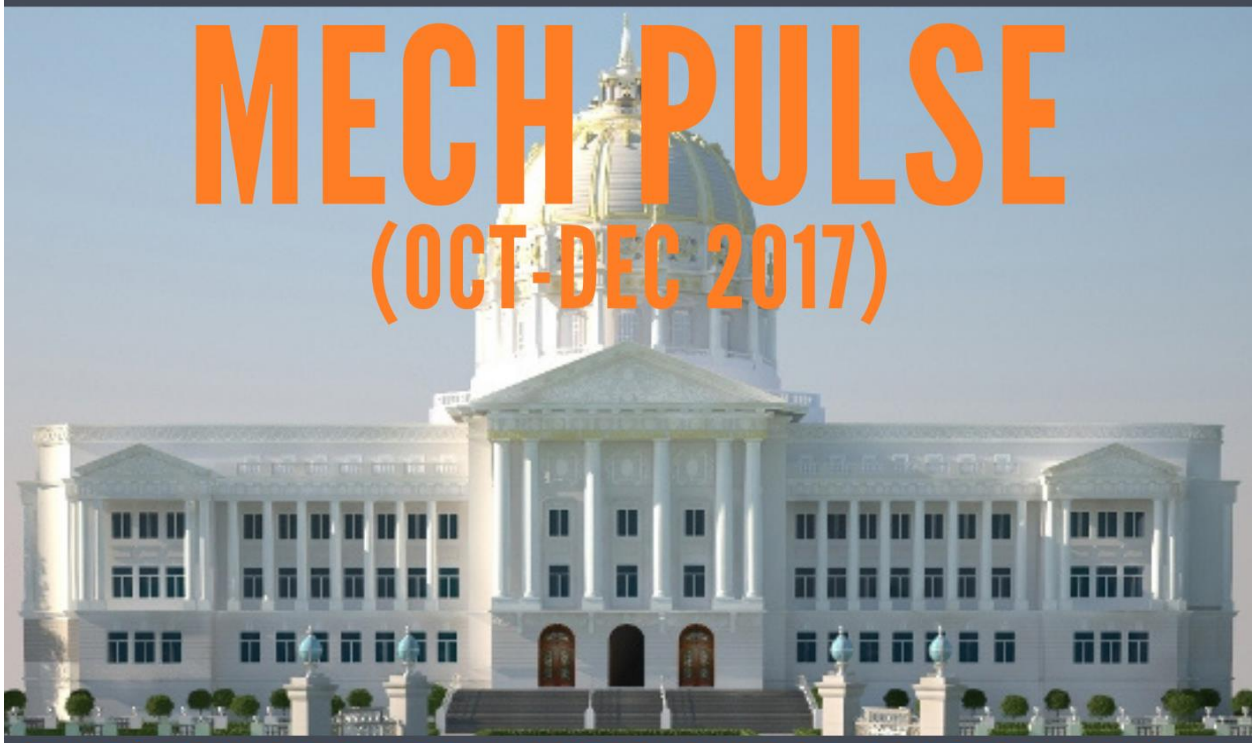
Edition I, Volume II, 2017-18

Mechanical Engineering E-Magazine (LBRCE)

(TIER-I)



MECH PULSE

(OCT-DEC 2017)

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 II. 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 faculties 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) Conferences

1. Dr.S.Pichi Reddy, Dr.P.Vijay Kumar, Dr.Murahari k and R.Praveen Kumar **"Experimental Study on various Dielectric medium in electrical Discharge machining"**, in one day national conference on Recent Advances in Mechanical Engineering (NCRAME-17), organized by PVPSIT, Kanuru, Vijayawada on 2 Dec,2017.

2. Dr.P.V.Chandra Sekhar Rao, **"Dry Sliding Wear Behaviour of Al-Si Alloys"**, in one day national conference on Recent Advances in Mechanical Engineering (NCRAME-17), organized by PVPSIT, Kanuru, Vijayawada on 2 Dec,2017.
3. Dr.P.Ravindra Kumar, "**Simulation and Optimization of Thermal Systems in Coal Based Power Plant Cycles"**, in the 24th National and 2nd International ISHMT-ASTFM Heat and Mass Transfer Conference at BITS Pilani, Hyderabad, during Dec 27-30,2017.
4. Dr. Pullarao Muvvala, "**Effect Of Orifice Blockage Element On The Heattransfer Performance Of Impinging Jets"**, in the 24th National and 2nd International ISHMT-ASTFM Heat and Mass Transfer Conference at BITS Pilani, Hyderabad, during Dec 27-30,2017.
5. Mr. V.Dhana Raju, **"Experimental studies on performance, combustion and emission characteristics of diesel engine fuelled with alumina oxide nano particles dispersed diesel –biodiesel blend"**, in the International Conference on Nanotechnology Ideas, Innovations and Initiatives-2017 organized by Dept.of Mechanical & Industrial Engineering and Centre of Nanotechnology,IIT ,Roorkee,India,during Dec 06-08,2017.
6. Mr. V.Dhana Raju, **"Investigations on the effects of diethyl ether as fuel additive in diesel engine fuelled with tamarind seed methyl ester"**, in the 6th International Conference on Advances in Energy Research held at IIT ,Bombay,India,during Dec 12-14,2017.

