



# VALLURUPALLI NAGESWARA RAO VIGNANA JYOTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

An Autonomous Institute, NAAC Accredited with 'A' Grade  
 NBA Accredited for CE, EEE, ME, ECE, CSE, EIE, IT B.Tech Courses  
 Approved by AICTE, New Delhi, Affiliated to JNTUH  
 Recognized as "College with Potential for Excellence" by UGC  
 Vignana Jyothi Nagar, Pragathi Nagar, Nizampet (S.O), Hyderabad – 500 090, TS, India.  
 Telephone No: 040-2304 2758/59/60, Fax: 040-23042761  
 E-mail: postbox@vnrvjiet.ac.in, Website: www.vnrvjiet.ac.in

## Institution Improvements

The Institution has taken a number of Quality initiatives during the last five years of accreditation period. The report provided below has three categories:

- Initiatives to meet Recommendations given by the NAAC peer team
- Significant initiatives to reach quality benchmarks.
- Post accreditation initiatives relevant to different criteria

**A. "10 Recommendations for Quality Enhancement of the Institution" are given during the I-cycle of the visit by the NAAC Peer Team. Several initiatives are taken during the last 4 years to meet all the recommendations and the following describes them.**

S.NO	Recommendations	Initiatives
1	Faculty may be given training in pedagogy, so that teaching-learning of all courses may be improved to enhance students' learning abilities	<ul style="list-style-type: none"> <li>• Center for Education technology established and programs on pedagogy conducted regularly.</li> <li>• Nodal Resource center for Spoken Tutorials by IIT Bombay.</li> <li>• Mandatory Pedagogy Training and Micro teaching sessions for newly recruited staff.</li> <li>• Collaboration with IIIT-Hyderabad to develop content on Learning-by-Doing methodology.</li> <li>• Collaboration with professors from Chestnut Hill College, Franklin and Marshal College, Moravian College, Muhlenberg College, USA.</li> <li>• Collaboration with NMEICT to conduct ICT workshops in association with IIT, Kharagpur.</li> <li>• Remote Center for Pedagogical training by IIT Bombay.</li> <li>• POGIL Facilitators trained in USA.</li> <li>• 342 Faculties attended Pedagogical training.</li> </ul>
2	Well needed academic/examination reforms may be given top priority at the Institute to take full advantage of academic autonomy now available	<ul style="list-style-type: none"> <li>• The curriculum is revised thrice during assessment period to meet diversified industrial requirements. (R12, R13, R15 Curriculum)               <ul style="list-style-type: none"> <li>• R12 focuses on industry requirements.</li> <li>• R13 focuses on Cos, POs, PEOs to meet Outcome Based education (OBE).</li> <li>• R15 focuses OBE, Choice Based Credit System (CBCS), Open Electives System, Value Added Courses and Certification courses.</li> </ul> </li> <li>• All Stake holders feedback including students to enhance curriculum.</li> </ul>

