



M.V.S.R Engineering College

Department Of Mechanical Engineering

Annual Report (Academic Year 2015-2016)

Head of the Department: Dr.M.Madhavi

Principal: Dr.V.Chandra Sekhar

About the Department

The Department of Mechanical Engineering was started in 1981, the year of establishment of college. Currently the department offers one UG programme B.E (Mechanical) with an intake of 120 and one PG programme M.E (CAD/CAM) with 18 intake.

Vision:

To impart education of highest standards that will prepare students for productive careers as competent professionals in Mechanical Engineering, and for higher studies and research.

Mission:

The department strives to provide the engineering foundation as well as professional, innovative and leadership skills to the students through the following activities:

M1. Lay sound foundation in the areas of mechanics, design, thermal sciences and production processes, as well as allied engineering areas.

M2. Enrich the undergraduate experience through experimental learning, and fostering a personalized and supportive environment that makes learning joyful and stimulating

M3. Encourage design and development of mechanical engineering components and systems to meet specific needs.

M4. Provide opportunities to develop good communication skills, and to encourage creativity and entrepreneurial skills

M5. Create awareness in professional responsibility, ethics, global impact of engineering solutions, and of the need for life-long learning.

M6. Provide research and intellectual resources to address contemporary and complex problems of industry and to advance research and applications.

Program Educational Objectives

Mechanical Engineering is a broad discipline that incorporates skills and expertise in the areas which are essential to most sectors of industry.

Bachelors programme in Mechanical Engineering in the college is aimed at preparing graduates who will

PEO1: Establish themselves as successful professionals while working independently or in multidisciplinary teams demonstrating professional, ethical and societal responsibilities

PEO2: Have high levels of technical competency and problem solving skills to generate innovative solutions to engineering problems.

PEO3: Continuously enhance their skills through training, independent inquiry, professional practices and / or pursuit of higher education or research.

PEO4: Advance in their careers through increased technical and managerial responsibility as well as attainment of leadership positions.

Program Outcomes

PO1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: 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.

PO3: 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.

PO4: 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.

PO5: 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.

PO6: 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.

PO7: 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.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and the 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.

PO11: 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.

PO12: 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.

PSO's

Research Potential: Usage of advanced software packages commonly used in industry for modeling, assembly and to carry out multiphysics analysis.

Competent areas: Design and build components and systems related to mechanical and allied disciplines, using various manufacturing methods.

Faculty Strength:

Mechanical Engineering

Professors - 03
Associate Professors - 07
Assistant Professors - 20

Automobile Engineering

Professors - 01
Associate Professors - 01
Assistant Professors - 08

Supporting Staff- 25

M.E (CAD/CAM)

Professors - 01
Assistant Professors - 02

Student Strength:

BE II Auto - 58
BE II Mech-1 - 72
BE II Mech-2 - 71
BE III Auto - 50
BE III Mech-1 - 68
BE III Mech-2 - 71
BE IV Auto - 66
BE IV Mech-1 - 65
BE IV Mech-2 - 62

Departmental Activities:

1. One week Refresher course on Control Systems Theory

Department of Mechanical conducted a one week training programme on “Control System Theory” from 4th-8th Jan 2016.



2. Two Day National Conference on Innovative Trends in Mechanical & Automobile Engineering (ITMAE)

The Department of Mechanical Engineering organised a AICTE sponsored Two Day National conference on innovative trends in Mechanical & Automobile Engineering (ITMAE) on 11th and 12th February 2016.



3. One week Refresher course on Engineering Mechanics

Department of Mechanical Engineering organized One week Refresher course on Engineering Mechanics from 20-06-2016 to 24-06-2016



4. Teachers and Engineers day celebrations

The Department of Mechanical engineering organized Teachers day and Engineers day celebration under MESA



5. AKSHAY URJA 2015

The Department of Mechanical engineering along with MESA organised Akshay Urja on Sep 31st 2015.



6. Departmental Associations:

The Department is associated with SAE, ISTE, FIAAP, and Renewable Energy Club.

