



AUTONOMOUS DRONE FOR AGRICULTURE MANAGEMENT



DEVELOPMENT OF ELECTRIC BIKE FOR GREEN TRANSPORTATION



Dr. D.N. Rao receiving award for WIT & WIL at Global Education Summit-17

**Internships**

Students undergo a mandatory 45 days internship programme after 6<sup>th</sup> semester. Students goes as intern to companies like Schnieder, DRDO, BHEL, AP GENCO, TRANSCO and to premiere institutions like IIT's.



HBL Power Systems Limited

kWatt Solutions Pvt. Ltd.  
economising renewables



**Campus recruitment**

Past recruitment record of the students is impressive with 85% placement record in MNC's. Few of our past recruiters include following.



# ELECTRICAL & ELECTRONICS ENGINEERING DEPARTMENT



VNR VIGNANA JYOTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY  
[www.vnrvjiet.ac.in](http://www.vnrvjiet.ac.in)



**From Head of the Department**

On behalf of our students, staff, and faculty, it is my pleasure to invite you to collaborate with Electrical & Electronics Engineering Department at VNR Vignana Jyothi Institute Of Engineering and Technology. We have a long history and an outstanding record of contributions to the profession and to the society. Philosophy of Vignana Jyothi unravels education as a process of "Presencing" that provides, both individually and collectively, to one's deepest capacity to sense and experience the knowledge and activities to shape the future.

We strive to be at the forefront of applied research by collaborating with various research organizations and industries to bring up-to-date technologies into our curriculum. We provide courses that are accredited by NBA, NAAC, that educate our students in core fundamentals, prepare them for all fields in Electrical Engineering discipline, and engage them with emerging technologies.

To prepare our students for wide spectrum of global competition, we extend our reach to the innovations and technology developments happening worldwide. We are actively engaging in collaboration and cooperation in education and research with domestic and international organizations in both the public and private sectors, in order to feel the pulse of the global technology progress.

**Dr. Poonam Upadhyay**  
Professor & Head of the Department

**Faculty**

There are 38 Faculty members in the department which includes 14 doctorates (from IIT's, NIT's and Universities )and 14 pursuing Ph.D. The department has a rich tradition of teaching and research and is widely recognized to be a pioneer in Electrical Engineering Education. The Department is recognized as a Research Centre in Electrical and Electronics Engineering by JNTUH. The research work in the department is vibrant with the support of eminent professors like Dr. M. Rama Moorthy, former Director General, CPRI taking a keen interest in guiding the faculty.

**Courses offered**

We offer mandatory courses in Mathematics, Computing, Devices, Power, Control, Signal Processing, Instrumentation & Microprocessors to make sure perfection in core fundamentals. UGC Autonomous status enables us to offer more courses as electives to make sure flexibility in the curriculum, to encourage students choice. Advanced electives include Artificial Intelligence, Advanced power electronic converters, Renewable energy Technologies, Smart grids, Database management system, digital control systems, Advanced digital signal processing.

**Laboratory courses offered**

We believe in laboratory based teaching. Laboratory experience and projects are an integral part of the program in each semester. Core laboratories like circuits, Devices, Machines, Power, Control and Instrumentation provides a high quality visualization and strengthen Electrical Engineering fundamentals to students at both UG & PG levels. Advanced research organizations sponsored state of the art laboratories like Digital signal processing based control of Power electronic drives, Advanced computer applications to power system provide hands-on experience to make students industry ready.

- ✓ UGC Autonomous
- ✓ Accredited by NAAC with "A" grade
- ✓ Accredited by NBA
- ✓ Awarded as " College with Potential for Excellence" by UGC
- ✓ Ranked in 101-150 Band in NIRF

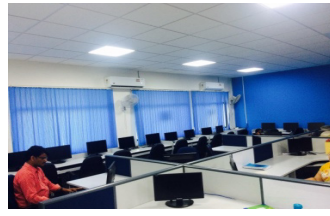
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**Programmes offered:**  
**B. Tech in Electrical & Electronics**  
**M. Tech in Power systems**  
**M. Tech in Power electronics**

**Certification and Bridge courses**

Students undergo minimum two Certification and Bridge courses apart from curriculum include training on technologies like Embedded control, Drives and Industrial Automation, Oracle SQL, Solar PV Technologies, Internet of Things etc. This also helps student to become eligible for inter disciplinary company's requirement.



