

# DEPARTMENT OF AUTOMOBILE ENGINEERING





**VNR Vignana Jyothi Institute of Engineering & Technology**  
**Nizampet (S.O.), Pragathi Nagar, Bachupally, Hyderabad**  
**Tel : 040-23042758/59/60 Fax : 040-23042761**

## **About the Department**

The department of automobile engineering commenced with an undergraduate programme in the year 2010. Keeping itself up-to-date with the latest developments in the field with a dedicated team of highly qualified and experienced faculty in various streams of automobile engineering, the department consistently strives to provide world-class facilities for education and research. The department has laboratories with modern and state-of-the-art equipment, well-furnished seminar hall and a library with a collection of various journals, magazines and books. The department also maintains a close liaison with a number of Industries through faculty research and collaborative projects. Industry training and identifying industry relevant problems for research is a special characteristic of the programme offered by the department. Faculty members are continually publishing the results of their research work as technical papers in international and national journals and conferences. The department trains the students to meet the technological challenges and diverse needs of the industry and society in various areas of automobile engineering and equips them to excel in a truly competitive industry.

## **Vision**

To become and be one of the elite technical institutes acclaimed by the peers and industry with world class technical education, contemporary teaching facility and state-of-the-art laboratories to suit global standards.

## **Mission**

Provide engineering education with highest learning standards for designing and manufacturing of world class automobiles. Foster research, evolve innovative applications of state-of-the-art automotive technology, promote entrepreneurship and ultimately mould young men and women by inculcating ethical leadership qualities for the benefit of the society

## **About Faculty**

The faculty is one of the greatest strengths of the department, who has commitment towards teaching and research of high quality and practical values. The department of automobile engineering has 21 faculty members, out of which four are doctorates with diverse wealth of knowledge. The faculty is continuously striving to upgrade the academic standard and research expertise to match it to latest technological developments. In addition, the faculty

encourages lateral thinking of individuals for undertaking collaborative projects with industry. The faculty is highly accessible, allowing for closer student-teacher relationships.

Sl.no	Name	Designation	Specialization
1	Dr. T Srinivasa Rao	Professor & HoD	Heat Power Engineering
2	Dr. M Venkata Ramana	Professor	Advanced Manufacturing Processes
3	Dr. Shaik Amjad	Professor	Automobile Engineering
4	Dr. GVL Prasad	Assistant Professor	Thermal Engineering
5	Mr. T Praveen Kumar	Assistant Professor	Machine Design
6	Mr. R Ramu	Assistant Professor	Thermal Engineering
7	Mr. T Raju	Assistant Professor	Automobile Engineering
8	Mr. D Suresh	Assistant Professor	Automotive Engineering
9	Mr. M Venkata Rama Rao	Assistant Professor	Automobile Engineering
10	Mr. MohamadAzizAthani	Assistant Professor	Production Engineering & Systems Technology
11	Mr. Manda Krishna	Assistant Professor	CAD/CAM
12	Mr. Balappa B H	Assistant Professor	Aerospace Propulsion & Technology
13	Dr V Ratinam	Assistant Professor	Industrial Engineering
14	Ms. T.S. Krishna Kumar	Assistant Professor	CAD
15	Mr. Vinay Kulkarni	Assistant Professor	Thermal Power Engineering
16	Mr. Chandrashekar B B	Assistant Professor	Computer Integrated Manufacturing

17	Dr. BACHINA HARISH BABU	Assistant Professor	Automotive Engineering
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## **RESEARCH AND DEVELOPMENT**

VNR Vignana Jyothi Institute of Engineering and Technology is one of the three colleges in Telangana state recognized by UGC as college of potential excellence. At VNRVJIET, the department of automobile engineering has dedicated team of faculty who are actively pursuing research projects and publishing research papers in reputed impact factor journals and presenting technical papers at various national / international platforms.

### **Thrust Areas:**

#### **Key Research Areas**

- Electric/Hybrid/Solar Vehicle/Fuel cell Technologies
- Alternative Fuels
- Composite manufacturing
- Rapid Prototyping/3D Printing
- Composite Materials
- Automotive Electrical and Electronics
- Driverless Vehicles
- Tribology
- CAD/CAM/CAE
- ADAS/ARAS
- Advanced Vehicle Technology

### **Core Courses**

In addition to mechanical engineering courses, automobile engineering programme has following core courses.