7. Guest Lectures Organised by the Department

S.No.	Target Audience	Details of the Resource person with Designation	Topic of Lecture
1	3/4 & 4/4 Mech-I & II	Mr. A. Ashwini Kumar Associate Professor, MVSREC, ITD	Design and Visualization
2	3/4 & 4/4 Auto. Engg	Dr. G. Padmanabham, Associate Director, ARCI	Automotive Applications of Laser Materials Processing
3	3/4 & 4/4 Mech-I & II	Dr. Amritam Rajagopal, Assistant Professor CED, IITH, Hyderabad	Computational Inelasticity, Finite Element and Mesh free methods, Multiscale Modelling, Damage and Fracture Mechanics

8. Academic and other important activities & events in the Department

S.No.	Date	Particulars
1	4 th to 8 th Jan, 2016	One week Refresher course on Control Systems and Theory
2	11 th & 12 th Feb, 2016	Two Day National Conference on Innovative Trends in Mechanical & Automobile Engineering (ITMAE)
3	20-06-2016	One week refresher course on Engineering Mechanics

9. Research Publications by faculty: the number of publications in journals and presentations in National and International conferences by faculty:

Total number publications – 60 (National, International Conference and Journals)

10. List of Faculty Pursuing PhD

S.No.	Faculty Name	Designation	University	Year of Registration	Topic
1.	Mr. M. Ravi Kumar	Asst. Prof.	JNTUK	2015	Performance investigation and optimization of refrigeration system using blends of environment friendly alternative refrigerant.
2.	Mrs. C. Sumalatha	Asst. Prof.	JNTUK	2015	Tribological properties under fatigue loading for Al Si cast alloys.
3.	Mr. A. Syam Prasad	Asst. Prof.	JNTUK	2015	Prediction of ageing of visco-elastic materials.
4.	Mr. G. Prakasham	Asst. Prof.	OU	2013	Effective simulation of welded joint by using FEA.
5.	Mr. D. Siva Kumar	Assoc. Prof.	JNTUH	2012	Experimental study of tool geometry and optimization of process parameters in friction stir welding.
6.	Mr. K.V.R.K. Subrahmanyam	Assoc. Prof.	JNTUH	2012	Optimization of processing parameters for light weight castable alloy shapes using semi-solid forging route.
7.	Mr. S.V. Narasimha Rao	Asst. Prof.	JNTUH	2012	Experimental investigations and characterization of semi-solid processed Aluminum alloys.
8.	Mr. B. Ravi Kumar	Asst. Prof.	JNTUH	2012	Some studies on metal spinning modeling analysis and optimization.
9.	Mr. S. Srinivas	Asst. Prof.	JNTUH	2012	Gas pressure super plastic forming of light alloys.
10.	Mr. G. Srinivas Sharma	Assoc. Prof.	OU	2001	Experimental investigations of BIG/GT for power generation.

11. Staff achievements:

1. Consultancy, R & D

S.No	Organization	Name of the Project	Name of the Coordinator
1	M/s. CNC TECHNIQUES, PVT .LTD., HYDERABAD	FRP tapered poles	Dr.M.Madhavi
2	M/S HNPCL VISHAKAPATNAM 1080 MW COAL BASED THERMAL POWER PLANT	Commissioning of CW pump-BFV system after major failure and incorporation of safety measures	Dr.C.V.Kameswara Rao
3	M/S HNPCL VISHAKAPATNAM 1080 MW COAL BASED THERMAL POWER PLANT	Commissioning of CW and ACW pumps-condenser system over coming operational problems	Dr.C.V.Kameswara Rao

Student Activities

1. Mechanical Engineers Students Associations (MESA)

MESA is a body controlled and run by the students of Mechanical Engineering under the guidance of the faculty. Various events are conducted every year to prepare them for future environment.

MESA divides its functions into five wings,

- 1) Personality development wing
- 2) Arts and cultural wing
- 3) Sports wing
- 4) Social Networking and publicity wing
- 5) Event organization wing

2) Athlema

Athlema, MVSREC is an intercollegiate sports meet conducted by M.V.S.R Engineering College every year.

