

Edition III, Volume II 2019-20

Mechanical Engineering E-Magazine (LBRCE)



# MECH PULSE

(OCT-DEC 2019)



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 III 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 **Dassult 3D Experience centre** (in association with APSSDC) is available. The department has 35 faculty members with 10 Doctoral degrees. 12 faculty are actively pursuing for their Ph.D in various universities and nine research scholars are working for their doctoral degree 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
3.	Dr.N.Sunil Naik	Evaluation of engine parameters affecting the performance of enzymatic transesterification process using test fuel blends	DST/SERB /EEQ	22,81,000	2019

## CONFERENCES ATTENDED BY THE FACULTY

- Chandra sekar sunnapu and **Murahari Kolli** participated in 2<sup>nd</sup> International conference on recent trends in metallurgy, materials science and manufacturing in NIT Tiruchirappalli, Tamilnadu from 27.12.2019 to 28.12.2019.

# JOURNALS PUBLISHED BY THE FACULTY

**Dr. V. Dhana Raju,**

Assoc. Professor

[ghanaraju.v@lbrce.ac.in](mailto:ghanaraju.v@lbrce.ac.in)

[ghanaraju1984@gmail.com](mailto:ghanaraju1984@gmail.com)



**Title of the Paper:** “Effect of 1-butanol on the characteristics of diesel engine powered with novel tamarind biodiesel for the future sustainable energy source”

**Name of the Journal:** Energy Sources, Part A: Recovery, Utilization, and Environmental Effects

**Co-Authors:** Dr. K. Appa Rao

**Publication on:** 19 August 2019.

**ISSN No:** 1556-7036

**Doi:** <https://doi.org/10.1080/15567036.2019.1675810>

**Abstract:** The depletion of petroleum resources, rise in fuel prices and stringent emission norms over diesel engines play a vital role in economic development of country like India, which attracts the researchers to search for novel alternate fuel for diesel. The present experimental work explores the effect of 1-butanol with rich potential of tamarind seed biodiesel for diesel engine applications. This investigation focuses on the effect of butanol as an oxygenated fuel additive to tamarind biodiesel at different concentrations like 5%, 10%, and 15% on volume basis to examine engine characteristics. The test results indicate the addition of 5% butanol to biodiesel blend had shown considerable enhancement in brake thermal efficiency, which is 3.21% over the tamarind biodiesel blend. It is also found marginal reductions in exhaust emissions such as carbon monoxide, hydrocarbon, and smoke opacity by 7.25%, 6.52%, and 6.2% respectively when contrasted with tamarind biodiesel blend at peak load operation. However, marginal increment found for nitrogen oxide emissions at all load conditions. Hence, the use of oxygenate additive to tamarind biodiesel blend could be critically considered as a prospective renewable fuel source..

# JOURNALS PUBLISHED BY THE FACULTY

**Mrs. B.Kamala priya,**

Assistant Professor

[kamala.jkp@gmail.com](mailto:kamala.jkp@gmail.com)



**Title of the Paper:** “Numerical Simulation Of Shell and Tube Heat Exchanger using Ansys Fluent”

**Name of the Journal:** International Journal Of Innovative Technology And Exploring Engineering (IJITEE)

**Co-Authors:** B.Udaya Lakshmi

**Publication on:** 2 September 2019

**ISSN No:** 2278-3075

**Doi:**

**Abstract:** From the current situation, the Heat Exchangers uses extreme commonly are tube and Shell heat exchangers. The most usual uses of Shell and tube heat exchangers are electricity creation, cooling system of hydraulic fluid, oil in motors, transmissions, and hydraulic power packs. Shell and tube heat exchangers are made of the casing using a bunch of tubes with inside. The desirable outcome of the paper is to figure out the speed of heat transport using hot water as the hot liquid. The target of this paper is to mimic a tube and shell heat exchanger and also to assess blood flow and temperatures from the tubes and shell by employing applications tool Ansys. The simulation is composed of modeling and meshing cross section of tube and shell heat exchanger utilizing computational fluid dynamics (CFD).

## JOURNALS PUBLISHED BY THE FACULTY

**Dr.P.Ravindra Kumar,**

Professor

[pasupuletk@gmail.com](mailto:pasupuletk@gmail.com)



**Title of the Paper:** Fabrication and Experimental Analysis of Heat Transfer Characteristics of Acetone /Water by using Tube in Tube and Shell and Tube Heat Exchanger

**Name of the Journal:** International Journal of Innovative Technology and Exploring Engineering (IJITEE)

**Publication on:** October 2019

**ISSN No:** 2278-3075

**Doi:**

**Abstract:** In this research work, the design of pipe in pipe, shell-and-tube and combined heat exchanger (previously mentioned types were combined to consider as one unit) has been made. These three heat exchangers have been utilized for two kinds of flows i.e., parallel as well counter flow types individually. The design of combined heat exchanger takes been proposed with the idea of increasing the heat transfer area and to understand the behavior of various parameters involved by comparing with the individual heat exchangers. 75:25 aqueous Ethylene Glycols, have been used as the working fluid in all three heat exchangers of counter as well parallel flow conditions. Total quantity of working fluid is 12 liters, in which 6liters of fluid is used as cold fluid and the other half is used as hot fluid. As a result, overall heat transfer coefficient (U) has been increased with increase of mass flow rate. Highest overall heat transfer coefficient value observed as  $1943\text{w/m}^2\text{-k}$  at highest mass flow rate (within the considerations of this work) of  $0.145\text{ kg/s}$ . The highest decrement in LMTD recorded for  $0.0425$  to  $0.145$  increase of mass flow rate is  $49.32\%$  in shell-and-tube heat exchanger of parallel flow arrangement. The highest effectiveness is observed for pipe in pipe counter flow heat exchanger case, which is  $0.39$  at a mass flow rate of  $0.145\text{kg/s}$ .