- Automotive Engines and Systems
- Automotive Chassis
- Automotive Electrical and Electronics
- Automobile Engineering Design
- Vehicle Dynamics
- Electric and Hybrid Vehicles
- Vehicle Body Engineering and Safety
- Fuel Cell Technology
- Automotive Infotronics
- Alternative Fuels and Technologies
- Automotive Pollution and Control

## **Laboratory Facilities**

In addition to mechanical engineering laboratories, the department has following automobile specific laboratories with state-of-the-art equipments.

- CAD/CAM Lab
- Automotive Chassis Lab
- Theory of Machines Lab
- Automotive Engines Lab
- Automotive Electrical and Electronics Lab
- Alternative Fuels and Testing Lab
- Vehicle Maintenance and Testing Lab
- SAE Lab

## **Softwares**

For the faculty and aspiring students to pursue their research and project work, the software packages available in the department are as follows.

- Adams
- Abacus
- Creo Parametric
- CATIA
- HyperMesh
- ANSYS
- AutoCAD
- MATLAB & Simulink
- CNC Offline Simulation
- Mastercam
- Edgecam
- &IronCAD



CAD Lab



Automobile Engineering Lab



Vehicle Dynamics Lab



Automotive Engines Lab



Autotronics Lab



Alternative Fuels and Testing Lab



SAE Lab



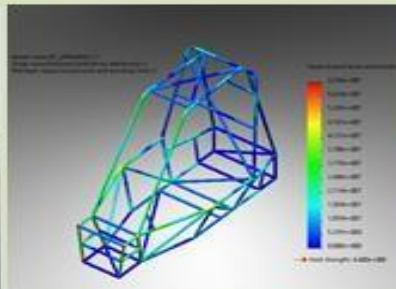
Vehicle Maintenance & Testing Lab



Department Library



Modeling



Analysis

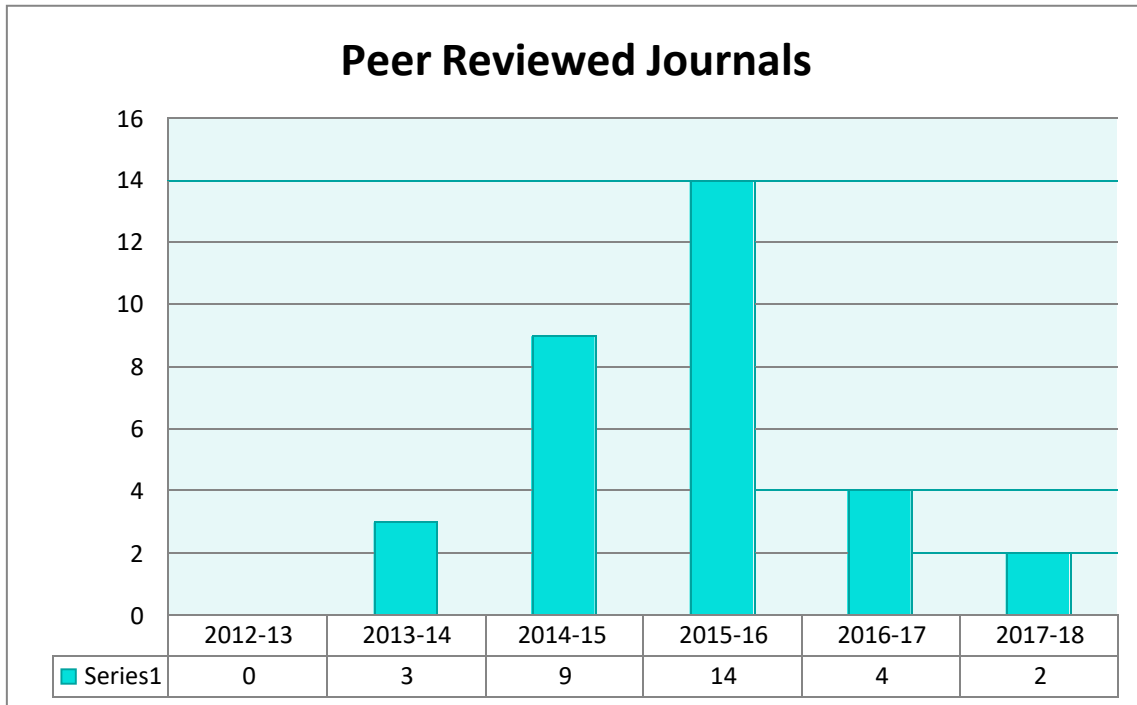


Prototype

## **RESEARCH FUNDING:**

<b>S.No.</b>	<b>Title of the R&amp;D Project or Research Grant</b>	<b>Sanctioning Agency, and Date of Sanction</b>	<b>Names of the Principal and Co Investigators</b>	<b>Sanctioned Amount Rs. In lakhs</b>	<b>Status of the Project (completed/on-going)</b>
<b>1) R &amp; D Projects Sanctioned</b>					
1	Evaluation of machinability characteristics of Ti-4Al-6V Titanium alloy with conventional and eco-friendly cutting fluids.	ARDB, New Delhi.	Dr.Venkata ramana mandala	9.314	Completed
2	Effect of flank wear on surface roughness in turning of Nickel A286 alloy	TEQIP -III JNTUH	Dr. M. Venkata Ramana	3.00	Completed
3	Experimental investigation of the spray characteristics of nano- particles blended waterdiesel/biodiesel emulsion fuels	TEQIP -III JNTUH	Dr. GVL Prasad	3.00	Completed

## **RESEARCH PROFILE:**





## **PROGRAMS ORGANIZED:**

<b>International Conferences</b>				
S.no.	Name of the faculty	Title of the programme	Date	Sponsor
