

Edition I, Volume III, 2017-18

Mechanical Engineering E-Magazine (LBRCE)



(TIER-I)



MECH PULSE

(JAN-MAR 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 III. 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 **Dassult 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 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.S.Pichi Reddy and Dr.Murahari K “**Compacting characteristics of Al/2.3%Cu/1.6%Mg/Fly ash metal matrix composite**”, in two day International conference on Advances in Materials and Manufacturing Engineering (*ICAMME- 2018*), Acharya Nagarjuna University, Guntur during 22th-24th Jan,2018.
2. Dr.Murahari K, “**An Experimental Investigation on Machining parameter of Titanium Alloy using WEDM**”, in two day International conference on Advances in Materials and Manufacturing Engineering (*ICAMME- 2018*), Acharya Nagarjuna University, Guntur during 22th-24th Jan,2018.

3. Mr.B.Sudheer Kumar, “**Shock and Vibration prevention using angular Mounts with Different Types of Oil based Elastomers**”, in two day International conference on (*ICEMMM- 2018*), SSN College of Engineering, Chennai, during 15th -16th February 2018.
4. Mr.T.Venkateswara Rao, “**Effect of Bamboo fiber on the Mechanical Properties of fly-ash filled Polypropylene Composites**”, in two day International conference on (*ICEMMM- 2018*), SSN College of Engineering, Chennai, during 15th -16th February 2018.
5. Mr.K.N.D.Malleswara Rao ,“**Investigation of Mechanical /Tribological Properties of Composites Ersatz articular cartilage with Nano Fillers**”, in two day International conference on (*ICEMMM- 2018*), SSN College of Engineering, Chennai, during 15th -16th February 2018.
6. Mr.B.Sudheer Kumar, “**Engine Isolation Angular Mounts with Different types of Elastomers**”, in three day International conference on materials processing and Characterization (*ICMPC- 2018*), Conducted by the Department of Mechanical Engineering, GRIET, Hyderabad, Telangana in collaboration with MANIT, Bhopal, M.P. during 16th -18th March, 2018.

B: Journal Publications

1. K. Somasekhar, K.N.D. Malleswara Rao V. Sankararao, and T. Venkateswararao ,“**A CFD Investigation of Heat Transfer Enhancement of Shell and Tube Heat Exchanger Using Al₂O₃-Water Nano fluid**”, Elsevier- Materials Today: Proceedings 5 (2018) 1057–1062.
2. B.Susmitha, K.Durga,K.N.D.Malleswararao,K.V. Ravisankar, Narayana Karagani and Sp Krishna Mithra, “**Three Dimensional Finite Element Analysis of Thin Hybrid FRP Skew Laminates for Thermo Elastic Behaviour of Different Materials**”, Elsevier Materials Today: Proceedings 5 (2018) 1194–1200.
3. T.Venkateswara Rao , K.N.D.Malleswara Rao , V.Sankar Rao , B.Sudheer Kumar, “**Flexural Properties Of Bamboo Fiber Reinforced Hybrid Composite**”, International Journal of Innovative Research In Technology, ISSN: 2349-6002, Volume 4 Issue 8, January 2018.
4. Ch.Ratnam, B.Sudheer kumar, and **K.N.D.Malleswara Rao**, “**A comprehensive review on Friction stir welding of aluminium alloys**”, International Journal of Advance Engineering and Research, Volume 5, Issue 01, January -2018.
5. V. Dhana Raju , P. S. Kishore , and K. Yamini , “**Experimental Studies on Four Stroke Diesel Engine Fuelled with Tamarind Seed Oil as Potential Alternate Fuel for Sustainable Green Environment**”, European Journal of Sustainable Development Research, ISSN: 2542-4742,2(1), 10,January 30, 2018.

