

VISION

- The Mechanical Engineering department strives to produce quality engineers to enable them pursue diverse careers with professional standards and ethical values

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NEWS LETTER

2016 - 2017

MISSION

- To provide relevant and quality education to meet needs of industry and society.
- To equip with requisite set of skills and knowledge to succeed and thrive as engineers and leaders.
- To provide a continuous learning environment for promoting research activities
- To provide a competitive atmosphere to encourage innovative and original thinking.

DEPARTMENT OF MECHANICAL ENGINEERING



Editorial Board:

Head: Dr.D.Hanumantha Rao

Principal: Dr.D.Hanumantha Rao

Faculty: Mrs Poojitha

Faculty: Mr M V Kishore

Student: Mrs Manaswini

Student: Mr Abhishek

Always in our hearts and mind



Dr. Maturi Venkat Sridhar (2 August 1966 – 30 October 2017)

Indian first-class cricketer, Secretary of Matrusri Education Society.

For all the work and prosper that we have garnered, Dr. M.V. Sridhar was a vital part of it all. The cricketer who encouraged discipline and ambition was one of the best men we knew. He was not just honorary secretary to Matrusri Education society but also a leading inspiration to each and every one in the organization, who always ensured that the students and employees are provided with the best possible facilities. He was a friendly, welcoming face and personality, with an amazing working procedure. His contribution towards the development of the organization is immense. His demise is a great loss. We all will be missing him and will always remember him for his good deeds. We express our heartfelt condolence to the family and wish with our entire gist that they cannot just cope but thrive from this tragedy.

Faculty Corner

Faculty Publications

- ✦ Mr.C.Venkateshwar Reddy, Asst Prof ,published a technical paper entitled "Study of voids effects on tensile Strength of carbon fiber reinforced Composites for structural Applications " in International Journal for Research in Applied Science & Engineer-ing technology (IJRASET) ISBN:2321-9653,Vol 5,Issue 8 ,August 2017
- ✦ Mr.A.Kalyan Charan, Asst.Prof, published a technical paper entitled "Heat Transfer Through Bonded and Coated Composites Fins ",International Journal of Advanced Technology in Engineering and Science, ISSN 2348-7550 ,Vol.5, Issue 07, July 2017
- ✦ Mr.A.Kalyan Charan, Asst.Prof, presented a technical paper entitled "Heat Transfer Through Bonded and Coated Composites Fins ",10th International Conference on Re-cent Innovations in Science, Enginnering and Management at Dhruva Institute of Engineering and Technology ISBN:978-93-86171-53-5 , 7th July 2017.
- ✦ Mr.M.Krishna has published a paper on Trend analysis-a tool to identify the failure & run mode in public transport buses in International Journal for Creative Research Thoughts ISSN: 2320-2882 Pp:276-283

FDPs / STTPs / Workshops attended by the Faculty

- ❖ Mr.M.V.Kishore Associate.proffessor
 - Attended One Day FDP On Effective Teaching Methodologies & Technical Paper Writing Skills at MECS, Hyderabad on 15.7.2017
 - Three day National level workshop on Outcome based technical education towards achieving NBA / ABET Process By IEEE HYD at MECS Hyderabad from 07.09.2017 - 09.09.2017
 - A one day Workshop attended on Design & Analysis of Mechanical System at OU Hyderabad on 31.08.2017
- ❖ Mr.C Venkateshwara Reddy Assistant Professor
 - Attended One Day FDP On Effective Teaching Methodologies & Technical Paper Writing Skills at MECS, Hyderabad on 15.7.2017
 - Two week FDP on “Rapid Casting Technologies” held at GNITC Hyderabad from 27.11.2017 - 09.12.2017
- ❖ Mr.M.Krishna Assistant Professor
 - Attended One Day FDP On Effective Teaching Methodologies & Technical Paper Writing Skills at MECS, Hyderabad on 15.7.2017
 - Three day National level workshop on Outcome based technical education towards achieving NBA / ABET Process By IEEE HYD at MECS Hyderabad from 07.09.2017 - 09.09.2017
 - Four day FDP on Recent Trends Mechanical & Industrial Engineering at MVSR Engineering College Hyderabad from 11.12.2017 -15.02.2017
- ❖ Mr.V Harinath Assistant Professor
 - Attended One Day FDP On Effective Teaching Methodologies & Technical Paper Writing Skills at MECS, Hyderabad on 15.7.2017
- ❖ Mr.T Somashekar Assistant Professor
 - Attended One Day FDP On Effective Teaching Methodologies & Technical Paper Writing Skills at MECS, Hyderabad on 15.7.2017
 - Five Day FDP on Recent Trends Mechanical & Industrial Engg held at MVSR ENgineering College Hyderabad from 11.12.2017 -15.2.2017
 - A three day workshop Workshop on “Beyond Syllabi” at MECS Hyderabad from 08.01.2018- 10.01.2018
- ❖ Mr P Naveen Kishore Assistant Professor
 - Five Day FDP on Recent Trends Mechanical & Industrial Engg held at MVSR Engineering College Hyderabad from 11.12.2017 -15.2.2017
 - A three day workshop Workshop on “Beyond Syllabi” at MECS Hyderabad from 08.01.2018- 10.01.2018
- ❖ Mrs V Poojitha Assistant Professor
 - Three day workshop on “Beyond Syllabi” at MECS Hyderabad from 08.01.2018- 10.01.2018
 - Two Day Orientation Program on “Machine Drawing with AutoCAD” at MVSR Engineering College Hyderabad from 21.07.2017-22.07.2017
- ❖ Mr.A Kalyan Charan Assistant Professor
 - Attended One Day FDP On Effective Teaching Methodologies & Technical Paper Writing Skills at MECS, Hyderabad on 15.7.2017
 - Three day workshop Workshop on “Beyond Syllabi” at MECS Hyderabad from 08.01.2018- 10.01.2018
- ❖ Mr.Sampath Siddam Assistant Professor
 - Attended One Day FDP On Effective Teaching Methodologies & Technical Paper Writing Skills at MECS, Hyderabad on 15.7.2017
 - Two week FDP on “Rapid Casting Technologies” held at GNITC Hyderabad from 27.11.2017 - 09.12.2017
 - Three day workshop on “Beyond Syllabi” at MECS Hyderabad from 08.01.2018- 10.01.2018
 - Two Day Orientation Program on “Machine Drawing with AutoCAD” at MVSR Engineering College

