

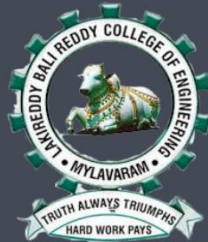


Edition I, Volume IV, 2017-18

Mechanical Engineering E-Magazine (LBRCE)



(TIER-I)



MECH PULSE

(APRIL-JUNE 2018)

DEPARTMENT OF MECHANICAL ENGINEERING
LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
(Autonomous)

Accredited by NAAC & NBA (CSE, IT, ECE, EEE & ME) under Tier - I
Approved by AICTE and Permanently Affiliated to JNTUK, Kakinada

Mechanical Engineering E-Magazine (LBRCE)



MESSAGE FROM HEAD OF THE DEPARTMENT

I am very happy to inform you that the department of mechanical engineering is bringing **MECH PULSE an e-magazine** its edition I and volume IV. The department of mechanical engineering is Accredited by **National Board of Accreditation (NBA) under Tier-I** and is started in the year 1998 with an intake of 60 students. At present the department is offering B.Tech Mechanical Engineering with an intake of 180 students and M.Tech – Thermal Engineering with an intake of 18 students. The department has thirteen state of art laboratories worth of 2.8 crores, with advanced computing facilities, software and research equipment. Advanced **Research Laboratories** in the area of **Cognitive Science, Material Testing, Tribology and Thermal Engineering** are available. Sophisticated **ANSYS Skill Development Centre** with 110 users of ANSYS 18.1 and **Dassault 3D Experience centre** (in association with APSSDC) is available. The department has 36 faculty members with 9 Doctoral degrees. Seven faculty are actively pursuing for their Ph.D in various universities and nine research scholars are working for their doctoral under the department faculty. The department faculty constantly upgrade their knowledge in the area of their domain by attending various Faculty Development Programs, workshops, seminars etc. The faculty are actively engaged in their research work and are active in publishing papers in journals and conferences.

VISION

- To impart knowledge in Mechanical Engineering with global perspectives for the graduates to serve the society and industry.

MISSION

- To enable the graduates technically sound with the state- of- the –art curriculum and innovative teaching methods
- To provide training programs that bridge the gap between academia and industry
- To create a conducive environment and facilities to improve overall personality development of the graduates
- To make the graduates aware of role and responsibilities of an engineer in society.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1: To build a professional career and pursue higher studies with sound knowledge in Mathematics, Science and Mechanical Engineering.

PEO2: To inculcate strong ethical values and leadership qualities for graduates to become successful in multidisciplinary activities.

PEO3: To develop inquisitiveness towards good communication and lifelong learning.



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 modelling 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.

PROGRAM SPECIFIC OUTCOMES (PSOs):

PSO1: To apply the principles of thermal sciences to design and develop various thermal systems.

PSO2: To apply the principles of manufacturing technology, scientific management towards improvement of quality and optimization of engineering systems in the design, analysis and manufacturability of products.

PSO3: To apply the basic principles of mechanical engineering design for evaluation of performance of various systems relating to transmission of motion and power, conservation of energy and other process equipment.

ONGOING RESEARCH PROJECTS

S.No.	Name of the Faculty	Title of the Project	Funding Agency	Amount Sanctioned	Sanctioned Year
1.	Dr.K.Appa Rao	MODROBS for Thermal Engineering Laboratory	AICTE	12,50,000	2016
2.	Dr.K.Appa Rao	Experimental Investigation on Homogeneous Charge Compression Ignition Engine	UGC	1,55,000	2018

PUBLICATIONS BY FACULTY

A: Conference Publications

1. **Mr.Siva Sankara Babu Chinka**, “Effect of Crack location and crack depth on Natural Frequencies of Fixed- Beam using Experimental modal Analysis” has presented a paper in the “**International Conference On Latest Innovations In Materials Engineering & Technology**”,(ICLIET-2018) held on 15th -16th June,2018,at Lendi Institute of Engineering & Technology, Vizianagaram.