6. P. Ravindra Kumar, “**Performance of Air Power Engine Fueled with Oxygen Gas, Compressed Air and Engine Exhaust Gas**”, International Journal of Thermal Energy and Applications (IJTEA), Vol. 3: Issue 2, pp52–66.
7. J. Venkata SomiReddy, P.V.D. Vivek Kumar, Mallikarjuna Rao Dandu “**Design and FEA Analysis of Shafting System in a Fleet Support Vessel**”, IJAERD, e-ISSN (O): 2348-4470 p-ISSN (P): 2348-6406, Volume 5, Issue 03, PP NO:1412-1419 March – 2018.
8. B.Udaya lakshmi, K.N.D.Malleswara Rao, V.Sankararao “**A comprehensive review on the finite element analysis of mechanical components**”, IJCRT, ISSN: 2320-2882, Volume 6, Issue 1, pp no:120-122, March 2018.
9. CH.Ratnam, B.Sudheer Kumar, and K.N.D.Malleswara Rao, “**Effect of Twin-Pin Profile Tool on the Microstructure and Mechanical properties of Friction Stir Welded Dissimilar Aa2024 And Aa6061 Aluminium alloys**” IJMET, Scopus Indexed, ISSN Print: 0976-6340 and ISSN Online: 0976-6359 Volume 9, Issue 3, pp. 946–953, March 2018.
10. Siva Sankara Babu Ch, Viswanadh K.V, Venkateswa Rao T, and Sudheer Kumar B, “**Effect of Fiber Angle on Inter laminar Stresses of FRP Angle Ply Laminate**”, IJCRT, ISSN: 2320-2882, Volume 6, Issue 1, pp no:626-633, March 2018.

GUEST LECTURES

The Dept. of Mechanical Engineering organized a *Guest Lecture on Non-Destructive testing* on 29-01-2018 by Mr.G.Vijay Kumar, Future NDT. Dr.K.Dilip Kumar coordinated this event successfully.



Guest Lecture delivered by Mr.G.Vijay Kumar

WORKSHOPS

The Dept. of Mechanical Engineering organized a Two day workshop on **NDT Training** for III B.Tech. Students on 30-01-2018 & 31-01-2018 by Future NDT & IIS NDT Pvt Ltd. Dr.K.Dilip Kumar coordinated this event successfully.



Addressed by Principal Dr.K.Appa Rao

INDUSTRIAL TRAINING IN POWER SECTOR

- The Dept. of Mechanical Engineering, organized a Guest Lecture on “**INDUSTRIAL TRAINING IN POWER SECTOR**” on 28/01/2020 by Mr.G.Vijay Kumar, CEO, Synergem for third and final year Mechanical Engineering Students. Dr.K.Dilip Kumar coordinated the event.



Guest Lecture on “Industrial Training in Power Sector” by Mr.G.Vijay Kumar



VI and VIII Semester Student Participants

STUDENT CERTIFICATION PROGRAM

- The Dept. of Mechanical Engineering organized a *Student Certification program* on **Advanced CATIA** from 02-01-2018 to 06-01-2018 by experts from ARK info solutions Chennai. No. of students participated for this event is 38. Mr.A.Nageswara Rao coordinated this event successfully.



Addressing by Resource person Dhan Sekhar



Laboratory Session

- The Dept.of Mechanical Engineering organized a **3 Day Workshop & Certification Training program** on **AutoCAD** from 22-02-2018 to 24-02-2018 by experts from APSSDC, Govt.of A.P. No.of students participated for this event is 62. Dr.Pullarao Muvvala Coordinated this event successfully.



Dr.S.Pichi Reddy, HoD & Dr.M.Pulla Rao, Coordinator with resource person



Second year student participants in practice session

- The Dept. of Mechanical Engineering and Aerospace Engineering organized a **6 Day-Certification Program** on **ADVANCED ANSYS** from 26-02-2018 to 03-03-2018 by experts from ARK Solutions Hyderabad. No. of students participated for this event is 45. Mr. A.Nageswara Rao Coordinated this event successfully.



Addressing by resource person Prashanth



Student participants in practice session

ISHRAE Student Chapter Activity

- The Dept. of Mechanical Engineering organized a *Guest Lecture* on **Advanced concepts in Air-Conditioning** at 14th February 2018 by experts from Founder-president of ISHRAE Vijayawada, Chapter V.V.SUBBA RAO and Student Chair of ISHRAE Mr.A.PULLA RAO. Mr.A.Naresh Kumar Coordinated this event successfully.



Guest lecture by Mr.V.V.Subba Rao, ISHRAE Vijayawada sub-chapter



IV year student participants with faculty

SUMMARY OF COLLOQUIMS ORGANIZED

S. No	Name of the Faculty	Topic	Date
1.	Mr.J.Subba Reddy	Temperature distribution in Electro Discharge machining for different materials	27-01-2018
2.	Dr.Y.Appala Naidu	A Continuum damage Mechanics approach for residual life assessment of piping components	23-02-2018
3.	Mr.V.Dhana Raju	Recent Advancements in Internal Combustion Engines	22-03-2018

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

1. Ms. M.Bhavani, Dept. of Mechanical Engineering attended a Two days faculty training programme on "MAT LAB AND ITS APPLICATIONS" hosted by Gudlavalleru Engineering College, Gudlavalleru during 8th-9th February, 2018.