(b). Journal Publications

1. **K.Dilip Kumar,** "CFD Analysis and Experimental investigation on Ranque-Hilsch counter flow vortex tube for optimizing tube length by using compressed Air", IJMDA, volume.3/issue no.2, Page No(1-11)., Dec and 2017 (International).
2. Dr.P.V.Chadra Sekar Rao and Dr.S.Pichi Reddy, **"Fatigue Behaviour of Al-Si Alloys Subjected to Reversed Bending"**, Journal of Manufacturing Engineering, pp 218-223, volume.12 /issue no 4, Page No218-223., Dec .,2017.
3. 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 Mechanical Dynamics and Analysis, , vol.3 /issue no 2., Dec ,2017.

4. Dr.K. Dilip Kumar**, "Performance Enhancement of R-134a Refrigeration cycle by using Solar Peltier sub cooler",** International Journal of Thermal Energy and Application, vol.3 /issue no 2. Dec, 2017.

EVENTS ORGANIZED BY DEPARTMENT

1. The Dept. of Mechanical Engineering, organized a Guest Lecture **"Smart Materials And Its Applications,"** on 05th Oct, 2017 by Dr. A.Arockia rajan, Assoc.Prof.in Dept.of Mechanical Engineeringat IIT Madras attended by II year students. Dr.K.Dilip Kumar coordinated the event.
2. The Dept. of Mechanical Engineering, organized a Faculty Development program on **"FEA using ANSYS"** during 07th -11th Nov 2017 by experts from **ARK Info Solutions**. A.Nageswara Rao coordinated the event.
3. The Dept. of Mechanical Engineering is association with ISHRAE conducted preliminary written test round for ACREX-2018.
4. The Dept. of Mechanical Engineering, Certification program on **"Finite Element Analysis Using ANSYS"** during 11th-17th July by **ARK Info Solutions** attended by IV year students. Mr. A.Nageswara Rao coordinated the event.

NEWLY ESTABLISHED LAB

- The Dept. of Mechanical Engineering Established ANSYS Skill Developed center With Coordination of A.R.K Solutions on 13.10.2017.

Inaguration of ANSYS Skill Developed Center

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

1. Mrs.B.Kamala Priya, Dept .of Mechanical Engineering attended a One Week FDP on **"Advances in Mechanical Engineering"**, hosted by VVIT, Nambur, during 23rd oct -27th Oct, 2017.
2. Dr.P.Vijay Kumar, Dept .of Mechanical Engineering attended a five days Gain Course on **"Thermal Management of Electronics"** hosted by NIT Warangal, during 30th oct -03rd Nov, 2017.
3. Mr. V.Dhana Raju, Dept .of Mechanical Engineering attended a Five day Short-term course on **"Internal Combustion Engines"** hosted by IISc Bangalore, during 27th-1st Dec, 2017.
4. Mr. A.V.V.R.Prasad.Y, Dept .of Mechanical Engineering attended a Five day Short-term course on **"Internal Combustion Engines"** hosted by IISc Bangalore, during 27th-1st Dec, 2017.
5. Dr.P.Ravindra Kumar, Dept. of Mechanical Engineering delivered a Guest lecture on **"Simulation and performance analysis of wind turbine/performance analysis of fuel cells**", venu at RVRJC, on 02nd Nov, 2017.

FACULTY ACHIEVEMENTS

List of NPTEL certified faculty in October 2017 Examinations

S.No	Name of the Faculty	Name of the Course	Grade
1	K.N.D.Malleswara Rao	Total Quality Management - I	Elite
2	P Ravindra Kumar	Energy Conservation and Waste Heat Recovery	Successfully Completed
3	T Venkateswara Rao	Strength of Materials	Successfully Completed
4	Ravutla Praveen Kumar	Fundamentals of Manufacturing Processes	Elite
5	Kothari Venkata Viswanadh	Engineering Fracture Mechanics	Successfully Completed
6	A Nageswara Rao	Applied Ergonomics	Elite
7	Sandeep Kumar Penugonda	Applied Ergonomics	Elite
8	Udaya Lakshmi Bondada	Fundamentals of Manufacturing Processes	Successfully Completed

- **Dr.S.Pichi Reddy** has published UGC-approved Journal in academic year 2016-17, he has received R&D Incentive at R&D meeting held on 31st Dec at LBRCE.
- **Dr.P.V.Chandra Sekhar Rao** has published UGC-approved Journal in academic year 2016-17, he has received R&D Incentive at R&D meeting held on 31st Dec at LBRCE.
- **Dr.K. Dilip Kumar** has published UGC-approved Journal in academic year-2016-17, he has received R&D Incentive at R&D meeting held on31st Dec atLBRCE.
- **Dr.P.Ravindra Kumar** has published UGC-approved Journal in academic year-2016-17, he has received R&D Incentive at R&D meeting held on 31st Dec at LBRCE.
- **Mr.T.Venkateswara Rao** has published UGC-approved Journal in academic year-2016-17, he has received R&D Incentive at R&D meeting held on 31st Dec at LBRCE.
- **Mr.K.N.D.Malleswara Rao** has published UGC-approved Journal in academic year-2016-17, he has received R&D Incentive at R&D meeting held on 31st Dec at LBRCE.