B: Journal Publications

1. **Dr.K.Dilip kumar**, K.Narayana, Dr.K.Appa Rao , “Green synthesis of Zinc oxide Nano particles using extracts of ocimum tenuiflorum and its characterization”, Journal of Nanoscience, Nano engineering & Applications, ISSN: 2321-5194, Volume 8, April 2018.
2. **P.Tharun Sai, Dr.K.Appa Rao**, “Optimization of performance of Water-Lithium Bromide Refrigeration system by second Law analysis using MATLAB”, International journal of Advanced engineering and Research development, ISSN: 2348-6406, Volume 5, April 2018.
3. **Dr.Seelam Pichi Reddy**, Dr.P.V.Chandrasekhar Rao, Dr.Kolli Murahari, “Effect of Reinforcement on compacting characteristics of Aluminium/10-Al₂O₃/Fly ash Metal Matrix composite”, Journal of Testing and Evaluation, ISSN: 0090-3973, April 2018.(Accepted).
4. **Mallikarjuna Rao Dandu**, Dr.P.Vijay kumar. J.Venkata somi reddy, “Improving energy efficiency of a vapour compression refrigeration system using a phase change material”, International Journal of creative research thoughts, ISSN: 2320-2882, Volume 6, April 2018.
5. **Jonnala Subba Reddy**, M.Bhavani, J. Venkata Somi Reddy, “Simulation of stress distribution in Leaf spring variable parametric and loading conditions”, International journal of Engineering research and technology, ISSN: 2278-0181, Volume 7, April 2018.
6. **Jonnala Subba Reddy**, M.Bhavani, G.Kartheek, J. Venkata Somi Reddy, “Influence of parameters on safe design of leaf spring for static and dynamic loading using Finite element Analysis”, International Journal of Advance Engineering and Research Development, ISSN: 2348-6406, Volume 5, Page(s): 505-519. April 2018.
7. Sk.Nayeem, **Dr.K.Dilip kumar**, “CFD analysis and experimental investigation on Ranque-Hilsch counter flow vortex tube for optimizing tube length by using compressed air”, International journal of Advanced engineering and Research development, ISSN: 2348-6406, Volume 5, April 2018.
8. **Dr.Kolli Murahari**, Adepu kumar, “Experimental study of non-polar surfactant mixed with dielectric fluid in die sinking EDM of Ti-6Al-4V alloy”, Journal of Testing and Evaluation, ISSN: 0090-3973, April 2018.
9. **Jonnala Subba Reddy**, M.Bhavani, G.Kartheek, J. Venkata Somi Reddy, P. Sandeep Kumar, “Processing and Characterization of Sn O₂ thin film fabricated mechanism for suitability of sensor applications”, International Journal of Advance Engineering and Research Development, Pages: 2054-2059, April 2018.
10. **J. Subba Reddy**, M.Bhavani, G.Kartheek, J.Venkata Somi Reddy , “Optimization of a product mix in a paper mill – a case study”, International Journal of Advance Engineering and Research Development, Pages: 2107-2112, April 2018.
11. A Nageswara Rao, Dr.S Pichi Reddy, N Raju, “**Design and development of seed sowing AGROBOT**” JETIR, ISSN-2349-5162, Volume 5, Issue 5, May 2018.



12. S.Ramireddy, Mallikarjuna Rao Dandu, A V V Ram Prasad Y, “**Fabrication and performance analysis of Prototype PEM Fuel cell Hybrid vehicle**”, IJET, ISSN-2395-1303, May 2018.
13. **Dr. Pullarao Muvvala**, “Numerical Investigations of Optimal Distribution Of Discrete Heat Sources Under Natural Convection”, International Journal of Mechanical Engineering and Technology(IJMET) ISSN Print: 0976-6340,Volume 9, Issue 6, pp. 641–649, June 2018.
14. **Mr.Siva Sankara Babu Chinka**, “Influence of Crack on Modal Parameters of Cantilever Beam Using Experimental Modal Analysis”, Journal of Modeling and Simulation of Materials, DOI: <https://doi.org/10.21467/jmsm.1.1.16-23>, Volume 1, Issue 1, pp. 16-23, June 2018.
15. **Mr.R.Praveen Kumar**,“Fabrication And Testing For Nanosatellite Deployable Mechanisms” International Journal Of Mechanical And Production Engineering Research And Development (IJMPERD) ,Issn(P): 2249-6890; Issn(E): 2249-8001,Vol. 8, Issue 3, Pp-133-144, Jun 2018.
16. **Mr.K. Lakshmi Prasad, G. Kartheek And K.V.Viswanath**, “Experimental Analysis Of Jet Impingement On Aluminium Heat Sink” “International Journal Of Mechanical Engineering & Technology (IJMET), Volume 9, Issue 6, Pp. 1129–1140; Issn Print: 0976-6340, June 2018.
17. **Mr.V.Venkatesu**, “Microstructure and Mechanical Properties of Rice husk ashreinforced aluminium alloy (A356.2) metal matrix composite”, IOSR Journal of Engineering (IOSRJEN) ISSN (p): 2278-8719 Vol. 08, Issue 6, June 2018.
18. **Dr.P.Vijaya Kumar**, “Experimental analysis of vapour compression refrigeration system with R134a and R404a mixed in different proportions "International Journal of Management Technology and Engineering, Volume 8, Issue 6, June 2018.