STUDENT ACHIEVEMENTS/ACTIVITIES

Students participated in Workshops

- The following are the list of student achievements in “webpreneurship” event conducted by Entrepreneurship Cell, **IIT Bombay** during 27th -28th January, 2018.

S.No.	Roll No.	Name of the student	Type of Course/Event	Award Status
1.	16761A0311	CH.Dominicson	Webpreneurship	Achievement
2.	16761A0308	B.Dhanush	Webpreneurship	Achievement
3.	16761A03F2	Mohammad Khalid	Webpreneurship	Achievement
4.	16761A03B0	V.Ram Brahma Chari	Webpreneurship	Achievement
5.	16761A03A9	V.Vamsidhar	Webpreneurship	Achievement
6.	16761A03A6	M.Shanmuk K N Praneeth	Webpreneurship	Achievement
7.	16761A03A5	Shaik Gulam Nabi	Webpreneurship	Achievement
8.	16761A03A3	S.Sandeep	Webpreneurship	Achievement
9.	16761A0384	K.Ashok Reddy	Webpreneurship	Achievement
10.	16761A0377	I.Naveen	Webpreneurship	Achievement
11.	16761A0368	G.Sivaji	Webpreneurship	Achievement
12.	16761A0324	K.Keerthana Sai	Webpreneurship	Achievement
13.	16761A0319	J.Veera Ashok	Webpreneurship	Achievement
14.	17761A0317	K.Sri Ram Pavan	Industry Defined Problems	Merit

Students participated in Technical Symposia

- Mr.M.Yaswanth Reddy has participated in Robo Soccer, as a part of ELAN AND NVISION 2018, the annual cultural-cum technical fest of IIT Hyderabad held from 9th -11th February, 2018.
- Mr.Ch.Hema Sundar Yadav has participated in Quiz, as a part of National Science Day, held at Lakirddy bali reddy college of Engineering Organized by AEEL on 23rd February 2018.
- Mr.Ch.Teja Sundhar has participated in Quiz, as a part of National Science Day, held at Lakirddy bali reddy college of Engineering Organized by AEEL on 23rd February 2018.
- Mr.K.Geswanth has participated in Quiz, as a part of National Science Day, held at Lakirddy bali reddy college of Engineering Organized by AEEL on 23rd February 2018.
- Mr.M.Vinay has participated in Quiz, as a part of National Science Day, held at Lakirddy bali reddy college of Engineering Organized by AEEL on 23rd February 2018.
- The Following list of the students is secure prizes in the occasion of “Save Fuel, Save Environment, Save Future” Conducted Drawing Competition organized by IEI Student Chapter of Civil Dept. on 14th February, 2018.

S.No	Regd. Number	Name of the student	Prize
1	16761A0384	K.Ashok Reddy	I
2	16761A03F4	P.Abhishek	II
3	17765A0312	S.Nivesh	III

- Following list of the students are secure prizes in the occasion of college annual day celebrations on 17th February, 2018.

S No	Regd Number	Name of the Student	Event
1	16761A0306	J.Vinusha	Ball Badminton Winners
2	16761A0378	J.Priyanka	
3	15761A0344	P.Durga Bhavani	
4	14761A03B5	T.Sri Lakshmi	
5	15761A0362	A.Anjali	
6	15761A0321	G.Archana Reddy	
7	16765A0323	G.Jaya Sri Sony	
8	15765A0317	K.Rohini	
9	15761A0344	P.Durga Bhavani	Table tennis (Doubles) winners
10	15761A0265	A.Anjali	
11	14761A0334	M.Sai Kumar	Kho-Kho Runners
12	14761A0349	Sk.Rafeeq Ahmed	
13	14761A03B1	Sk.Naeem	
14	15761A0369	P.Gopi Nayak	
15	16761A03E0	K.Ravi	
16	16761A0318	Chandra Kanth	
17	16761A0361	Jaya Vardhan	
18	16761A0329	Pavan	
19	17765A0319	Hemanth Sai	
20	17761A03A1	S.Ravi Chand	
21	16761A03G4	S.Venkateswara rao	Football Winners
22	14761A0339	T.Naveen Kumar Reddy	
23	14761A0349	Sk.Rafeeq Ahmed	
24	14761A0339	T.Naveen Kumar Reddy	
25	16765A0318	G.Bhasker	
26	16761A0367	Subash	
27	15761A0345	P.Jayanth	
28	16761A0356	V.V.Subba rao	
29	16761A0386	K.Smadhil	
30	16761A03C3	B.Babu Mohan	
31	17761A0371	G.Sasi Vardhan	
32	16761A0391	M.Siddardha	
33	17761A0375	G.Praneeth Sai	
34	17761A0312	M.Chetan Satya	
35	17761A0342	B.Sai Chand	Football Winners
36	15761A0339	N.Revanth Kumar	