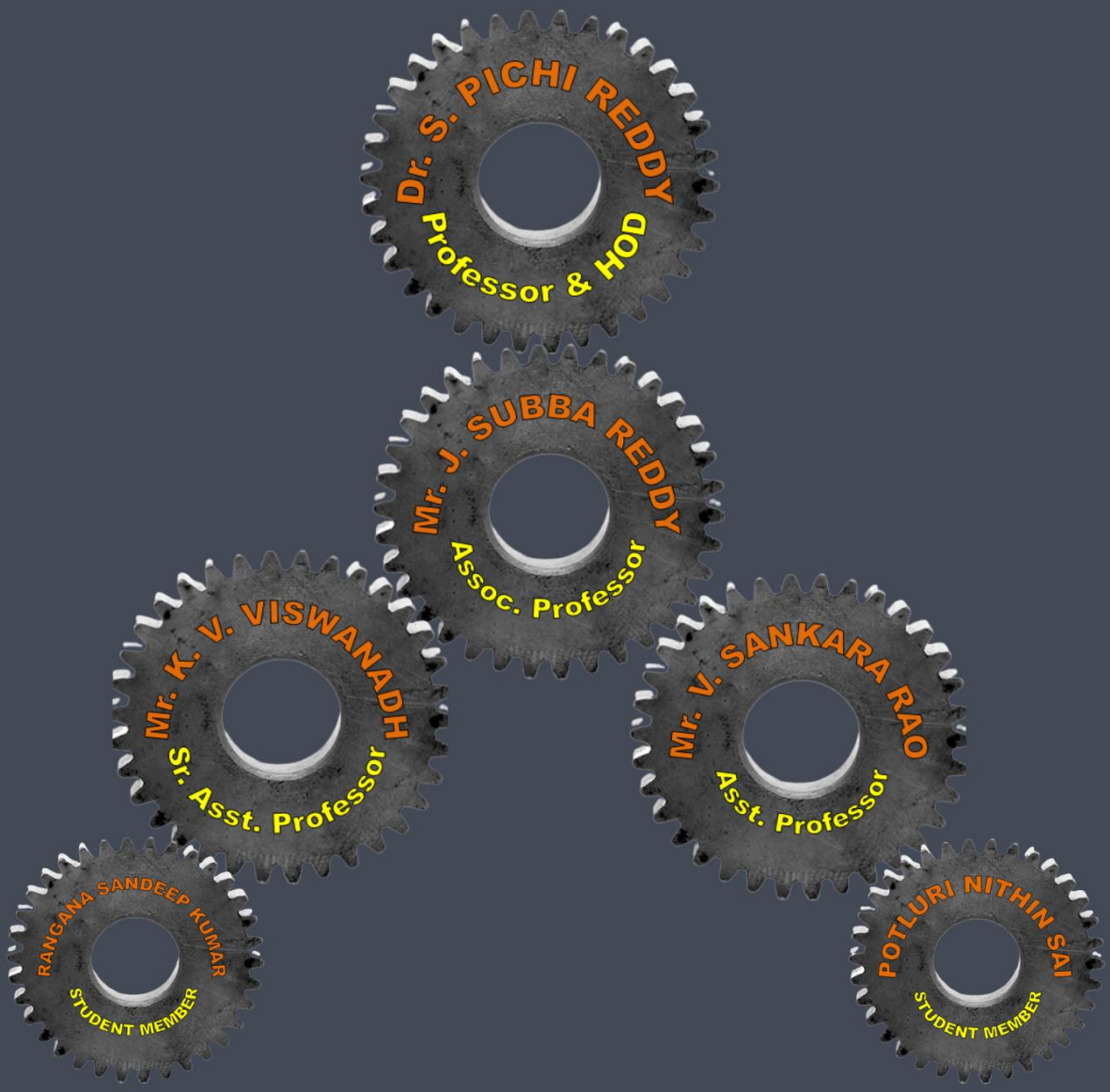
STUDENT ACTIVITIES

- Mr.A.Voshal, department of Mechanical Engineering , III year, has successfully completed 70 hours intensive training on Automotive sketching ,rendering, digital sculpting and prototyping and worked on a future mobility concept design project under the aegis of Expertshub industry skill development centre from Dec 21st to 28th ,2017 held at Smt.Kashibai Navale College of Engineering, Pune.
- Mr.A.Voshal, department of Mechanical Engineering , III year, for showing excellence in design project competition organized during Automotive Styling Boot Camp from Dec 21st to 28th ,2017 held at Smt.Kashibai Navale College of Engineering, Pune.

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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