		<ul style="list-style-type: none"> <li>• Continuous evaluation weightage is increased to 40% from 30%.</li> <li>• Outcome-based evaluation including direct and indirect assessment is done.</li> <li>• Mandatory Certificate and Value added courses.</li> <li>• Mandatory journal publication and Anti-Plagiarism on thesis for PG students.</li> <li>• Evaluation system is based on SGPA and CGPA</li> <li>• 100% IT integrated Examination procedures and processes.</li> </ul>
3	Library collections/ services may be upgraded to facilities self – learning of students & encourage knowledge acquisition & life-long learning on their own	<ul style="list-style-type: none"> <li>• The institution subscribed to online journals such as IEEE, ACM, ASME, ASCE, ASTM, MGH, Science Direct, Springer Link, N-List etc. A total of 1800 International Journals and 257 National Journals.</li> <li>• Kindle E-books loaded with 82 engineering textbooks.</li> <li>• Added books and journals in the accreditation period:</li> </ul>
4	Suitable steps may be taken to encourage faculty/students to seek and take up sponsored research projects from national/international funding agencies	<ul style="list-style-type: none"> <li>• Research and Consultancy Center (RCC) circulates, motivates and guides faculty and students regarding funding opportunities.</li> <li>• Training programs are arranged for faculty to bring in Research culture by DST and National agencies.</li> <li>• Incentives and Seed money to students and faculty to encourage research and innovation.</li> <li>• IPR cell encourages to file patents by bearing the application processing cost.</li> </ul>
5	ICT Infrastructure on the campus may be strengthened and upgraded to avoid its obsolescence & meet the 21 <sup>st</sup> -century expectations of faculty/students	<ul style="list-style-type: none"> <li>• All the classrooms, seminar halls and many of the Laboratories are equipped with the ICT facilities like Internet, Projector, Audio Visual facilities, and Computer.</li> <li>• Learning Management system-MOODLE is used to manage the courses.</li> <li>• Faculty are trained on ICT technologies in Teaching</li> </ul>
6	All the Departments may be encouraged to imbibe good research culture & improve the quality, standard, relevance of research & publications record	<ul style="list-style-type: none"> <li>• Several Workshops and seminars to orient the faculty in core areas of research and research methodologies.</li> <li>• Special Interest Groups (SIGs) to discuss and share research ideas and do collaborative work.</li> </ul>
7	Guidance/counseling facilities for students may be made proactive and training/placement activities strengthened to benefit them in a bigger way	<ul style="list-style-type: none"> <li>• Mentoring-Training-Placement Cell (MTP) is designed to train all the students from the beginning to equip with strong academic knowledge and aggressively exploit opportunities available to Indian and Global Corporates.</li> <li>• MTP aims to take positive action through its three areas of activity: <ul style="list-style-type: none"> <li>➤ Mentoring by a faculty member</li> <li>➤ Training by Professional Trainers</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>➤ Placement through Campus interviews.</li> <li>• In-house Trainers for coding, analytical, reasoning, and communication skills are recruited.</li> </ul>
8	The curricula/syllabi of courses may be oriented to ensure their educational outcomes fulfilling the Vision, Mission, Goals, Objectives of the Institution	<ul style="list-style-type: none"> <li>• R13, R15 curriculum are developed to strongly suit Outcome-Based Education (OBE), Choice Based Credit System (CBCS), Open Electives System, Value Added Courses and Certification courses.</li> <li>• Outcome-based education is strongly implemented in the institution which includes direct and indirect assessment. It is done for each individual course which leads to identifying the achievement of the Course Outcomes (COs) and in turn the Program Outcomes (POs) and Program Education Objectives (PEOs).The POs and PEOs of each program are in line with the Vision and Mission of the institution.</li> </ul>
9	All out efforts may be directed to implement the institutional development plan including residential campus fully and on time, to enhance the Institute's image & visibility	<ul style="list-style-type: none"> <li>• Institutional Development plan is implemented and residential campus for students is constructed.</li> </ul>
10	IQAC may be formally strengthened to reinforce quality measures to ensure that all the Institute activities continue to be at the state of the art	<ul style="list-style-type: none"> <li>• IQAC is established in 2013 with a motive of "Driving Quality Parameters, Training on Quality to Faculty and Staff, Conducting of Academic and Administrative Audit".</li> <li>• Academic and Administrative audits are conducted internally and externally.</li> <li>• Workshops and Training sessions are organized to improve various quality metrics.</li> <li>• Placements and results are reviewed periodically and statistics reports are generated.</li> <li>• Student and stakeholder feedbacks are collected regularly and distributed among the departments and sections for necessary actions.</li> <li>• Standard monitoring procedures like Daily, Monthly reports on the activities of the individual faculty, departments and sections are carried out.</li> <li>• Time management system reports (TMS) are collected from every faculty and reviewed for necessary actions.</li> <li>• Periodic meetings and steps are taken by IQAC in forming Special Interest Groups (SIGs) to enhance the research interest and publications in terms of quality and quantity.</li> </ul>

