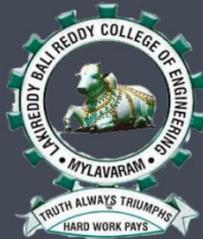


Edition II, Volume I, 2018-19

Mechanical Engineering E-Magazine (LBRCE)



(TIER-I)



ANSYS



MECH PULSE

(JUL-SEP 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 II and volume I. 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. Nine 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 OF THE DEPARTMENT

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

MISSION OF THE DEPARTMENT

- 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. **Dr.P.Ravindra Kumar** presented a paper at International Conference on Transformations in Engineering Education-Imparting Futuristic Skill (ICTIEE-AP2018) held at SRM University Amaravati, Andhra Pradesh during 15-17 July 2018.

B: Journal Publications

1. **Mr.V.Dhana Raju and Mr.P.Tharun Sai**, “Comparative Performance Analysis of Domestic Refrigerator using R12, R134a and R600a Refrigerants” , International Journal of Research and Analytical Reviews, ISSN: 2349-5138, Volume 5, Issue 3 ,July – Sept 2018
2. **Dr.P.Vijaya Kumar**, “Development of Phase Change Material/ Cooling Plate Coupled Battery Thermal management System using CFD" International Journal for Research in Engineering Application & Management", ISSN : 2454-9150, Volume-04, Issue-03, June 2018.
3. **Dr.P.Ravindra Kumar and Mr.K.Lakshmi Prasad**, “Experimental performance of analysis of solar heat pipes”, International Journal of Management Technology and Engineering (IJMTE) Journal, ISSN:2249-7455, Volume 8, Issue 7,July – 2018.
4. **Mr.V.Dhana Raju** “Influence of injection timing on the performance, combustion and emission characteristics of diesel engine powered with tamarind seed biodiesel blend” , International Journal of Ambient Energy, ISSN: 0143-0750 <https://doi.org/10.1080/01430750.2018.1501741>, August,2018.
5. **Mr.V. Dhana Raju & Dr.Murahari Kolli**, “Optimization of intake parameters for diesel engine fuelled with diesel-tamarind seed methyl ester biodiesel blend by Taguchi method” International Journal of Ambient Energy, ISSN: 0143-0750 <https://doi.org/10.1080/01430750.2018.1507928>, August,2018.
6. Mr.B.Sudheer Kumar “**Shock and Vibration Prevention Using Angular Mounts with Different Types of Oil-Based Elastomers**” , Advances in Manufacturing Processes, Lecture Notes in Mechanical Engineering, https://doi.org/10.1007/978-981-13-1724-8_57, September,2018.
7. K.N.D.Malleswara Rao, R.Praveen Kumar, T. Venkateswararao, and B. Sudheer Kumar, “**Investigation of Mechanical / Tribological Properties of Composite Ersatz Articular Cartilage with Nano Fillers**”, Advances in Materials and Metallurgy, Lecture Notes in Mechanical Engineering, https://doi.org/10.1007/978-981-13-1780-4_37, September, 2018.
8. T. Venkateswara Rao, and Ch.Siva Sankara Babu, “**Effect of Bamboo Fiber on Mechanical Properties of Fly Ash with Polypropylene Composites**”, Advances in Materials and Metallurgy, Lecture Notes in Mechanical Engineering, https://doi.org/10.1007/978-981-13-1780-4_42, September, 2018.