# JOURNALS PUBLISHED BY THE FACULTY

**Dr. K.Murahari,**

Assoc.Professor

[Kmhari.nitw@gmail.com](mailto:Kmhari.nitw@gmail.com)



**Title of the Paper:** An Experimental Investigation on Machining Parameters of Titanium Alloy Using WEDM

**Name of the Journal:** Materials Today: Proceedings

**Publication on:** Jan, 2019

**ISSN No:**

**Doi:** [10.1016/j.matpr.2019.10.008](https://doi.org/10.1016/j.matpr.2019.10.008)

**Abstract:** An experimental investigation on the machining characteristics of (Ti-6Al-4V) lead induced Titanium alloy in WEDM is studied in this paper. WEDM is one of the most popular non-traditional machining processes which is capable of machining difficult-to-machine materials of complex shapes. Taguchi approach was reported in this paper for studying the behaviour of a lead induced Ti-6Al-4V alloy. In order to elicit the optimum conditions of parameter settings for material removal rate (MRR) and surface roughness (SR), the Taguchi method was utilized. Zinc-coated brass wire was used as electrode material. Analysis of variance (ANOVA) was employed to analyze the contribution, effects and significance of machining process parameters. The experimental results reveal that peak current significantly affects both the material removal rate besides the surface roughness.



# JOURNALS PUBLISHED BY THE FACULTY

**Dr. V.Dhanaraju,**

Assoc.Professor

[dhanaraju1984@gmail.com](mailto:dhanaraju1984@gmail.com)



**Title of the Paper:** “Experimental assessment of various fuel additives on the performance and emission characteristics of the spark ignition engine”

**Name of the Journal:** ‘International Journal of Ambient Energy’-Taylor & Francis

**Publication on:** November 2019

**ISSN No:**

**Doi:** <https://doi.org/10.1080/01430750.2019.1694987>.

**Abstract:** The aim of this experimental investigation is to analyse the performance and emission characteristics of spark ignition engine running on petrol doped with various additives. Additives used in this research work are toluene, benzene and ethanol at 20% concentrations on volume basis. The engine test set-up consists of a single-cylinder, four-stroke and stationary petrol engine. The engine performance with petrol doped with ethanol was found to be better than pure petrol, while the performance with toluene as additive was found to be slightly poorer than that of petrol at low loads. However, at higher loads, engine performance with toluene-doped petrol was better than that with pure petrol. For all values of loads, the engine performance with benzene was found to be poor. The short-term experimental results showed that petrol, containing 20% toluene and 20% benzene as additives, can be successfully substituted without any alteration in engine design.

## JOURNALS PUBLISHED BY THE FACULTY

**Dr. K.Appa Rao,**  
Professor & Principal  
[apparaokandimalla@gmail.com](mailto:apparaokandimalla@gmail.com)



**Title of the Paper:** Experimental investigation on the performance and emission characteristics of a diesel engine powered with waste mango seed biodiesel blends”

**Name of the Journal:** ‘International Journal of Ambient Energy (Taylor & Francis)

**Co-Authors:** V. Dhana Raju, S. Rami Reddy, D. Mallikarjuna Rao & J. Subba Reddy,

**Publication on:** December 2019

**ISSN No:** 0143-0750.

**Doi:** <https://doi.org/10.1080/01430750.2019.1705911>

**Abstract:** The search for a substitute fuel has prompted numerous discoveries, so a wide variety of alternative fuels are available for engine applications. The present proposed work explores the viability of mango seed biodiesel as a feasible alternate fuel for diesel engine applications. Experimental tests are conducted by using different blends of mango seed methyl ester with diesel in a single-cylinder Kirloskar diesel engine. The experimental results show that the blend MSME20 lower exhaust emissions and improved performance characteristics at all load conditions. MSME20 blend shows a higher brake thermal efficiency of 33.39% than all other fuel blends at peak loads. Furthermore, the NOX and CO emissions for mango seed blends are reduced significantly. Therefore, the present work recommends the use of waste mango seed biodiesel at smaller concentrations for generating the promising results of the diesel engine.

## ISRO WORLD SPACE WEEK

The Dept. of Mechanical Engineering participated in **ISRO World Space Week** from 09.10.2019 to 10.10.2019.



Space walk started by President G.Srinivasa Reddy and Principal Dr.K.Appa Rao



Inaguration by Chief Guest and MLA V.Krishna Prasad



Students participated various events organized in World Space Week

## INAUGURATION OF DASSAUT SYSTEMES LAB

- Dassault systems 3D experience Lab in Mechanical Department was inaugurated by Sri Challa Madhusudhan Reddy, Chairman APSSDC on 10<sup>th</sup> October 2019.



Inaguration of Dassault Systems Lab by Sri Challa Madhusudhan Reddy, Chairman APSSDC

## FACULTY DEVELOPMENT PROGRAM

- The Department of Mechanical Engineering Organized a one week Faculty Development Program on “**Simulation, Maintenance and Pollution Aspects of Thermal Power Plants**” in association with Synergem from 18.11.2019 to



22.11.2019.

Inaguration by Principal Dr.K.Appa Rao and Dean Dr.R.Chandrasekharam



Participants visited Lanco Industrial Plant, Kondapalli

## MOU WITH SYNERGEM

- The Department of Mechanical Engineering, had signed on memorandum of understanding (MOU) with SYNERGEM (SYN) on 7-11-2019. Under this MOU, Centre of Excellence (CoE) is inaugurated on 20-11-2019 by V.K.Sinha, Ex Director, National Power Training Institute, Nagpur in the presence of Principal Dr.K.Appa Rao.



