commercial properties. On a day-to-day basis, HVAC technicians may find themselves responding to customer service requests, traveling to job sites, educating customers on energy savings and best-use, and performing repairs or maintenance according to need to or pre-set schedules.


HVAC techs are responsible for ensuring that HVAC systems are running according to performance standards and as per local, state-wide and federal regulations. Because of the physical nature of the work, HVAC techs must be able to lift certain amounts of weight, bend and stoop, and have a baseline amount of physical endurance.

Guest Lecture on “Kinetics of Rigid Bodies”



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EAMCET Code: NAWB | PGCET Code : NAWB1 | POLYCET Code : NAWB

DEPARTMENT OF MECHANICAL ENGINEERING
organizes
Guest Lecture on
“Kinetics of Rigid Bodies”

Speaker:

Mr. G. Venkateshwarlu,
M.E(Ph.D)
Assistant Professor
Dept. Of Mechanical Engineering
University College of Engineering
Osmania University

Date, Time & Venue:
Tuesday, 16th April 2019,
10:00am onwards,
Seminar Hall, Block-G,
NSAKCET.

The Department of Mechanical Engineering had conducted a Guest Lecture on 16 – April -2019 by MR. G. VENKATESHWARLU, Assistant Professor Dept of Mechanical Engineering, University College of Engineering Osmania University.

The topic of the Guest lecture was “**Kinetics of Rigid Bodies**”. The management received the Dignitary formally. The Head of the Department had given a brief introduction about, the guest MR. G. VENTATESHWARLU and later Guest Started address the students of 2nd & 3rd year Mechanical Engineering.

The Lecture is mainly focused on “Kinetics of Rigid Bodies” especially on the Force, Mass, and Acceleration Work and Energy Impulse and Momentum lecture is to develop the students' abilities in understanding and solving dynamic problems related particles and rigid bodies. The lecture started by taking a pledge for Techniques and following the Derivation, Equations . He used the PowerPoint Presentation and Videos to make the students visualize the activities carried in the industry. He also discussed various topics related to Mechanical Engineering and Civil Engineering e.g. different valves used in Industries, their uses and also the importance of construction, fabrication and their importance in Industry . The lecture was concluded with the queries section. The Guest was felicitated by senior faculty in the department of Mechanical Engineering engineering



***One Week Short Term Course on “
Experimental Techniques & Data Analysis”
from 22nd April to 26 April 2019..***



Associate Prof. RAZA AHMED KHAN & Assistant Professor. SYED SADAT ALI of Nawab Shah Alam Khan College of Engineering and Technology Participated in it.

It was organised by Dept. of Mechanical Engineering, University College of Engineering Osmania University