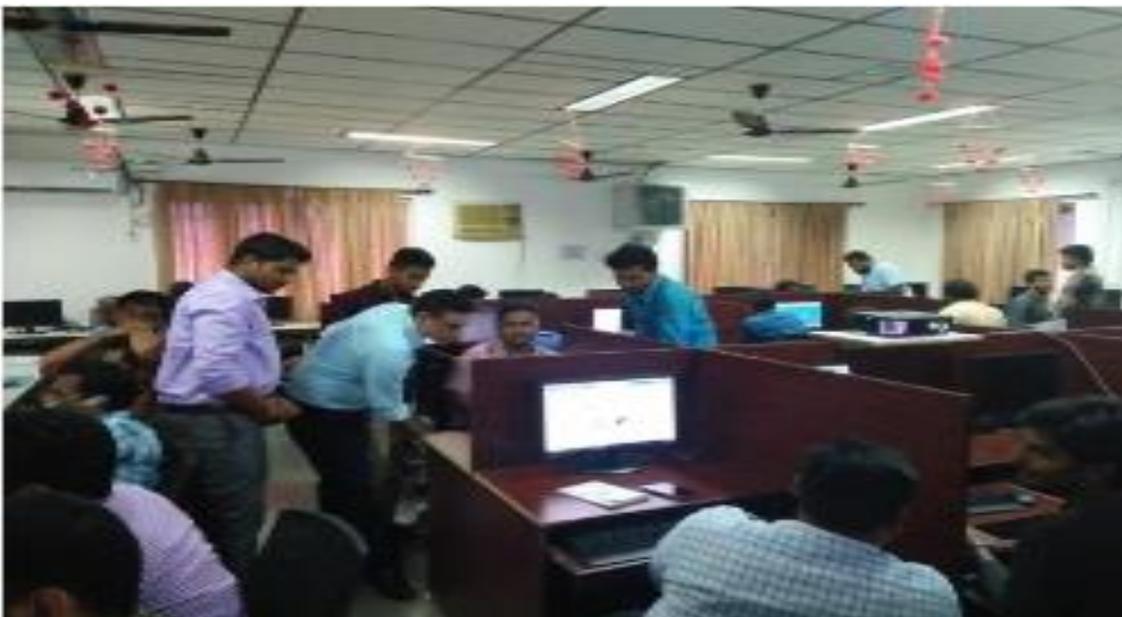
EVENTS ORGANIZED BY DEPARTMENT

FACULTY IMPROVEMENT PROGRAM

1. The Department of Mechanical Engineering organized Faculty Improvement Program on “**DIGITAL DRIVEN DESIGN AND MANUFACTURING ON THE ON THE 3DX PLATFORM**” from 02-07-2018 to 06-07-2018 by experts from APSSPDC. No. of students participated for this event is 37. Dr.Pullarao Muvvala coordinated this event successfully.



Lecture given by Mr.Rabindra Sha, TATA Technologies



Practice session by Mr.Varun Arora, Dassault Systems

GUESTS LECTURES

1. Department of Mechanical Engineering organized Guest Lecture "**PRODUCT DESIGN AND DEVELOPMENT**" on 25-07-2018 by Dr.Trivikrama Bhanoji Reddy Pala, Staff Engineer –R&D, Becton Dickinson, New Jersey. No. of students participated for this event is 120.Mr. V.Venkateshu coordinated this event successfully.



Lecture given by Dr.P.Trivikrama Bhanoji Reddy



Dr.P.Trivikrama Bhanoji Reddy interacting with students

2. Dept. of Mechanical Engineering organized Guest Lecture “**MERCHANT NAVY AND CAREER OPPORTUNITIES**” on 28/7/2018 by alumni Mr.A.Krishna Chaitanya (98761A0310), Chief Engineer, Eagle Star ,Singapore, No. of students participated for this event are 162. Mr.V.Dhana Raju coordinated this event successfully.



Alumni co-ordinator inviting the guest Mr.A.Krishna Chaitanya



Lecture given on Merchant Navy by Mr.A.Krishna Chaitanya

- Dept. of Mechanical Engineering organized Guest Lecture on “**ADVANCED DRIVER ASSISTED SYSTEMS (ADAS)**” on 01-09-2018 by Mr.Anand Musunuri- Director, Cognitive Business operations, Tata American International Corporation-USA. No.of students participated for this event is 450. Dr.K.Dilip Kumar coordinated this event successfully.



Lecture given by Mr.Anand Musunuri on Advanced Driver Assisted Systems



Felicitating Mr.Anand Musunuri by Dean R&D and HoD Mechanical Engineering

ALUMNI INTERACTIONS

1. Department of Mechanical Engineering organized **Alumni Interaction on “Career Guidance Through ISHRAE Student Chapter”** on 04-08-2018 by Mr. Virinchi Krishna, Senior Engineer, Blue Star, Hyderabad. No. of students participated for this event is 41. V. Dhana Raju and R. Praveen Kumar coordinated this event successfully.



Addressing by alumni Mr. Virinchi Krishna (13761A0327)



Third year student participants of Alumni Interaction

2. Department of Mechanical Engineering organized Guest Lecture (Alumni Interaction) on “**CAREER GUIDANCE AND HYUNDAI WORK EXPERIENCE**” on 15-09-2018 by Mr.S.Sri Krishna Kasyap (07761A0347), Assistant Manager, Hyundai Motors PVT LTD, Hyderabad. No. of students participated for this event is 84. Mr.V.Dhana Raju coordinated this event successfully.



Mr.S.Sri Krishna Kasyap interacting with students



Third year student participants

WORKSHOPS

1. Department of Mechanical Engineering organized Student Workshop on “ARDUBOTICS ROBOTICS” during 06th-07th September, 2018 by Mr.Liqzan from Innovians Technologies. No. of students participated for this event is 138. Mr.B.Chaitanya, A.Nageswara Rao, and V.Venkatesu coordinated this event successfully.