Hyderabad from 21.07.2017-22.07.2017

- ❖ Mr. Aditya Seshu Assistant Professor
 - Attended One Day FDP On Effective Teaching Methodologies & Technical Paper Writing Skills at MECS, Hyderabad on 15.7.2017
 - Three day workshop Workshop on “Beyond Syllabi” at MECS Hyderabad from 08.01.2018-10.01.2018
- ❖ Mr. P Nitesh Kumar Assistant Professor
 - Three day workshop on “Beyond Syllabi” at MECS Hyderabad from 08.01.2018- 10.01.2018
 - One Day National Seminar on “Surface Coating Technologies” at O.U Hyderabad on 16.03.2018
- ❖ Mr. Sai Pavan Assistant Professor
 - Three day workshop on “Beyond Syllabi” at MECS Hyderabad from 08.01.2018- 10.01.2018
 - One Day National Seminar on “Surface Coating Technologies” at O.U Hyderabad on 16.03.2018
- ❖ Mrs. Laxmi Assistant Professor
 - Three day workshop on “Beyond Syllabi” at MECS Hyderabad from 08.01.2018- 10.01.2018

Events Organized

- ✓ Department of Mechanical Engineering has organized a guest lecture on “DEVELOPMENT OF PRODUCTS USING ADVANCED COMPOSITE MATERIALS” by Dr. M. Madhavi, Professor, Department of Mechanical Engineering, MVSRR Engineering College, Hyderabad, on 13 October 2017.
- ✓ Department of Mechanical Engineering has organized a guest lecture on “ENGINEERING THE SCIENCE OF MATERIALS AND SYSTEMS” by Dr. Malobika Karanjai, Scientist E, ARCI, Hyderabad on 27th October 2017
- ✓ Seminar on “Let's empower entrepreneurship” by EDP Student Cell, MECS on 23rd September 2017

Events Organized in association with Professional Society's

- ✓ Seminar on “Robotics” by Dr. G. Haragopal Mani, Professor, MECS, Hyd., in association with ISTE on 18th December 2017
- ✓ Seminar on “Engineers Day” by Department of Mechanical Engineering, MECS, Hyd., in association with ISTE on 15th September 2017
- ✓ Guest lecture on Balancing of Mechanical systems by V Nageswara Rao, Professor O.U Hyderabad in association with SAE on August 11th 2017
- ✓ SAE Tier 1 technical events held at MECS, Hyderabad on October 2017

Faculty Achievements

- ✓ Mr. V. Harinath, Asst. Prof, Department of mechanical engineering has given a lecture at MVSRR engineering college, on “RECENT TRENDS IN INDUSTRIAL AND MECHANICAL ENGINEERING” on 14th Dec 2017

Students' corner:

Internships By Students

- Manufacturing Of Steam Turbines by Mahipal .S, S. Sai Krishna, G. Srikanth of 3 ME at BHEL, Hyderabad from 27th June 2017 to 11th July 2017