37	14761A0352	T.Prasanna Kumar	
38	14761A0334	M.Sai Kumar	
39	14761A0334	M.Sai Kumar	Table tennis (Doubles) Runners
40	16761A0318	G.Bhasker	
41	15761A0312	Ravi Teja	Badminton(Doubles)Runners
42	17761A0375	Praneeth	
43	14761A0311	B.V.V. Sidida	Basketball Winners
44	17761A03D0	Karthik	
45	16761A0393	Srinivas	
46	16761A0356	V.V.Subba rao	Basketball Winners
47	16761A0367	Subash	
48	16761A0386	K. Smadhil	
49	15761A0390	Yeshwanth	
50	15761A0329	K.Nagarjuna Reddy	
51	14761A0349	SK. Rafeeq Ahmed	
52	14761A0334	M. Sai kumar	
53	14761A03A7	R.Sandeep	
54	14761A0358	V. Deepak	
55	16761A0374	G. Varsha Priya	Creative Writing(Literary)2nd
56	17761A0327	L. Kiran	Athletics Relay(4*100) 3rd
57	16761A0384	K. Ashok Reddy	
58	16761A03E0	K.Ravi	
59	16761A0361	B. Jayavardhan	
60	15761A0369	B. Peda Gpoi Nayak	Athletics(Shot put) 2nd place
61	16761A03E0	K. Ravi	Athletics (High Jump) 1st place
62	14761A0339	P.Naveen Kumar	Power lifting(59kg) 2nd
63	14761A0334	M. Sai kumar	Power lifting(59kg) 1st
64	14761A03A7	R.Sandeep	Power lifting(59kg) 3rd
65	17765A0334	L.Lakshmi Narasimha	Power lifting(94kg) 3rd
66	14761A0349	SK. Rafeeq Ahmed	Power lifting(66kg) 3rd
67	15761A0369	B.Peda Gopi Nayak	Power lifting(74kg) 3rd
68	15761A0327	K.Govardhan	Power lifting(94kg) 1st
69	14761A0384	K.Pavan Kumar	Ball Badminton Winners
70	14761A0334	M. Sai kumar	
71	16761A03G3	SK.Karimulla	
72	16761A0384	K. Ashok Reddy	
73	16761A03E0	K. Ravi	
74	14761A03A5	R.Sandeep Kumar	
75	16761A0361	Jaya Vardhan	
76	14761A03B7	T.V.Saida Nayak	

77	15761A0327	K.Govardhan	Kabaddi winners
78	15761A03A7	R.Sandeep	
79	15761A0369	B.Peda Gopi Nayak	
80	14761A03B7	P.Naveen Reddy	
81	14761A0349	Sk.Rafeeq Ahmed	
82	14761A0334	M.Sai Kumar	
83	17761A0351	U.Revanth	
84	16765A0318	G.Bhasker	
85	14761A0324	K.Surya Pavan	
86	15765A0317	K.Rohini	
87	14761A03B5	T.Sri Lakshmi	Shotput (First)
88	14761A03B5	T.Sri Lakshmi	High jump (Second)
89	16765A0310	R.Sowjanya	Relay (4*100) 3 rd
90	15761A0367	B.Lakshmi Sharanya	
91	16765A0323	M.Jaya sri Sony	
92	15761A0379	J.Swapna	
93	17761A0327	L.Kiran	Athletics(400m Sprint) 1 st
94	16761A03E0	K.Ravi	Long Jump 1 st

ANNUAL DAY CELEBRATIONS

- The Department of Mechanical Engineering actively participated in 20th Annual day celebrations conducted at Lakireddy Bali Reddy College of Engineering, Mylavaram on 17.02.2018.