Addressed by Principal Dr.K.Appa Rao



Hands on practice session by student participants

SUMMARY OF COLLOQUIMS ORGANIZED

S. No	Name of the Faculty	Topic	Date
1.	Dr.Y.Appala Naidu	Application of Stochastic finite element Techniques for Mechanical Engineering Problems	19-07-2018
2.	Dr.P.Vijaya Kumar	Application PCM'S for PV panel cooling	19-07-2018
3.	Dr.M.Pullarao	Optimal distribution of electronic chips on a PCB	16-08-2018
4.	Mr.T.Venkateswara Rao	Introduction on Moodle Software	30-08-2018
5.	Mr.T.Venkateswara Rao	Introduction on Moodle Software	07-09-2018
6.	Mr.A.Naresh Kumar	Performance analysis of 4-Stroke single cylinder Diesel engine fuelled with tobacco seed oil methyl ester	14-09-2018
7.	Mr.B.Sudheer Kumar	Vibration Analysis on Engine Mounts	29-09-2018

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

1. V.Sankara Rao, Dept .of Mechanical Engineering has participated in a course on **“Introduction to Linear Finite Element Analysis”** at IISc Bengaluru, under Quality Improvement Programme of AICTE, New Delhi during 09th to 13th July 2018.
2. Dr.Appalanaidu Yalla, Dept .of Mechanical Engineering has participated in the **IUCEE International Engineering Educator Pre-Certification Workshop** conducted by Dr.Sohum Sohoni, Arizona State University at VIT –AP University, Amaravati during 12th -14th July,2018.
3. Dr.Pullarao Muvvala , A.Nageswara Rao and J.V.Somi Reddy Dept .of Mechanical Engineering for successfully participating in the Faculty Improvement Program on **“Digital driven Design and Manufacturing on the on the 3dx platform”** at Lakireddy Bali Reddy college of Engineering from 2nd to 6th July,2018.
4. V.Venkateshu, Peddireddi Tharun Sai, J.V.Somi Reddy and M.Bhavani, Dept .of Mechanical Engineering attended the **“Two days Faculty Development program on Paradigms of Education :Role of Teacher and Reflective Teaching”** organized by School of Management Studies at Lakireddy Bali Reddy College of Engineering during 17th -18th July,2018.
5. Mr.R.Praveen kumar, Dept .of Mechanical Engineering attended the Three day Workshop on **“Digital Manufacturing”** organized by V.R.Siddartha Engineering college during 19th -21st July,2018.

6. Mr.V.Dhana Raju, Dept.of Mechanical Engineering has participated in a course on **“Computational Fluids Dynamics”** at IISc Bengaluru, under Quality Improvement Programme of AICTE, New Delhi during 13th to 17th August 2018.
7. Dr.P.Ravindra Kumar, Dept .of Mechanical Engineering has participated in a Two day workshop on **“Development of Professional Skills”** organized by department of Information Technology during August 17th -18th ,2018 at LBRCE, Mylavaram.
8. Dr.S.Pichi Reddy, Dept .of Mechanical Engineering has participated in **Short Term Training Program (STTP) on “Welding Process & Physics of Welding” through ICT mode** organized by NITTTR, Kolkata in department Mechanical Engineering during 06th -10th August ,2018 at LBRCE, Mylavaram.
9. Mr.S.Srinivasa Reddy, Mr. A.Nageswara Rao, Mr P.Sandeep Kumar, Mr R.Praveen Kumar, Mr J.V.Somi Reddy and Sk.Jany Dept .of Mechanical Engineering has participated in **Short Term Training Program (STTP) on “Welding Process & Physics of Welding” through ICT mode** organized by NITTTR, Kolkata in department Mechanical Engineering during 06th -10th August ,2018 at LBRCE, Mylavaram.

FACULTY ACHIEVEMENTS

R&D INCENTIVES

- The following list of faculty members are received R&D incentives for the academic year 2017-18 in annual R&D meeting held on 31.08.2018.

S.No.	Name of the faculty	Amount
1.	Dr.K.Appa Rao	25000
2.	Dr.P.V.Chandra Sekhara Rao	1000
3.	Dr.K.Dilip Kumar	1000
4.	Dr.K.Murahari	4000
5.	V.Dhana Raju	14000
6.	K.Narayana	2000
7.	A.Nageswara Rao	1000
8.	K.Somasekhar	2000
9.	G.Kartheek	2000
10.	K.N.D.Malleswara Rao	4000

BEST FACULTY AWARDS

- The following are the list of faculty got best faculty award for the academic year 2017-18.