1	Dr.Amjad Shaik Dr.Venkata ramana mandala	Alternative Fuels And Power Train Systems	04-12-2014 06-12-2014	TEQIP
2	Dr.Amjad Shaik Dr.Venkata ramana mandala	Recent Trends And Research Opportunities In Manufacturing	2016	TEQIP



## **Eminent Visitors to the Department**

A brief list of distinguished personalities visited the department and shared their research experience and work expertise in automotive related fields.

- Mr. Hidehiko Numata, R&D, Honda Motors
- Mr. Rajendra H. Thanewala, R&D, Bajaj Auto
- Mr. G. Shravan, Hyundai Mobis India
- Mr. J. Shashidhar, Hyundai Motor Group
- Mr. V.S. Venkatramaman, Advisor, M & M
- Padmashri Gnana Gadhi, Scientist, ISRO
- Mr. Bhaskar, BHEL, Hyderabad
- Dr. V. Vasudevarao, University of South Africa
- Dr. G.L. Samuel, IITM, Chennai

- Dr. Pankaj Kolhe, IITH, Hyderabad
- Dr. G.V.S. Sastry, IIT(BHU), Varanasi
- Dr. B. Venkatesham, IITH, Hyderabad
- Commander VK Jaitly, President IITK Alumni Foundation



Commander VK Jaitly, President  
IIT Kharagpur Alumni Foundation



Padmashri Gnana Gadhi, ISRO



Dr. P. Ravi Kumar, NITW



Dr. B. Venkatesham, IITH



Dr. Pankaj Kolhe, IITH



Dr. V. Venkateswara Rao, DRDO

## **HONOURS & AWARDS:**

The students of Automobile Engineering Department have demonstrated their excellence through various channels whether it is studies, research publication or sports.



**GUNTI SRI CHARAN**  
receiving the SAE certificate  
for his work published in SAE Journal



**N.R. GOPAL RAO**  
Receiving gold medal from the VICE-  
CHANCELLOR, JNTU Hyderabad.



**GUNTI SRI CHARAN**  
Receiving the Best Project Award from Mr. V. Rajanna, Vice-president and Regional head, TCS Hyderabad

## **PROFESSIONAL SOCIETIES & ACTIVITIES:**

The Department of Automobile Engineering provides an opportunity to the students to enhance their overall education experience through a wide range of Extra-curricular and Co-curricular activities that include social, cultural, intellectual, recreational and professional student chapters. Technical activities are planned and executed through Automobile Engineering Association, ISTE(Indian Society for technical Education),IEI(Institution of Engineers),Society of Automotive Engineers (SAE) student chapter and various student clubs run by the Department. Professional society student Chapter is very strong and active and is managed by the Executive body of students with the guidance of the faculty-in-charge.