STUDENT CERTIFICATION PROGRAM

- The Department of Mechanical Engineering organized a global certification program on “**AUTOCAD**” from 7-5-2018 to 21-5-2018 by experts of Chaitanya and Jani from APSSDC. No. of students participated for this event is 55. Dr.Pullarao Muvvala coordinated this event successfully.



Addressing by HoD Dr.S.Pichi Reddy



Second year students in practice session



- The Department of Mechanical Engineering organizes inaugural ceremony of “CRDI diesel engine with AVS gas analyzer” sponsored by AICTE under MODROBS for thermal engineering laboratory on 26.05.2018 by President G.Srinivasa Reddy, Principal Dr.K.Appa Rao.



CRDI Diesel engine with AVS gas analyzer



Inaugurated by President G.Srinivasa Reddy and Principal Dr.K.Appa Rao



SUMMARY OF COLLOQUIMS ORGANIZED

S. No	Name of the Faculty	Topic	Date
1.	Mr.K.V.Viswanadh	Fracture Mechanics and its importance	20-04-2018
2.	Dr.S.Pichi Reddy	Nano composite materials	09-05-2018
3.	Mr.T.Venkateswara Rao	Recent trend on Natural Composites	21-06-2018

FDP's/STTP's/STC's/WORKSHOP's ATTENDED BY FACULTY

- **Mr.T.Venkateswara Rao**, Dept .of Mechanical Engineering attended a Five Days AICTE-QIP Sponsored short term training program on “**Recent Trends in Tribology and Surface Characterization**” hosted by College of Engineering ,Trivandrum during 16th to 20th April,2018.
- **Mr.K.V.Viswanadh**, Dept. of Mechanical Engineering attended a Six Days faculty Development program on “**Industrial Robotics**” conducted by APSSDC-SIEMENS Projects at by APSSDC-SIEMENS center of Excellence, VRSEC, Vijayawada during 23rd to 27th April, 2018.
- **Mr.G.Karteek**, Dept. of Mechanical Engineering attended a Six Days faculty Development program on “**Industrial Robotics**” conducted by APSSDC-SIEMENS Projects at by APSSDC-SIEMENS center of Excellence, VRSEC, Vijayawada during 23rd to 27th April, 2018.
- **Mrs.Uday lakshmi B**, Dept. of Mechanical Engineering attended a Six Days faculty Development program on “**Nx Basic Design & Validation**” conducted by APSSDC-SIEMENS Projects at by APSSDC-SIEMENS center of Excellence, VRSEC, Vijayawada during 23rd to 27th April, 2018.
- **Dr.K.Dilip Kumar**, Dept .of Mechanical Engineering attended the AICTE – ISTE Sponsored One Week Refresher Course in “**Computational Fluid Dynamics**” organized by Department of Mechanical Engineering, GEC Gudlavalleru during 18th - 23rd June 2018.

FACULTY ACHIEVEMENTS

NPTEL COURSES

Following are the list of faculty certified in NPTEL Online courses during Jan-April 2018.



S.No	Name of the Faculty	Name of the Course	Grade
1.	Sudheer Kumar Battula	Introduction to Mechanical Vibrations	ELITE
2.	Akula Naresh Kumar	Research Writing	ELITE
3.	Jonnala Subba Reddy	Research Writing	ELITE
		Design and Analysis of Experiments	ELITE
4.	Siva Sankar Babu Ch	Introduction to Mechanical Vibrations	ELITE
5.	Gamidi Karteek	Traditional and Non-Traditional Optimization Tools	ELITE with Topper
		Research Writing	ELITE with Top 5%
6.	Marturi Bhavani	Manufacturing Process Technology I & II	Successfully Completed
7.	T.Venkateswara Rao	Introduction To Mechanical Vibrations	Successfully Completed
		Engineering Mechanics: Statics And Dynamics	Successfully Completed

Ph.D ADMISSION

- Mr. A.V.V.R.Prasad.Y selected as Full time Ph.D Scholar at NIT Suratkal in june 2018.

NON-TEACHING STAFF ACTIVITIES

- **Mr.P.Gunasundara Reddy**, Dept. of Mechanical Engineering attended a Four Days Orientation Course programme on “Precession Machining Metrology, System Integration” hosted by DRDO-RCI Hyderabad during 28th to 31st May, 2018.
- **Mr.SK.Jani**, Dept. of Mechanical Engineering attended a Four Days Orientation Course programme on “Precession Machining Metrology, System Integration” hosted by DRDO-RCI Hyderabad during 28th to 31st May, 2018.