S.No.	Name of the faculty	Designation
1.	Dr.S.Pichi Reddy	Professor & HoD
2.	J.Subba Reddy	Associate Professor
3.	V.Dhana Raju	Sr.Asst.Professor

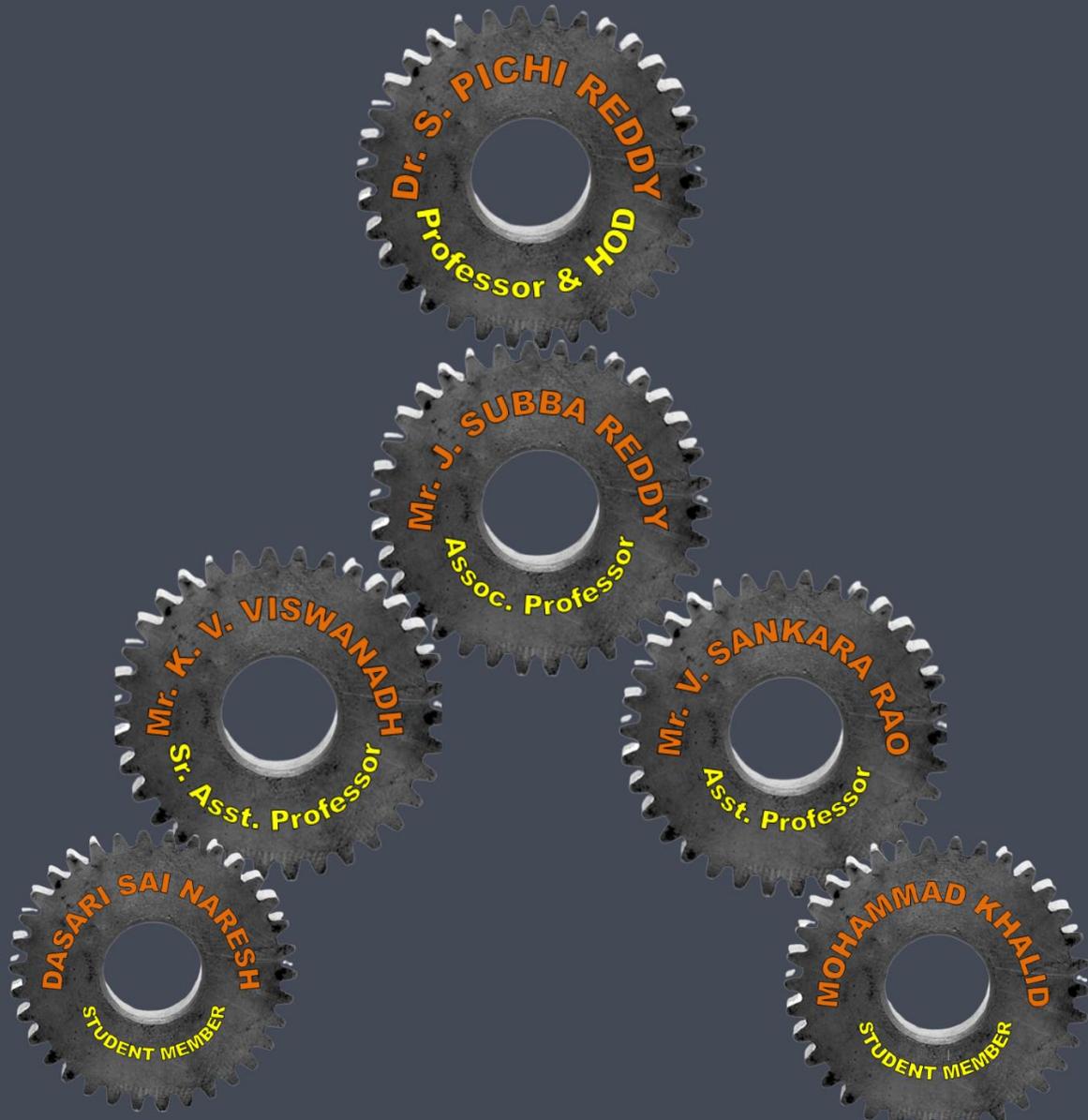
STUDENT ACTIVITIES

- Mr.P.V.M.Subhakar and Mr.S.K.N.Praneeth Department of Mechanical Engineering has participated in the Startup India Andhra Pradesh YATRA 2018 on 11th September 2018.

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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