Inaguration by V.K.Sinha, Ex Director, National Power Training Institute, Nagpur



Lamp lighting by HoD Dr.S.Pichi Reddy

## STUDENT CERTIFICATION PROGRAM

- The Department of Mechanical Engineering organizes “Dassault Systems Global Certification Exam” From 03.12.2019 to 06.12.2019 by Mr.Milind Desai, Mr.Sheetal prasad Tripathi, Mr.Pretam Das.



Instructions by Mr.Sheetal Prasad Tripathi



Certificates distribution by Mr.Milind Desai

## NATIONAL LEVEL FEST (LAKSHYA-2019)



Inaguration of Lakshya-2019





Students Participated in Yantrora Event



Cultural events in Lakshya-2019

**SUMMARY OF COLLOQUIMS ORGANIZED**

S. No	Name of The Faculty	Topic	Date
1.	Mr.B.Chaitanya	Influence of Distractions on Driving Errors Among Young Drivers	04.10.2019
2.	Mr.Ch.Siva sankara Babu	Damage Identification of Canti lever Beam using Normalized Natural Frequencies	11.10.2019
3.	Dr.V.Dhana Raju	Prospects of Solar Energy for Future Energy Demand	18.10.2019
4.	Dr.K.Murahari	Advanced Materials in Manufacturing Industries	01.11.2019
5.	Mr.K.V.Viswanadh	Vibration Analysis of Cellular Core Structure	08.11.2019
6.	Mr.A.Naresh Kumar	Experimental Investigation of Biodiesel Engine Using Nano Additives	15.11.2019
7.	K.Narayana	Preparation of nano particles using green technology	06-12-2019
8.	V.Sankara Rao	Formulation of quadrilateral element and its applications	13-12-2019
9.	S.Rami Reddy	Recent trends in IC engines	20-12-2019

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

- **Dr.S.Pichi Reddy** participated in AICTE sponsored a Two week Faculty Development Program on "Machine Learning to Deep Learning: Trends & Challenges" organized by Department of CSE, LBRCE from 04.11.2019 to 16.11.2019.
- **Mr.S.Srinivasa Reddy** participated in AICTE sponsored a Two week Faculty Development Program on "Machine Learning to Deep Learning: Trends & Challenges" organized by Department of CSE, LBRCE from 04.11.2019 to 16.11.2019.
- The following are the list of faculty members participated in one week Faculty Development Program on “**Simulation, Maintenance and Pollution Aspects of Thermal Power Plants**” Organized by Department of Mechanical Engineering in association with Synergem in LBRCE from 18.11.2019 to 22.11.2019.

Sl. No.	Name of the Faculty	Designation
1.	Dr.S.Pichi Reddy	Professor & HoD
2.	Dr.P.V.Chandra sekhara Rao	Professor & CoE
3.	Dr.P.Vijay Kumar	Professor
4.	Dr.P.Ravindra Kumar	Professor
5.	Dr.Y.Appala Naidu	Professor
6.	Dr.K.Dilip Kumar	Professor
7.	Mr.S.Srinivasa Reddy	Assoc. Professor
8.	Mr.B.Chaitanya	Assoc. Professor

9.	Mr.J.Subba Reddy	Assoc. Professor
10.	Dr.V.Dhana raju	Assoc. Professor
11.	Dr.K.Murahari	Assoc. Professor
12.	Dr.N.Sunil Naik	Assoc. Professor
13.	Mr.B.Sudheer Kumar	Sr.Asst.Professor
14.	Mr.Ch.Sivasankara Babu	Sr.Asst.Professor
15.	Mr.K.V.Viswanadh	Sr.Asst.Professor
16.	Mr.A.Naresh Kumar	Sr.Asst.Professor
17.	Mr.K.Narayana	Sr.Asst.Professor
18.	Mr.S.Srinivasa Reddy	Sr.Asst.Professor
19.	Mr.S.Rami Reddy	Asst. Professor
20.	Mr.A.Nageswararao	Asst. Professor
21.	Mr.K.Lakshmi Prasad	Asst. Professor
22.	Mr.V.Sankararao	Asst. Professor
23.	Mr.R.Praveen Kumar	Asst. Professor
24.	Mr.D.Mallikharjuna Rao	Asst. Professor
25.	Mrs.B.Udaya Lakshmi	Asst. Professor
26.	Mrs.B.Kamala Priya	Asst. Professor
27.	Mr.A.Dhanunjai Kumar	Asst. Professor
28.	Ms.S.Snigdha	Asst. Professor

- Dr.Murahari Kolli attended for AICTE training and learning (ATAL) Academy FDP on “3D printing and Design” in NITW, Warangal, Telangana from 16.12.2019 to 20.12.2019.
- The following are the list of faculty got AICTE-NPTEL FDP certifications in Nov-Dec 2019.

SNo	Name of the Faculty	Name of the FDP	Institute/ Organization	Duration
1.	Dr.S.Pichi Reddy	Fundamentals of Manufacturing Processes	IIT Roorkee	Jul-Oct 2019
2.	Dr.P.Ravindra Kumar	Advanced Concepts in Fluid Mechanics	IIT Kharagpur	Jul-Oct 2019
3.		Accreditation & Outcome Based Learning	IIT Kharagpur	Aug-Oct 2019
4.		Dr.V.Dhana Raju	Accreditation & Outcome Based Learning	IIT Kharagpur
5.		Developing Soft Skills & Personality	IIT Kanpur	Aug-Oct 2019
6.		The Joy of Computing Using Python	IIT Madras	Jul-Oct 2019
7.	Mr.J.Subba Reddy	Soft Skills	IIT Roorkee	Jul-Oct 2019