State and National level Participations

- ❖ Nikhil M, C.Bharath Chandra, K Surya, of 3ME has participated in SAE Tier 2 events, in (CAD) scheduled on 30.12.2017 at CMR, Hyderabad
- ❖ S Sai Krishna,pruthviraj of 3ME has participated in in SAE Tier 2 events, in (work holding) scheduled on 30.12.2017 at CMR, Hydrebad
- ❖ S Sai Krishna,pruthviraj of 3ME has participated in in SAE Tier 2 events, in (Threading) scheduled on 30.12.2017 at CMR, Hyderabad
- ❖ Radhe shyam, S Sai Krishna of 3ME has participated in in SAE Tier 2 events, in (Autoquiz) scheduled on 30.12.2017 at CMR, Hydrebad
- ❖ Y.Prashanth of 3ME has participated in In Sraddha Workshop om 29th July 2017 at RK MAT, Hyderabad
- ❖ Sai Ram of 3ME has participated NEN E-Leaders workshop scheduled from 21st-22nd September 2017 at Gokaraju Ranganraju College, Hydrebad

Prizes/ Awards received by students

About 14 students have secured I and II positions in various extracurricular events conducted by reputed institutes and Universities in the state.

- ✚ K.Surya, C.Bharath, Nikhil kumar of 2ME,3ME has won 3rd Prize in SAE Tier 2 (Proto type Modelling) organized at CMR, Hyderabad from December 30th 2017
- ✚ S.Sai Krishna, V.Prudhvy raj, S.Radhe shyam, Phani Kumar of 2,ME, 3ME has won 2nd Prize in SAE Tier 2 events in (Process planning) organized at CMR, Hyderabad from December 30th 2017
- ✚ Nikhil Kumar, Chaitanya , Ch.Bharath, of 3ME has won 1st Prize in SAE Tier 2 events in (Reverse Engineering) organized at CMR, Hyderabad from December 30th 2017
- ✚ Abhishek, of 3/3ME has won 1st Prize in Essay writing organized at BDL, Hyderabad from 2nd November 2017
- ✚ Manaswini, of 3ME has won 3rd Prize in Essay writing organized at BDL, Hyderabad from 2nd November 2017
- ✚ Abhishek, of 3ME has won 1st Prize in Elocution organized at BDL, Hyderabad from 2nd November 2017
- ✚ Abhishek, of 3ME has won 2nd Prize in Elocution organized at O.U, Hyderabad from October 12-14th 2017



MEET YOUR TEACHER -Prof. V. Nageswara Rao

With a huge smile he welcomed me and asked me about my day and I already knew that I would love this interview. Prof. V. Nageswara Rao Garu, our new mechanical faculty stole our hearts with his concern for us and blown our minds with his vast knowledge.

Born in 1957 at Peddapuram, Andhra Pradesh, Prof. Rao son of Mr. V. Venkatateswara Rao Garu and Mrs. Manikyamba Garu. After graduating with his Bachelors from Osmania University, Hyderabad in 1979, he had done his Masters in Indian Institute of Science, Bangalore in 1981.

He worked in the prestigious firm, Crompton Greaves Limited. Bombay (now Mumbai) as a design executive. He later worked as P&T, Central Government (selection through IES 1980 batch) as a Class 1 officer, Asst. Manager. Always having a passion for teaching and learning, he then decided to quit and pursue teaching as a profession.

He then taught in Muffakhamjah Engineering College for a short time. He taught Design Oriented subjects, robotics, fracture mechanics and material science in Osmania University from the year 1984 to 2017. His love for mechanical engineering and teaching didn't stop him even after he retired. He then graced us by choosing to teach in our rapidly growing Matrusri Engineering College, Saidabad.

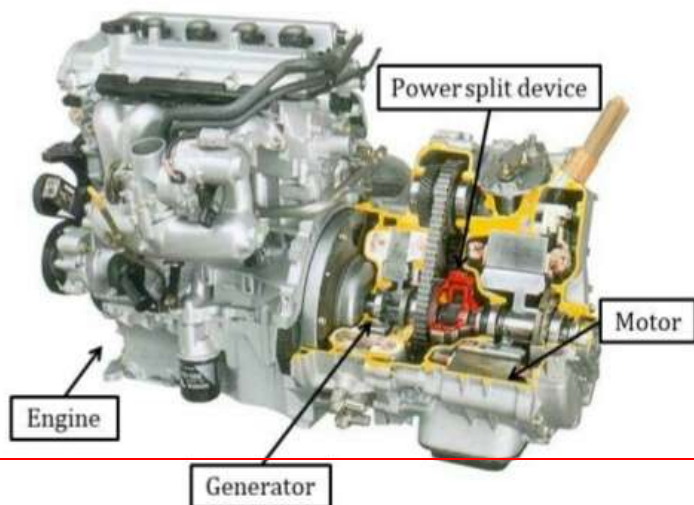
As a man with such vast teaching experience, it was natural but for me to ask the differences he found between then and now. "Life-skills, apart from technical knowledge are also very important for employability now-a-days. Even though I appreciate the qualities such as amicability, effective communication and ability to work in a team, I feel as if students are losing their creativity and inquisitiveness in the subject." Even though he has been teaching the same subjects for so many years, he is a man who doesn't take his knowledge for granted.