Inauguration of Annual Day celebrations by Management and Principal

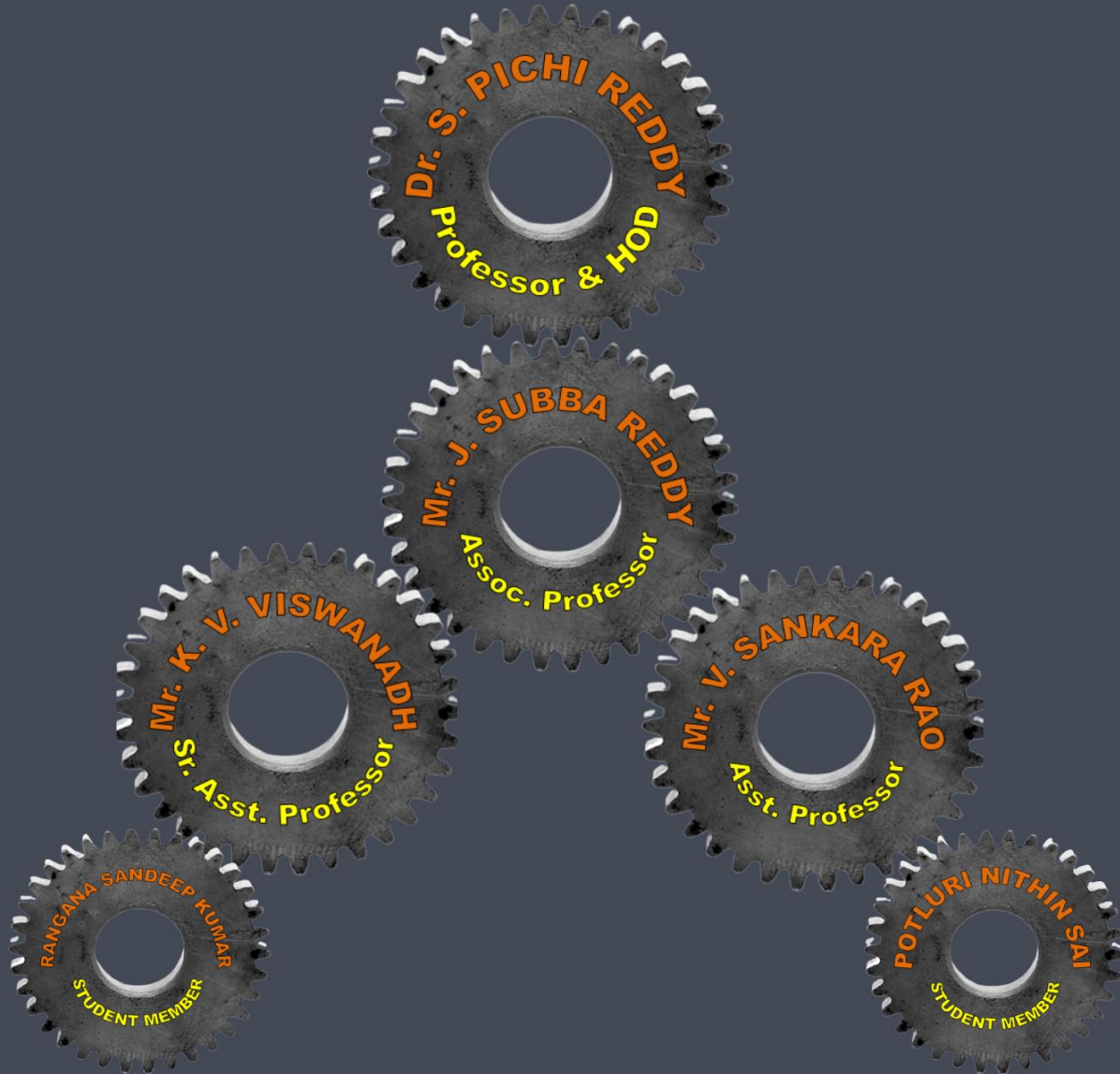


Mechanical Engineering students in Annual Day celebrations

ACKNOWLEDGEMENTS

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Editorial Board



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