8.		Technical English For Engineers	IIT Madras	Jul-Sep 2019
9.		Robotics	IIT Kharagpur	Jul-Sep 2019
10.	Mr.A.Naresh Kumar	Accreditation & Outcome Based Learning	IIT Kharagpur	Aug-Oct 2019
11.	Mr.Ch.Siva sankara Babu	Noise Management & Control	IIT Kanpur	Jul-Oct 2019
12.	Mr.K.V.Viswanadh	Noise Management & Control	IIT Kanpur	Jul-Oct 2019
13.	Mr.K.Lakshmi Prasad	Accreditation & Outcome Based Learning	IIT Kharagpur	Aug-Oct 2019
14.	Mr.V.Sankararao	Introduction to Research	IIT Madras	Aug-Oct 2019
15.	Mr.R.Praveen Kumar	Mathematical Modeling of Manufacturing Processes	IIT Guwahati	Jul-Oct 2019
16.	Mrs.B.Kamala Priya	Manufacturing of Composites	IIT Kanpur	Aug-Oct 2019
17.	Ms.S.Snigdha	Introduction to Research	IIT Madras	Aug-Oct 2019
18.	Dr.K.Dilip Kumar	Stress Management	IIT Kharagpur	Jul-Sep 2019
19.	Mr.B.Sudheer Kumar	Stress Management	IIT Kharagpur	Jul-Sep 2019
20.	Mr.D.Mallikharjuna Rao	Refrigeration and Air-conditioning	IIT Kharagpur	Jul-Oct 2019

## FACULTY ACHIEVEMENTS

NPTEL Certifications by faculty in October & November 2019 Examinations

S.No	Name of the Department	Elite+ Gold	Elite+ silver	Elite	Successfully Completed	Total
1.	Mechanical Engineering	01	07	09	03	20

List of NPTEL Certified faculty in October & November 2019 Examinations

Sl.No	Name of the Faculty	Name of the Course	Duration of course	Grade
1.	Dr.K.Dilip Kumar	Stress Management	Jul-Sep 2019	Elite
2.	Mr.B.Sudheer Kumar	Stress Management	Jul-Sep 2019	Elite
3.	Mr.D.Mallikharjuna Rao	Refrigeration and Air-conditioning	Jul-Sep 2019	Elite
4.	Dr.S.Pichi Reddy	Fundamentals of Manufacturing Processes	Jul-Oct 2019	Elite

5.	Dr.P.Ravindra Kumar	Advanced Concepts in Fluid Mechanics	Jul-Oct 2019	Successfully Completed
		Accreditation & Outcome Based Learning	Aug-Oct 2019	Elite + Silver
6.	Dr.V.Dhana Raju	Accreditation & Outcome Based Learning	Aug-Oct 2019	Elite + Silver
7.	Mr.J.Subba Reddy	Developing Soft Skills & Personality	Aug-Oct 2019	Elite + Silver
		The Joy of Computing Using Python	Jul-Oct 2019	Elite + Silver
		Soft Skills	Jul-Oct 2019	Elite
		Technical English For Engineers	Jul-Sep 2019	Elite
		Robotics	Jul-Sep 2019	Elite + Silver
8.	Mr.A.Naresh Kumar	Accreditation & Outcome Based Learning	Aug-Oct 2019	Elite + Gold
9.	Mr.Ch.SivasankaraBabu	Noise Management & Control	Jul-Oct 2019	Elite
10.	Mr.K.V.Viswanadh	Noise Management & Control	Jul-Oct 2019	Elite
11.	Mr.K.Lakshmi Prasad	Accreditation & Outcome Based Learning	Aug-Oct 2019	Elite + Silver
12.	Mr.V.Sankararao	Introduction to Research	Aug-Oct 2019	Successfully Completed
13.	Mr.R.Praveen Kumar	Mathematical Modeling of Manufacturing Processes	Jul-Oct 2019	Elite
14.	Mrs.B.KamalaPriya	Manufacturing of Composites	Aug-Oct 2019	Successfully Completed
15.	Ms.S.Snigdha	Introduction to Research	Aug-Oct 2019	Elite + Silver (Top 1%)

Sl.No	Name of Faculty	Name of the Course	Duration of course	Institute
1.	J.Subba Reddy	Understanding Open Educational Resources	-	commonwealth of learning, Canada.
2.		Academic Writing	July-Oct 2019	H.N.B. Garhwal University
3.		Fundamentals of 3D Visualization	05.09.2019 to 23.12.2019	IIT Bombay
4.		Basic 3D Modeling using Blender		
5.		Basic 3D animation using Blender		

Name of the Faculty	Name of the Award/ Recognition	Awarding Institute	Date of recognition/ Award
J. Subba Reddy	NPTEL motivated learner	IIT Madras	Dec 2019
	NPTEL Believer		July-Dec 2019
	NPTEL Mentor		July-Dec 2019

## INCENTIVES RECEIVED BY FACULTY

The following faculty members are received incentives in Annual R&D meeting for the A.Y 2018-19 held on 26.11.2019.

S.No	Name of the Faculty	Publications				Incentive in Rs.
		SCI	SCOPUS		Books	
			Jour.	Proc.		
1.	Dr.S.Pichi Reddy	1				6000
2.	Dr.P.VijayaKuamr		1			3000
3.	Dr.P.Ravindra Kumar		1			3000
4.	Dr.K.Dilip Kumar		1	1		5000
5.	Dr.K.Murahari	3	1			21000
6.	Dr.V.Dhana Raju	5		1	1	34000
7.	B.Sudheer Kumar		2	1		8000
8.	A.Naresh Kumar	1				6000
9.	Ch.Siva Sankara Babu		2			6000
10.	K.Lakshmi Prasad		1			3000

## STUDENT ACHIEVEMENTS

List of NPTEL certified students in October & November 2019 Examinations

S.No	Name of the Dept.	Elite+ Gold	Elite+ Silver	Elite	Successfully Completed	Total
1.	Mechanical Engineering	-	12	26	04	42