He said he feels that if he doesn't learn new things he feels stagnant. "Before every class, I prepare for about 4 hours. I question the fundamentals and love brain storming with my students."

To our new professor, sir you have already inspired us to learn more. Thank you for coming here to teach us.

Sai Krishna
BE 3/4 Mech.Engg

RECENT TRENDS IN AUTOMOBILES: ELECTRICAL & HYBRID VEHICLES



Automotive engineering is a branch of applied science which deals with designing; developing and manufacturing of ground vehicles. The fuels consumed by these vehicles are generally fossil fuels. In 2016, gasoline & diesel contributed 92% of the total fuel used by vehicles. If it continues, by 2050 a 70% increase in oil demand and 130% rise in carbon oxides emissions are predicted and due to this the average global temperature increases by 6 degree centigrade. Hence, it is high

time to switch to alternate power resources and the only solution to resolve this issue is electrical and hybrid vehicles.

Vehicle	BIW material	Curb weight (kg)
Audi A8L	Al	2,205
Mercedes-Benz SL	Al + HSS +Mg	1,740
Honda Acura NSX	Al	1,725
Cadillac CT6	Al + HSS	1,660
Tesla Model3	Al + HSS	1,609
BMW i8	Al + CFRP	1,567
Jaguar XE	Al + HSS	1,520
Chevrolet Corvette	Al	1,495
BMW i3	CFRP	1,195

: aluminum, HSS: high strength steel, Mg: magnesium, CFRP: carbon fiber reinforced polymer



Figure 3. The materials used in new XC90 (Courtesy of Volvo Car Corporation)

ELECTRIC AND HYBRID VEHICLES:

Electric vehicles can be classified as

- 1: Hybrid electric vehicles (HEV)
- 2: Plug In electrical vehicles (PHEV)
- 3: Full electrical vehicles (FEV)

HEV's are equipped with I.C. engines and an electrical motor which facilitates low emissions and high fuel efficiency. PHEV Vehicles are run solely by electric batteries that can be charged. the same is the case with FEV's.

D.C. MOTORS are mostly reliable as they have high torque at low speeds and they are robust and reliable but it has drawbacks like low efficiency and high cost maintenance. The permanent magnet brushless d.c. motors are used to overcome these drawbacks. In addition to these, Multiphase A.C. high switched reluctance (S.R.) motor. The notable advantage is the higher efficiency over wider torque speed range, easy temperature management of the engine, high overload tolerant capacity. The batteries used for electric vehicles are lithium ion batteries.

In order to compete with I.C. engines, electric and hybrid vehicles have to satisfy the following

- 1) High torque value
- 2) Instant acceleration
- 3) Low speed hill climbing
- 4) HIGH efficiency over wider torque speed range
- 5) Weight to power ratio

Out of the above parameters listed above, weight to power ratio plays vital role in overall efficiency of the entire vehicle. Electric vehicles have been constructed with lighter materials such as AL & Mg but, the point to be noted is that decreasing the vehicle weight using different materials increases the overall cost of manufacturing. HENCE, the material should be selected which is economically feasible and meet the effectiveness requirements

Pruthvi raj
BE 2/4 Mech.Engg

SPORTS

BADMINTON

- ✓ Tanishq Jaiswal of BE I Sem Mechanical department, participated in Inter college tournament, badminton event on 1st and 2nd Nov, 2017 at Osmania University and also appeared for Badminton selection trails organized by Osmania University.
- ✓ Trilochan Sharma of BE 4th year Mechanical department, participated in Inter college tournament badminton event on 1st and 2nd Nov, 2017 at Osmania University.

FOOTBALL

- ✓ S.Sai Krishna of BE 3rd year Mechanical department, captain of Matrusri Engineering College team participated in Football tournament organized by Reliance Foundation youth sports.

CRICKET

- ✓ Y. Yeshwanth Reddy BE 3rd year Mechanical Department (member of MECS Cricket team) participated in EENADU CHAMPION CUP 2017 on 27th Dec 2017.