**B. Significant initiatives that helped to reach quality benchmarks.**

### 1. Accreditations and Recognitions:

- National Board of Accreditation has accredited 4 PG programs (w.e.f 1st July 2015) and 7 UG programs (accredited thrice) (w.e.f 1st July 2016).
  - ❖ PG- VLSI System Design(VLSISD), Embedded Systems (ES), Software Engineering (SE), Power Electronics (PE) programs for 2 Years.
  - ❖ UG-Civil Engineering (CE) program for 5 years.
  - ❖ UG-Computer Science Engineering (CSE), Electronics and Communication Engineering (ECE), Electrical and Electronics Engineering (EEE), Electronics and Instrumentation Engineering (EIE), Information Technology (IT), Mechanical Engineering (ME) program for 3 years.
- The institution has been accorded the status of “College with Potential for Excellence (CPE)” by the University Grants Commission (UGC) from 2016 to 2021 in recognition of its endeavor to maintain high educational standards.
- National Institutional Ranking Framework (NIRF), MHRD has placed the institution in the rank band of 101-150 in 2017 ranking.

### 2. New Programs introduced:

- New PG programs in emerging areas are introduced to cater the needs of industry.

Program Introduced	Department	Intake	Introduced in A.Y
PG - CAD/CAM	Mechanical Engineering	18	2013-14
PG - Computer Networks and Information Security	Information Technology	18	2013-14
PG - Power Systems	Electrical and Electronics Engineering	18	2014-15
PG - Computer Science Engineering	Computer Science Engineering	18	2014-15

### 3. TEQIP Project :

- The institution is sanctioned with a grant of 5 crores by TEQIP –II under Sub-Component 1.1 in the month of March 2012. An amount of Rs.3,90,00,000/- from NPIU & SPFU share and Rs.1,10,01,000/-from Institute share are utilized for the overall development of the institute under the project.
- The project is closed on 31.07.2017 and the statutory audit is completed for the total project. Substantial evidence of good practice (1st grade) and Some evidence of good practice (2nd grade) are awarded for all the institutional performances under different components.
- Different activities conducted under TEQIP and their observations are listed below:

- ❖ A substantial increase took place in the number of in-house FDP's, Staff Training Programs, Workshops, Pedagogical Trainings and Guest lectures. The programs are with expertized resource persons from premier Institutions & Industries.
- ❖ 20% of the faculty are deputed for Subject Domain Training and 80% of the faculty deputed for Seminars / Workshops/Conferences.
- ❖ 92 workshops in different core domain areas were conducted.
- ❖ 3756 participations in different seminars, workshops, at the national level.
- ❖ 2 National and 3 International conferences conducted.
- ❖ 6 senior faculty members have attended Management capacity Enhancement Program through TEQIP-II.
- ❖ 8 Faculty members have received support for foreign travel for presentation of research papers through TEQIP-II.
- ❖ 15 Non – Teaching staff benefited by attending Staff development Programs and Qualification improvement.
- ❖ 358 Research papers have been presented by the faculty members in International Conferences.
- ❖ 6 Patents applied by the institution.
- ❖ 342 faculty have attended pedagogical training.
- ❖ Every department has organized about 20 Guest lectures/ Invited talks/ Seminars by Experts from Industry and premier institutions like NITs and IIT's in an academic year.
- ❖ Support for weak Students and organization of Remedial Programs.

***C. Post Accreditation initiatives taken up in Institution under various activities such as Curriculum, Teaching, Learning, Evaluation, Research, Extension activity, Infrastructure, Learning resources and Student Progression are provided below:***

**1. Curriculum enrichment:**

- The Institution after attaining the autonomous status in 2012 has revised the curriculum to meet the needs of diversified industrial needs. The curriculum is revised thrice during assessment period- R12, R13, R15 curriculum.
  - ❖ R12 is the initial curriculum with a focus on industry requirements, with which the autonomous batch has started.
  - ❖ R13 curriculum is designed with Course Outcomes (COs), Course Objectives, Program Outcomes (POs) and Program education Objectives (PEOs) to meet Outcome Based education (OBE).
  - ❖ R15 curriculum is developed to strongly suit Outcome-Based Education (OBE), Choice Based Credit System (CBCS), Open Electives System, Value Added Courses and Certification courses.
- Several core and open electives have been introduced in every branch which percentiles to 10 - 15% of the whole syllabus.
- Choice Based Credit system (CBCS) is being followed from the academic year 2015-16.