S. No	Name of the Student	Roll No.	Name of course	Mark s	Grade
1.	K SATYA SAI HEMANTH	18765A0322	Soft skills	65	Elite
2.	J MUKUL SAI	17761A03D4	The Joy of Computing using Python	69	Elite

3.	GARIMELLA HARSHITH	17761A0372	The Joy of Computing using Python	63	<b>Elite</b>
4.	CH THARUN KUMAR	17761A0363	The Joy of Computing using Python	73	<b>Elite</b>
5.	Y SUBBA RAMAIAH	17761A03G5	The Joy of Computing using Python	66	<b>Elite</b>
6.	G NAGARJUNA REDDY	17761A03C8	The Joy of Computing using Python	70	<b>Elite</b>
7.	CHALLA BAJI	17761A03B8	The Joy of Computing using Python	69	<b>Elite</b>
8.	ETTE NAGA SAI NIKHIL	17761A03C6	The Joy of Computing using Python	64	<b>Elite</b>
9.	V RAKESSH SAI	18765A0330	The Joy of Computing using Python	73	<b>Elite</b>
10.	SODAGUDI ENOSH	17761A03F7	The Joy of Computing using Python	72	<b>Elite</b>
11.	G NANDA BHARGAV	17761A0374	The Joy of Computing using Python	70	<b>Elite</b>
12.	PULLEPU SRIKANTH	18765A0325	The Joy of Computing using Python	73	<b>Elite</b>
13.	BANDARU GOPI	18765A0316	The Joy of Computing using Python	62	<b>Elite</b>
14.	D SAI TARUN CHOWDARY	18761A03C2	The Joy of Computing using Python	60	<b>Elite</b>
15.	YEGI MAHESH VARMA	17761A03B1	The Joy of Computing using Python	69	<b>Elite</b>
16.	L K SIVA NAGA KUMAR	17761A0327	The Joy of Computing using Python	70	<b>Elite</b>
17.	METLA KOTA AKHIL	17761A0332	The Joy of Computing using Python	74	<b>Elite</b>
18.	RAMINENI SARVANI	17761A0339	The Joy of Computing using Python	70	<b>Elite</b>
19.	L RANGABABU	17761A0388	The Joy of Computing using Python	73	<b>Elite</b>
20.	KORADA SANTHOSH	17761A0324	The Joy of Computing using Python	73	<b>Elite</b>
21.	B S RAMA KRISHNA	17761A0308	The Joy of Computing using Python	71	<b>Elite</b>

22.	CH SIVA SRINIVASA RAO	17761A0313	The Joy of Computing using Python	6 7	<b>Elite</b>
23.	GADDAM SASI VARDHAN	17761A0371	The Joy of Computing using Python	7 1	<b>Elite</b>
24.	REMALAVENKATAK RI SHNA	18765A0326	The Joy of Computing using Python	7 2	<b>Elite</b>
25.	KOLAKALURI SUMANTH	17761A0383	The Joy of Computing using Python	7 0	<b>Elite</b>
26.	B SIVA KRISHNA	17761A0356	The Joy of Computing using Python	7 2	<b>Elite</b>
27.	SHAIK FARAZ HUSSAIN	18761A03F7	The Joy of Computing using Python	8 3	<b>Elite+Silver</b>
28.	D SANTHI VARDHAN	18765A0318	The Joy of Computing using Python	7 9	<b>Elite+Silver</b>
29.	MORUMURI KAG RAMAKANTH	17761A0390	The Joy of Computing using Python	8 2	<b>Elite+Silver</b>
30.	SHAIK ABDUL RAZAAQ	17761A03A2	The Joy of Computing using Python	8 2	<b>Elite+Silver</b>
31.	NARAYANA BINDU MADHAV ASHOK SAI PAVAN	17761A0336	The Joy of Computing using Python	8 9	<b>Elite+Silver</b>
32.	MAMIDISETTI VINAY	17761A0330	The Joy of Computing using Python	8 1	<b>Elite+Silver</b>
33.	SIVA CHENNA KESAVA TALLADA	17761A0348	The Joy of Computing using Python	7 8	<b>Elite+Silver</b>
34.	DHARMASAN AM RAGHU VAMSI KRISHNA	17761A0369	The Joy of Computing using Python	7 8	<b>Elite+Silver</b>
35.	BATHULA VEERARAGHAVULU	17761A0357	The Joy of Computing using Python	7 7	<b>Elite+Silver</b>
36.	CHEGUDI VAMSI VARDHAN	17761A0362	The Joy of Computing using Python	7 5	<b>Elite+Silver</b>
37.	SONGALA KODANDA PANI	17761A03A4	The Joy of Computing using Python	7 7	<b>Elite+Silver</b>
38.	J PAVAN KUMAR	17761A0379	The Joy of Computing using Python	7 9	<b>Elite+Silver</b>
39.	SRIKANTH KORADA	16761A03E3	Robotics	5 3	<b>Successfully completed</b>
40.	MURARI MADHAN MOHAN GOWD	18761AO3E1	Organic Farming for Sustainable Agricultural Production	4 8	<b>Successfully completed</b>



41.	M PAVANKALYAN	17761A0389	The Joy of Computing using Python	59	Successfully completed
42.	PUVVADA D N V V RAGHAVA GUPTA	17761A03F2	The Joy of Computing using Python	59	Successfully completed

### STUDENT CHAPTER ACTIVITIES

- The following list of students are going to participate under SAE Chapter in the Rally Car Design Challenge (RCDC 2019) event to be held in RCDC Village, Jaipur Noakha Bypass, Near Rishi Toyota, Bikaner, Rajasthan from 2<sup>nd</sup> to 4<sup>th</sup> October 2019.