## Automobile Engineering Association

AEA is a student chapter of Automobile Engineering Department of VNRVJIET. Department has registered student chapters with

- Institute of Engineers (IE)
- Indian society of Technical Education (ISTE)
- Society of Automotive Engineers (SAE)

## STUDENT ACHIEVEMENTS:

### **Awards and Achievements**

- University gold medal from JNTU, Hyderabad
- Best project award from TCS, Hyderabad
- Certificate from ARAI, Pune
- Participated in JSAE competition, Japan 2012
- Participated in international Gokart competition, LPU, Jalandher, 2014
- Participated in JSAE competition, Japan 2011
- Participated in FSINDIA competition, Coimbatore, 2015
- Participated in Elite Gokart competition, Bhopal, 2017
- Participated in Formula Bharat competition, Coimbatore, 2017



Formula car team in JSAE competition  
Japan 2012



Formula car team in JSAE competition, Japan  
2011



International Gkart team LPU, Jalandher 2014



Team in Formula Bharat, Coimbatore,  
2017



Formula car team in FSINDIA competition  
Coimbatore. 2015



Team participated in SAE BAJA,  
2017/2018

## STUDENT PLACEMENTS & HIGHER EDUCATION:



- 60 % of the B.Tech Students are placed in core companies
- 10 % in the government sector like TSPSC,UPSC & RRB
- 20 % of the students are opting for higher education in India & abroad.

## INDUSTRY INSTITUTE INTERACTION:

### SHADOW ENGINEERING

Keerthi Industries, Kodad

### INDUSTRIAL VISIT

APSRTC, Regional Workshop,Uppal

### MIRROR- ENGINEERING

Mahindra & Mahindra , Zaheerabad

The students of Automobile Engineering Department had an opportunity to visit various industries and are given a chance to interact and work with the industry officials. This innovative approach enabled the students to be on familiar terms with latest technology and the industry culture.

## INTERNSHIPS:

The students of Automobile Engineering Department are provided with various internships from pioneer Automotive Industries and premier industries in the state. The internships have enriched the students with more practical awareness and enabled them to correlate between classroom learning and realistic learning.

- Mahindra & Mahindra,
- Bharat Heavy Electricals Limited (B.H.E.L)
- Hindustan Aeronautics Limited (H.A.L)
- Indian Railways – Secunderabad division
- Hyundai Ltd.
- Renault Nissan,
- Toyota,
- Skoda India,
- Maruti Suzuki,

### **INDUSTRY MOUs:**

Department has MOUs with 4 Industries to promote Knowledge Sharing and strengthen the Institute Industry Interaction.

- Jayem Automotives Pvt. Ltd., Coimbatore
- Voltronics Motors Pvt. Ltd., Hyderabad
- VVC motors Pvt. Ltd., M&M, Hyderabad
- AMZ Automotive, Jaipur

### **CENTRE FOR EXCELLENCE:**

The department has also a CENTRE OF EXCELLENCE, where, indigenous work is being carried out for the development of MICRO-CARS in-order to reduce pollution, traffic congestion and fuel consumption.



## **ALUMNI:**



- **Batch 2010 – Shatarala Sravanthkumar (10071A2443) Working as Junior Assistant Engineer in Warangal, Telagana State.**

## **BEST PRACTICES:**

### **ACADEMICS**

- WIT & WIL Document and Prototyping WIT & WIL for theory courses
- Laboratory Protocol
- STORY BOARD for laboratory courses
- Laboratory course projects
- SHOW & TELL to display the projects, research & innovations
- Adhering to the academic calendar
- Preparation of PROJECT COMPENDIUM (PROJECT ABSTRACTS),PROJECT ARCADE(BEST PROJECTS)
- Shadow Engineering
- ICT usage in teaching ,learning & Evaluation
- Innovative teaching & learning methods, POGIL activities etc.



### **RESEARCH**

- Knowledge sharing lectures
- Use of open source resources
- Small & Special Interest Groups (SIG)

## **FUTURE PLANS**

### **New programs:.**

- Inter- research groups – A special focus shall be placed on forming inter-research groups in multi-disciplinary thematic areas

### **Laboratories:**

- To develop basic infrastructure for modern experimental investigations in
- To set up Engineering laboratory



### Research & Consultancy:

- To acquire recognition as Research centre to offer interdisciplinary post graduate and doctoral programmes
- To focus on inter-disciplinary research
- To encourage the faculty to take up more sponsored projects and consultancy and increase internal resource generation
- To remain committed to responsibilities towards providing services to community, to make the people aware of crucial socio-technical and socio-economic problems and offer technical solutions.

### Student employment:

- To increase the UG placements to 100% in core and IT companies
- To increase the average salary of a Automobile Engineering Student to Rs.5,00,000/-

## B.Tech Projects on Sustainability