- Among all the programs 48 new courses related to emerging technologies are introduced viz. Data Analytics, IOT, etc. to meet industry needs.
- Continuous evaluation weightage is increased to 40% from 30%. Continuous evaluation is done through Assignments (can be Home assignments, Open Book Test, Objective Test, Quizzes, Course Based Projects, Group Presentations), Mid-semester Examinations, Semester End Examination.
- Stakeholder feedback including students is considered to enhance curriculum standards.
- Outcome-based evaluation including direct and indirect assessment is done for each individual course which leads in identifying the achievement of the Course Outcomes (COs) and in turn the Program Outcomes (POs) and Program Education Objectives(PEOs).
- Certificate Courses are offered to the students from II year to keep them in line with the market needs. As a part of the regulation, every student should undergo at least two certificate courses for the award of their final degree. Flexibility of selecting the certificate course across all domains is provided.
- Publication of a paper in a reputed journal derived from dissertation work by the P.G candidates is made mandatory.
- An anti-plagiarism check is being implemented for P.G Thesis.
- The practices followed by the institution for Outcome-Based Education (OBE) are leading each individual ward to achieve all the Graduate Attributes (GAs).
- Evaluation system is based on SGPA (Semester Grade Points Average) and CGPA (Cumulative Grade Points Average).
- MiniProjects are included in the curriculum in III year to improve project-based learning.

## 2. Teaching, Learning, and Evaluation:

- The teaching-learning process is one of the major objective and strength of our institution. VNRVJIET focuses on learner-centric approaches in the delivery of curriculum as well as co-curricular components for the all-round development of students.
- Vibrant teaching-learning process, mostly learner-centric are used viz. WIT & WIL™, Storyboard, VNR Lab Protocol<sup>(TM)</sup>, Process Oriented Guided Inquiry Learning (POGIL), Learning by Doing, Think-Pair-Share, Course Based Projects, Field visit / Guest lecture, Certificate courses, Project Based Learning.
- The institution has initiated many novel methodologies and techniques in teaching learning as its differentiators.

### ❖ **Storyboard:**

Storyboard is a visual representation in the form of images, block diagrams or illustrations displayed for the purpose of pre-visualizing the concepts of the laboratory experiments in a single real-time application. This is presented to the students before conducting practical experiments in the laboratory to create enthusiasm among them.

### ❖ **VNR Lab Protocol<sup>(TM)</sup>:**

For each laboratory course, VNR Lab Protocol is followed through which a student understands what he will learn and why in a structured format.

❖ **Learning by Doing:**

A technique where students learn by experiencing the process (practical).

❖ **Think-Pair-Share:**

A learning method in which students collaborate by thinking individually about a topic or an answer to a question and then sharing it with them.

❖ **Course-Based Projects:**

Another experiential technique where students are driven to implement course-based projects as an outcome of their laboratory course. This method intends creative imitation leading to research and innovation. Course-based Projects are developed for the laboratory courses of every semester and are presented.

❖ **Project Based Learning:**

Research Culture is inculcated in the institute by Mini-Projects and Major-Projects in both UG and PG Programs. A literature review is carried out by students leading to research problem formulation and evolving methodologies for the Analysis, Design, and Implementation of Application/ Product based Projects.

❖ **Lab Management:**

A unique method being implemented is a clear skeleton system that increases student/faculty planning and productivity. It enhances campus community's access to instructional tools and academic resources. It provided a hassle-free process for managing current resources and lobby for additional, appropriate resources to meet curriculum, projects and research needs in standardizing and documenting lab practices and procedures.