S.No	Name of the student	Roll No.	Year
1	SUCHITH SAMUEL KUNDURTHI	16761A03E5	4 <sup>th</sup>
2	B.SAI RAM NAYAK	16761A03C2	4 <sup>th</sup>
3	A.SUDHEER	16761A03B6	4 <sup>th</sup>
4	S. SANDEEP	16761A03A3	4 <sup>th</sup>
5	CHITTIMOJU SAI SATYA PRAKASH	17761A0366	3 <sup>rd</sup>
6	SHAIK AKBAR	17761A03F6	3 <sup>rd</sup>
7	KARIMULA SK	16761A03G3	4 <sup>th</sup>
8	BHUKYA RAMDAS	17765A0329	4 <sup>th</sup>
9	RASURI ROHITH	16761A03F9	4 <sup>th</sup>
10	AMBATI PUJA SRI HARI KRISHNA	16761A03B9	4 <sup>th</sup>
11	SRIGIRI SRI HARSHA	17761A03F9	3 <sup>rd</sup>
12	P THARAKA AJAY KUMAR	17761A03F1	3 <sup>rd</sup>
13	V TIRUMALA PRITHVI	16761A03H1	4 <sup>th</sup>
14	SAI KUMAR B	17765A0327	4 <sup>th</sup>
15	ASHOK REDDY KOPPULA	16761A0384	4 <sup>th</sup>
16	DARELLI.MICHEL	17761A03C4	3 <sup>rd</sup>
17	K.V.S.PAVAN KUMAR	16761A0329	4 <sup>th</sup>
18	K KARTIK	16761A03D5	4 <sup>th</sup>
19	LANKA NAVEEN KUMAR	17765A0333	4 <sup>th</sup>
20	L LAKSHMI NARASIMHA	17765A0334	4 <sup>th</sup>
21	S. JAMALIAH	17761A03F8	3 <sup>rd</sup>
22	KOTESWARARAO PRATHIPATI	16761A03A1	4 <sup>th</sup>
23	MATTHEW RAJEEVAN	16761A0320	4 <sup>th</sup>
24	B. NAVEEN	16761A0306	4 <sup>th</sup>
25	TARUN SANKURI	17761A03F5	3 <sup>rd</sup>
26	MOHAMMAD HAMEED	17765A0339	4 <sup>th</sup>
27	SAI CHAND BANAVATHU	17761A0342	3 <sup>rd</sup>
28	NISHADMOHAMMAD	16761A0394	4 <sup>th</sup>
29	O. SAI MAHESH	16761A0395	4 <sup>th</sup>

30	KHADARBASHA	18765A0313	3 <sup>rd</sup>
31	DWARAPUDI KALYAN	18765A0306	3 <sup>rd</sup>
32	V. RAVINDER REDDY	17761A03A8	3 <sup>rd</sup>



Fabrication of All Terrain Vehicle (ATR) by students



Final model of All Terrain Vehicle (ATR) with Management, Principal, HoD and students



Participation of All Terrain Vehicle (ATR) in RCDC 2019 at Bikaner, Rajasthan

## INCUBATION CENTRE

- The following students are selected for **Ideation Fest 3.0** conducted by CIIE, LBRCE.

Sl. No.	Name of the Student	Roll No.	Title	Year
1.	Ch.Kiran Kumar	17761A0311		
2.	K.Vijay Kumar	18765A0309		
3.	R.Sarvani	17761A0339	Simple Cotton Seeding Machine	III
4.	Ch.Srujana	17761A0314		
5.	B.V.Naresh Kumar	17761A03B4	Sand Sieve and Power Generation	
6.	Ch.Baji	17761A03B8		
7.	A.Siva Reddy	17761A03B2		

## STUDENT PRIZES

- The following are the list of students got prizes in **ISRO World Space Week** conducted on 09.10.2019 & 10.10.2019 in our college.

S.No.	Name of the student	Roll No.	Event	Year	Position
1.	M. Rakesh	18761A0387	Online Quiz	II	I
2.	P. Srikanth	18761A0325	Online Quiz	II	I
3.	P.Gunakar	17761A03F3	Online Quiz	III	II
4.	K.S.S Hemanth	18765A0322	Poster Presentation	III	I
5.	V. Rakesh Sai	18765A0330	Poster Presentation	III	I
6.	B.Sai Chand	17761A0342	Poster Presentation	III	I

- The following are the list of students got prizes in National level technical & cultural fest, LAKSHYA-2019, organized by LBRCE on 21.12.2019.

Sl. No.	Name of the activity	Name of the Student	Prize
1.	PRAGNA-POSTER PRESENTATION	M.CHARAN KUMAR	SECOND PRIZE
2.		T.CHENNA REDDY	
3.	NIPUNA-PROJECT EXPO	MD.SAIF ALI KHAN	SECOND PRIZE
4.		G.PAVAN KUMAR	
5.		P.KUMAR	FIRST PRIZE
6.	K.SAI PRAKASH		

7.	ENGINE-X (ENGINE ASSEMBLY & DISASSEMBLY)	CH.KIRAN KUMAR	FIRST PRIZE
8.		K.VIJAY KUMAR	
9.	CAD MODELING (AUTO CAD or CATIA)	D.PRUTHVI RAJ	FIRST PRIZE (CATIA)
10.		SK.BAJI BABA	SECOND PRIZE (AUTO CAD)

## SPORTS

- The following are the list of students participated in JNTUK Football Men Inter Collegiate tournament 2019-20 scheduled from 28.11.2019 to 30.11.2019 in LBRCE and secured First prize.