STUDENT ACHIEVEMENTS

- Following students got a “Prathiba Awards” from JNTUK for the A.Y:2016-17.

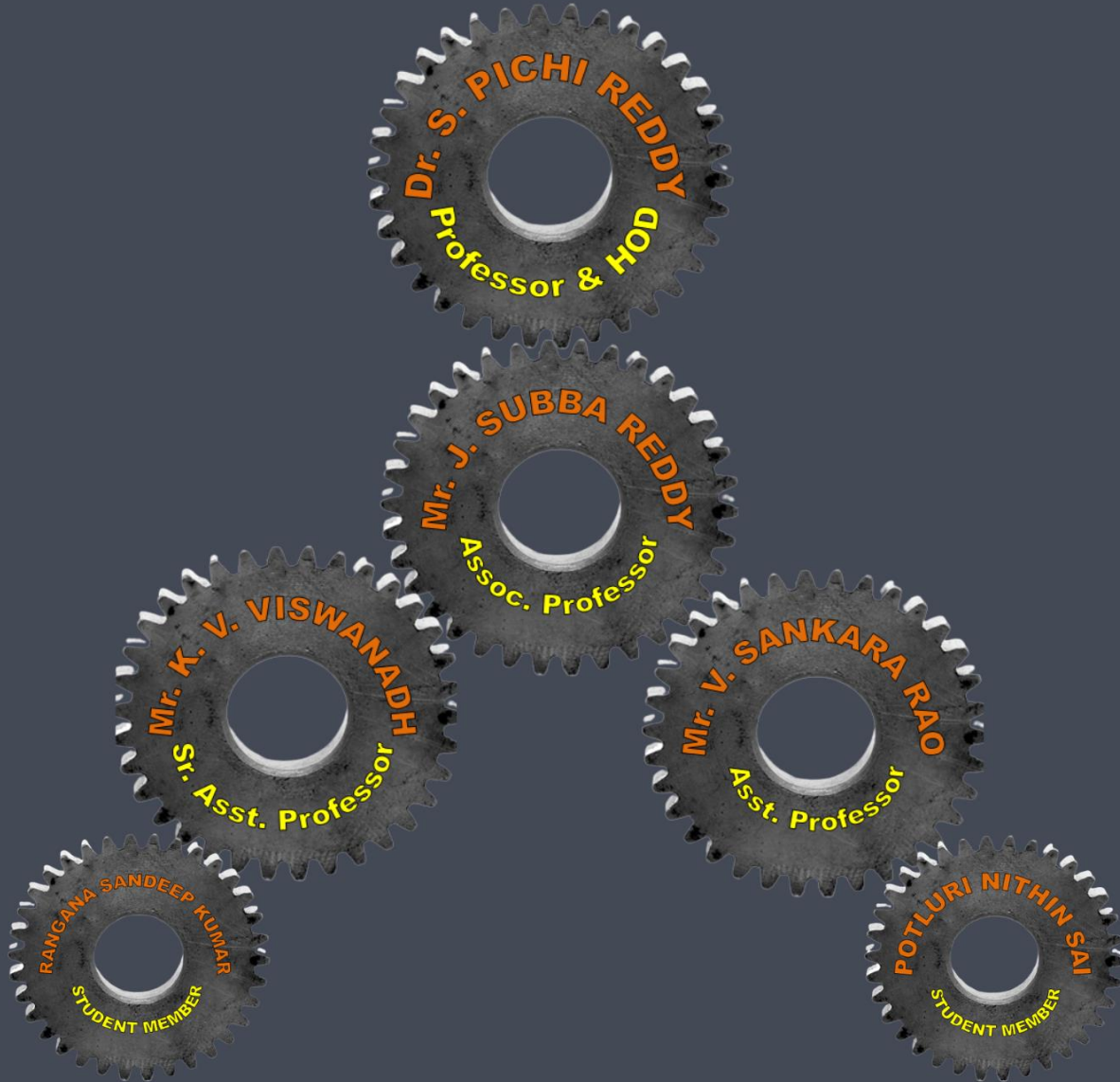
S. No.	Name of the Student	Roll No
1.	J.Swetha	13761A0317
2.	G.Joseph Reddy	13761A0314
3.	S.Santhosh Kumar	13761A0351

ACKNOWLEDGEMENTS

The department expresses sincere thanks to all faculty, technical staff and students for contribution towards the technical magazine- mech pulse.



Editorial Board



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