❖ **WIT & WIL™**

A trademarked and award receiving pedagogical initiative is practiced in the institute. The term WIT stands for “What am I teaching” and “Why am I teaching” & the term WIL stands for “What am I learning” and “Why am I learning”. The main objective of this initiative is to give a clear picture regarding the curriculum and beyond it. This would give a clear roadmap to the teacher as well as to the student about what and why they deal with certain topics, their importance and application.

WIT is a self-introspection by every teacher that they have to do before dealing with the particular topic in order to emphasize its importance, objectives and real-life application.

WIL enables students to question themselves before learning anything new and to know where to implement what learned. This would also help students to grasp new concepts, understand them better and relate it to anything new. These two simple terms have revolutionized the teaching and learning process at our college. With this process, students are eager to implement classroom concepts in real life whereas teachers enjoy guiding and making students realize to achieve and fulfill their dreams. Simply to say, WIT and WIL has changed the conventional mode of teaching in classrooms and has opened ways for new dimensions to learn and explore

#### ❖ **POGIL**

An ingenious teaching method has turned classroom just beyond books. The faculty is exposed to various teaching methodologies, by shredding their age-old mode of lecture-based teaching. They are equipped with innovative and creative teaching.

In a POGIL classroom, students work in teams on guided inquiry exercises. The Process-Oriented component of POGIL is designed to meet the needs of the students. The Guided Inquiry component of POGIL explicitly enhances the analytical and critical thinking skills of the students. POGIL uses guided inquiry – a learning cycle of exploration, concept invention and application – as the basis for carefully designed materials which is used by the students to construct new knowledge.

Pedagogical training sessions on this universal method are conducted in the institution. Few faculty underwent the training for trainer and are acting as resource persons for the POGIL activities in other institutions.

Prof. Kelly Butler, Prof. of Chemistry, Chestnut Hill, College, USA, a Nehru FulBright Scholar has experienced the implementation of POGIL in the institution and also guided the faculty.

#### ❖ **Shadow Engineering & Engineer-In-Mirror**

“Shadow Engineering” allows prospective Engineering students to see the industry from a professional perspective and allow them to spend a week time with the current engineering practices in the multidisciplinary area at the industry and experience the industry life. The shadow engineering program is an opportunity for a budding engineer to learn what it means to be an engineer. Moreover, the students working with a class domain team get to amplify the correlation of various procedures within the engineering domain.

“Engineer-in-Mirror” program sends students of III year to domain-specific companies or industries for interaction. Students are sent to the core industry along with the supervising faculty team with a ratio of 1:10. The group interacts with the experts/engineers/software professionals in the industry. Students may be encouraged for discovery learning with a lot of individual or group interactions. The Institute encourages its faculty, technicians, and students to interact with Industry in all possible ways with the spirit of deriving mutual benefit. Both the initiatives are stopped due to University norms.

#### ❖ **‘Show and Tell’**

A platform for the students to exhibit, explain projects and present innovative ideas in an open platform. They showcase and present innovative ideas and projects that are developed.

This concept tries to create a space where innovative ideas are shared and shaped creating a concrete possibility for research among the peer group. It is mandatory for all



the final year B.Tech and M.Tech students to exhibit their projects on the Show & Tell platform before attending their viva-voce examination.

❖ **Open House**

Open House is one of the prolific ideas that VNR VJiet has come up with. It is an open arena for all the students to come up with their creative latent skills. It provides a platform to exhibit one's proficiency in an area in the form of a project. As we know that creativity involves two stages, i.e. conceptualization and actualization. The students begin with the concept and with the end in mind. The perfect blend of vision and blueprint of the desired outcome leads to successful projects.

The Open house gives an opportunity for all the students to hone their creativity and technical skill and come up with their end product as their project. This not only enhances their subject knowledge, but also their team management, stress management, and leadership qualities, which are the essential skills of an engineer. The Open house is a project that encourages and motivates the youth and nurtures revolutionary ideas. This unique approach of VNR VJiet gives students a wholesome experience as leaders and coordinators. It will also help them to become a bright and successful engineer.