Sl.No.	Name of the student	Roll No.	Year
1.	N.Vidya Sagar	19761A0374	I
2.	B.NagaKiran Kumar	18761A0307	II
3.	G.Sasi Vardhan	17761A0371	III
4.	K.Datta Donthu Sai	17761A0382	III
5.	P.Ashok Kumar	18765A0324	III
6.	G.Rakesh Roshan	18765A0321	III
7.	V.Rakesh Sai	18765A0330	III
8.	B.Balu Manohar Kumar	16761A03C3	IV

- The following are the list of students participated in JNTUK Kakinada inter collegiate power lifting, weightlifting and best physique tournament 2019-20 scheduled from 02.12.2019 to 03.12.2019 in Priyadarshini Institute of Technology and Science, Chintalapudi, Tenali and various prizes.

Sl.No.	Name of the student	Roll No.	Year	Prize
1.	Malluri Thirumala Sai	18761A0380	II	First
2.	Nadikota Teja	18761A0390	II	Second
3.	TammaTarun Kumar	18761A03A5	II	Third
4.	Kancharla Jayakrsihna	19761A03B7	I	Second
5.	Pinninti Adinarayana	19761A0332	I	Third

## PLACEMENTS

S.No.	Name of the Students	Roll Number	Name of the Organization	Package
1.	P.Annapurna	16761A0302	Decathlon Sports India	3.24
2.	P.Jyothika	16761A0342	Decathlon SportsIndia	3.24



## Student Articles

Asif Baig

18761A03B2

II<sup>nd</sup> YEAR

### SOILD MECHANICS PROBLEMS SOLVING BY USING MAT LAB CODING

**MATLAB** is a high-performance language for technical computing. It integrates computation, visualization, and programming environment. Furthermore, MATLAB is a modern programming language environment: it has sophisticated data structures, contains built-in editing and debugging tools, and supports object-oriented programming. These factors make MATLAB an excellent tool for teaching and research. MATLAB has many advantages compared to conventional computer languages (e.g., C, FORTRAN) for solving mechanical engineering problems. MATLAB is an interactive system whose basic data element is an array that does not require dimensioning.

Now my project is based on solving mechanical problems of different models by using mat lab software. I used to write Matlab codes to solve the solid mechanics problem.

SHAIK FARAZ HUSSAIN

18761A03F7

II<sup>nd</sup> YEAR

## SCOTCH YOKE MECHANISM

Scotch yoke mechanism is a type of a reciprocating motion. It makes use of a slotted slider based system to convert circular motion into linear motion and vice-versa. This mechanism is used to drive the piston. The widest usage of this mechanism is in pumping systems for oil, gas and other liquids. So here we study this mechanism by fabrication of a small piston driven by this mechanism. We use a motor to drive the circular disc. The disc has a small yoke in order to connect with the reciprocating arm. The arm has a slotted area just wide enough to adjust the yoke. The other end of the arm is fitted in a piston cylinder. The whole setup is fabricated to get the desired motion at least friction. This can also be used as a small part of other larger projects where linear motion is needed.

Components Used:- Motor, Disc, Yoke, Slotted Part, Cylinder, Supporting Frame, Joints & Screws, Arm.

Keywords:- Scotch Yoke Mechanism, Freewheel Sprockets.

M.Jagan Shankar Rao

18761A03E0

II<sup>nd</sup> YEAR

## SPEED CONTROL DEVICE

The Objective of this project is to develop a system to keep the vehicle secure and protect it by the occupation of the intruders. The main aim of the project to develop a system automatic speed control of vehicle and accident avoidance using eye blink sensor and ultrasonic sensor .whenever any obstacle is detected in running vehicle depends on distance automatically control the speed of vehicle. The driver in sleeping /drowse position the eye blink sensor detects the eye blink is not more than 30 sec eye closed vehicle stop the automatically, it is not manually. Give alarm to driver alert.

The ultrasonic sensor system continuously sends signals and monitors any car or other obstacles are in front of car. The distance up to which ultrasonic sensor can work may be up to 4 meter. When any obstacle or vehicle detected by ultrasonic sensor system it will send signal to the embedded board. After receiving this signal embedded board sends a signal to the motor to reduce the car speed automatically which can control car speed immediately. Vehicle is controlled automatically without any manual operation when the vehicle is at 4 meter distance away from the front vehicle. Also give alarm to alert to the driver. Many accidents at High-ways are taking place due to the close running of vehicles, all of sudden, if the in front vehicle driver reduces the speed or applied breaks, then it is quite difficult to the following vehicle driver to control his vehicle, resulting accident.

To avoid this kind of accident, the warning system, which contains alarm and display system can arrange at rear side of each and every vehicle. If any short circuit occurs in engine part smoke sensor detecting and give alert to driver and stop the vehicle

**Key words:** ultrasonic sensor, eye blink sensor

P.G. AMITESH

18761A03C3

II<sup>nd</sup> YEAR

## OBSTACLE AVOIDING ROBOT

Now day's many industries are using robots due to their high level of performance and reliability and which is a great help for human beings. The obstacle avoidance robotics is used for detecting obstacles and avoiding the collision. This is an autonomous robot. The design of the obstacle avoidance robot requires the integration of many sensors according to their task.

Obstacle detection is the primary requirement of this autonomous robot. The robot gets the information from the surrounding area through mounted sensors on the robot. Some sensing devices used for obstacle detection like bump sensors, infrared sensors, ultrasonic sensors, etc. The ultrasonic sensor is most suitable for obstacle detection and it is of low cost and has a high ranging capability.