The following events are conducted

- 1) Basketball
- 2) Cricket
- 3) Football
- 4) Throw ball
- 5) Carooms
- 6) Chess
- 7) Table Tennis

3) Academic Achievements

Class Toppers: Mechanical Engineering

Year	Roll No	Name of the Student	Marks
B.E I/IV	2451-14-736-063	D Nithin Kumar Guptha	1141
B.E II/IV	2451-13-736-076	A Naga Sravya Lakshmi	1347
B.E III/IV	2451-12-736-080	Sathu Akhil	1344
B.E IV/IV	2451-11-736-074	M Malla Reddy	4709

Class Toppers: Automobile Engineering

Year	Roll No	Name of the Student	Marks
B.E I/IV	2451-14-769-038	C Ganesh	836
B.E II/IV	2451-13-769-029	G Srikrishna Reddy	1346
B.E III/IV	2451-12-769-002	Kottam Ajay Kumar	1304
B.E IV/IV	2451-11-769-020	Ageer Preethi	4640

Gate Rankers:

Kartheek Minnikanti – 568 Rank

K Solomon Raj – 1175 Rank

Student National Level Competitions:

SAE BAJA 2015 TEAM RATCHET

About Event:-

The BAJA SAE Series® is an event for the undergraduate engineering students, organized globally by the Society of Automotive Engineers, USA. The event originated in the name of Mini - BAJA, in the year 1976 at University of Carolina. Since then, the event has spanned across six countries – USA, Mexico, South Africa, Korea, Brazil and India. The BAJA SAE tasks the students to design, fabricate and validate a single seater four - wheeled off road vehicle to take part in series of events spread over a course of 3 days that test the vehicle for the sound engineering practices that have gone into it, the agility of the vehicle in terms of gradability, speed, acceleration and maneuverability characteristics and finally its ability to endure that back breaking durability test.



Team Ratchet designed and fabricated All Terrain Vehicle with an estimated cost of 2.2 Lakhs. College sponsored an amount of 1.3Lakhs.The team kept its great endeavor to meet the event's deadline satisfying the design criteria of the competition. It was successful in clearing the dynamic events held on 20 Feb 2016 at Pithampur, Indore, MP.

Team Members:

B.H.Karthik, Sirjan Singh,SathyaPrakash Seetha,N.Sri Harsha,Nikhil Kothapally,Amal Ganesh, krishnapriya V,Yamini K, Sri Ram Sai Yasaswy , G.Sandeep, S Varshith,G Sri Krishna Reddy, Sathu Akhil,T Karthik Sharma, R Sujith kumar reddy, P Siddharth Saketh, T Subhakar Chowdary, Aldas Satwik, J Chandrababu, Pooja Y Rohit Raman Srivastav, Sayed Shoeb gul, SS Deepak Pragna, Sudhachandra Masna from Mechanical Department and Nori VS Madhukiran Harsha from ECE Department.

EFFICYCLE

“EFFI-CYCLE” derived from Efficient-Cycle promotes the objective of providing opportunity to the students to conceive, design and fabricate a three wheel configuration vehicle powered by human-electric hybrid power and capable of seating two passengers catering to the day to day mobility needs. The objective is to promote innovation and generate consciousness amongst young engineers towards environment friendly mobility solution. The vehicle should be capable to be driven simultaneously as well as alternatively by two drivers also by electric drive.



TEAM Members:

M Krishna Reddy (captain) G Vivek (vice captain) N Sai krishna K Sai Kiran A Yashwanth Reddy
A Gopi Krishna P Karthik , B Bhavani , Nikhil Kumar , Dharshan mehta

SAE National Student Convention

It is held once in a year in three levels, Tier-1 college level, Tier-2 state level, Tier-3 National level. In the year 2015 our students participated in Tier-3 in two events Business plan and Mobile robotics. Tier -2 was held on 4th September at "MLRIT" college Hyderabad. Tier-3 was held from 17-19th September 2015 at VIT Vellore.

Business Plan: "Corporate Farming" a start up idea by the team which got a overwhelming response by the SAE mentors. This team ranked first in college level (Tier-1). Ranked first in the states of Telangana & Andhra Pradesh (Tier-2). Finally ended up with third position at National level (Tier-3).

Team: G Vivek , T Nikhit Reddy, G Rajesh Kumar Reddy



Mobile Robotics: The Challenge is to complete the given arena with autonomous robots. This team ranked first in college level (Tier-1). Ranked first in the states of Telangana & Andhra Pradesh (Tier-2). Finally ended up with fourth position at National level (Tier-3).

Team: V Preetham Reddy, D Rakesh Reddy, S Shashank, S Phaneendra.



SEC Member: G Vivek is the first "Student Executive Council" member of our college representing Hyderabad under SAE India.