**Computer Labs with high end configuration & advanced softwares**



**25 kWp PV Plant installed by Alumni**



**PV Training and research Experimentation facility**



**NI cRIO & TI DSP controllers for WAMS & Motor control Applications**



**Student team at ZF Innovations Finals conducted by ZF India**



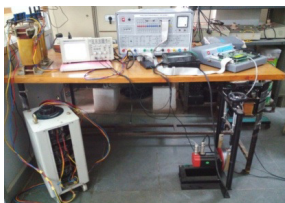
**Research Facilities in the Department**

State of Art Laboratory infrastructure at the department gives learning by doing to student.

- Four advanced computer labs provides advanced soft wares like MATLAB, PSCAD, LabView, Mi Power, Power World and CAD tools etc.
- Advanced Digital Signal Processing Laboratory enables students to work on DSP Controllers like TMS 320F28335, 6748, Blakfin 609, ARM Micro controllers.
- LabView -cRIO enables to realize real time monitoring and control of systems. Few industries can use for their Models validation
- Solar PV Emulator enables student to test Converters developed. Few industries can use for their converters testing.
- Solar PV research & Training system is a plug and play training and research system which is situated in Power converters and drives laboratory. Industries can use it for training their employees and for testing low power applications.
- Power Monitoring SCADA system Developed in Control systems laboratory is equipped with advanced relay coordination systems to test and implement WAMS

**VNR Initiatives**

In Shadow engineering, Five to ten students accompanied by a member of the faculty are hosted in an industry for 5 days to work with an Industry Mentor to experience the real application requirements. Story Board and VNR Protocol are innovative teaching practices in the VNRVIET particularly for laboratory courses, which enables quick visualization to the students.



**FPGA based Permanent Magnet synchronous machine control**



**Student and Faculty Team with Tesla Coil Experiment**

**Eminent Alumni**

Mrs. Chandini Veeramachineni Guntulli graduted from Department in 2003 now presently working in NASA on cassini Space craft Project. Distinguished alumni of the department across the globe is one of the core strengths of department.

**Student Projects with Societal Impact**

It is mandatory that outcome of the research project completed by student should have direct or indirect societal impact. Few of the projects appreciated by industry and rural society are:

- Autonomous drone for agricultural applications
- Green transportation through e bike
- Solar car
- Smart spy cam ball for military surveillance



**Research and development**

UG and PG students has to complete research project (Hardware) in their ultimate and penultimate semester. Research areas in the department Broadly classified into:

- Embedded control (DSP, ARM, FPGA controllers) of Power electronic converters for static and dynamic loads.
- Control and Instrumentation
- Power system monitoring and Control (WAMS, WACS and Reliability)
- Renewable Energy Technologies
- Artificial Intelligence based controllers

In addition to these, Department executes funding projects sponsored by various funding organizations like Department of Science and Technology (DST), UGC, AICTE. Few of the Projects sponsored by them are:

- FPGA Implementation of Field Oriented Control for Permanent Magnet Synchronous Motor
- Development and Implementation of DSP based Novel algorithm for the protection of Power Transformer
- Development of Optimization Techniques for protective devices and Distributed Generators
- Design & Development of Maximum Power Tracking DC link & Static Converter for Smart micro-grid application

**Student Achievements**

Students excelled on various National and International platforms: Few of them are

- G. Ravi teja and team got 2<sup>nd</sup> Prize in Shodhana, competition held by NIRD for Autonomous drone for agricultural applications
- Mr. Keerthan got 2<sup>nd</sup> Prize in in robotics stream of N Vision competition held by IIT Hyderabad.

**Faculty Achievements**

Faculty excelled on various National and International platforms: Few of them are

- Dr.N.Krishna Kumari, and Dr. D.Ravi Kumar of EEE Department have received Best Paper Award in "ICIEES'17" Springer Conference held in PSG College of Technology, Coimbatore
- Dr.N.Krishna Kumari, Associate Professor and Mr. D.S.G. Krishna, Assistant Professor, EEE Department have received Best Paper Award in Conference in VIT, Vellore
- Mr. P Ramesh , Assistant Professor Received Best Paper award for his contribution in Adaptive control of first order systems.
- Dr. T. Nireekshana, Dr. J. Bhavani received Young Engineer award for their contributions in Power systems De regulation and Power electronic Drives
- Research grants of Rs. 70 Lakh awarded to various faculty members of the department till now by various research organizations.



**Dr.N.Krishna Kumari receiving Best Paper Award**



**Student team at final round in Rural Innovations competition at National Institute for Rural Development**



**Dr.D. Ravikumar representing department in International conference at Singapore**