An obstacle- avoiding robot is an autonomous robot, which is able to avoid any obstacle it face when it moves. Simply, when it met an obstacle while it moving forward, automatically stop moving forward and makes a step back then it takes a little turn and moves forward with the same loop. This obstacle-avoiding robot we are demonstrating here is very helpful and this is a simple demonstration of obstacle avoiding process for sophisticated technologies and machines. It is the base of many large projects such as Automatic cars, robots used in Manufacturing factories, even in robots used in spacecraft's or interplanetary robotic missions like Mars rover

K.PRUDHVI  
YEAR

19765A0326

II<sup>nd</sup>

## CRANK AND SLOTTED LEVER MECHANISM

A quick return mechanism is a mechanism that converts rotary motion into reciprocating motion at different rate for its two strokes i.e. working & idle stroke. Since the time taken for return stroke is less than its working stroke, it is called as quick return mechanism.

It is widely use in machine tool such as shaping machines, power-driven saws etc. In this mechanism class 3 lever is used which is basically a distance multiplier. The main purpose of this paper is to use class- 1 lever in the mechanism instead of class- 3 levers and to discuss few other possible arrangements in the design so obtained.



T.CHENNA REDDY  
YEAR

18761A03G0

II<sup>nd</sup>

## GENERATION OF ELECTRICITY BY FAST MOVING VEHICLES

With the consciousness on green energy as well as the positive industrial growth outlook, the energy gap between the demand and supply has to be filled by renewable energy source alone. This paved for a renewed interest in wind energy systems. Though there is a good research already been done in low altitude wind power extraction, the focus on high altitude wind energy systems is undetermined.

There is a tremendous scope as well as challenges associated with these systems. This paper investigates the paradigms, generator selection, generation control and transmission modes of high altitude wind energy systems.

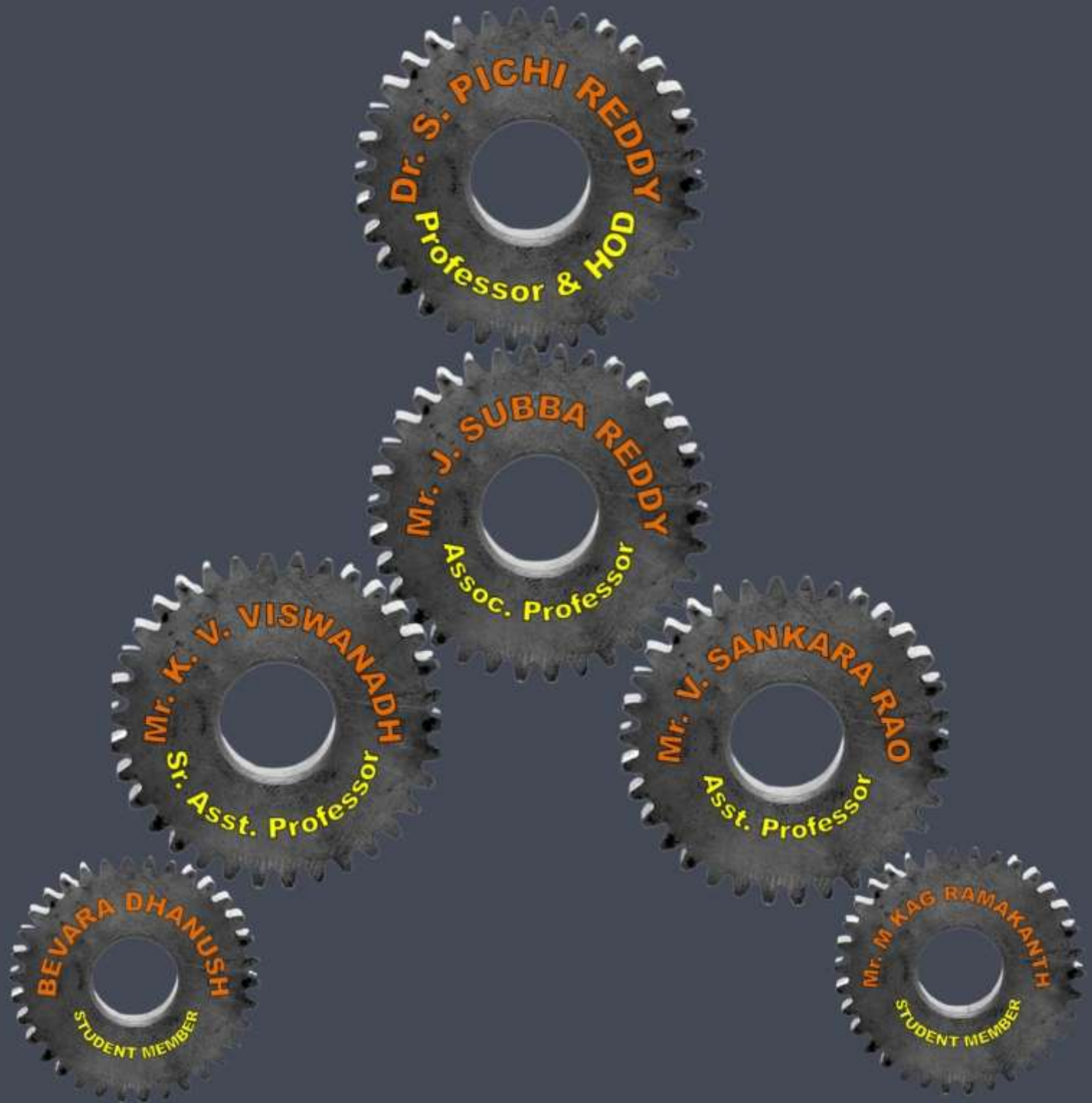
Also various aspects of feasibility, installation and control methods are critically reviewed. A method for generating electricity using high wind pressure generated by fast moving vehicles channeling the induced wind in the direction of the wind turbine, converting the energy of the wind into mechanical energy by using wind turbine; and converting the mechanical energy into electrical energy by using a generating device and can be used for applications.

**Keywords :** Renewable Energy, Wind, Wind turbines.

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# Editorial Board



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