- ❖ The Centre for Education Technology started in the year 2016 with an aim to conceptualize the execution and evaluation of the education process, i.e. learning and teaching with the application of modern educational teaching techniques. This initiation pledged in having the '*Nodal Resource Center for Spoken Tutorials*',
- ❖ Course on "Use of ICT in Education for Online and Blended Learning" by IIT Bombay, under NMEICT is conducted and many faculties are benefited.

▪ **Evaluation Reforms:**

Many Evaluation reforms are undertaken during the post-accreditation period. All the Examination Procedures and Processes are IT integrated.

- ❖ Online registration of the candidates for semester end examinations, download of Hall ticket is being implemented.
- ❖ Complete automation of examination processes such as examination fee payment, examination schedule, seating arrangement, attendance monitoring, coding and decoding of scripts, marks data entry, preparation of program wise results are in place.
- ❖ Systematic evaluation process supported by Examination management system (EMS) is in place which is helping in timely publication of results.
- ❖ The question paper pattern is revised to test the comprehension of the students over the whole syllabus
- ❖ Moderation is introduced for the External Examinations to maintain the integrity of coverage of syllabus among all the units. Moderation report has to be submitted by the examiner to the Controller of Examinations
- ❖ Results are now being published online.

### 3. Research, Consultancy, and Extension:

#### ▪ **Innovation & Incubation under ED Cell**

- ❖ The institute has developed a strong ecosystem for innovation and incubation activities. It all starts with an encouragement where students and faculty have an excellent opportunity to share their ideas as part of the “Big Idea Competition”. The selected ideas which are feasible to implement and have commercial advantage get shortlisted.
- ❖ The institute has a “Design Centre” where the ideas get further elaborated by framing a problem understanding the customer requirements, brainstorming and identifying a set of solutions and finally narrowing down to a solution.
- ❖ As a next step towards realizing these ideas into prototypes and commercialize products, the institute has multiple channels. The first channel is MSME, the institute has an in-house MSME certified business incubation program. Through this program, the institute facilitates funding for the initial prototype development of the idea. As of today, there are 10 projects which are in progress.
- ❖ The second channel is instituted by own Incubation Centre – Vignana Jyothi Foundation for Entrepreneurial Excellence, a Section 8 registered company with a branding name of VJHUB. The incubation center has a primary objective to facilitate incubation of new start-up’s / enterprises with innovative technologies based on academic and industry research. VJHUB provides infrastructure, technical, product engineering, networking support, seed capital and other services for the start-up’s to be successful and be independent. The startups can be hosted for a period of 1 to 3 years.
- ❖ In the process of conceptualization, solution identification and the realization the IPR Cell of the institution sees scope for IP creation. The Institute strongly encourages IP creation and it laid out a well-defined IP policy for commercializing the IP either through (a) Technology licensing or (b) Incubation through institutes incubation center.

#### ▪ **Student Design & Experimental Learning Center/Weekend Projects Lab:**

- ❖ The Institute encourages the students to realize their Idea in Week End Lab, where the students can work/research on an idea. The Idea Lab also provides the opportunity to the students to ask questions in different areas of knowledge. It will equip them with the ability to think, concretize the idea, design research study, work on it and report the findings. This center is established to provide assistance to students to buy the raw material for their real-time projects

#### ▪ **Research and Consultancy Center:**

- ❖ Research and Consultancy Centre (RCC) guided by a strong Research Advisory Board and revised Research and Consultancy Policy, is fostering research and consultancy of world-class innovations by providing latest technologies and infrastructure to all the students and staff.

- ❖ The Institution has the following exclusive R&D Laboratories and infrastructure facilities, which works under RCC:
  1. Virtual Reality and Augmented Reality Lab
  2. Virtual Instrumentation Lab
  3. RFID & WSN Lab
  4. Mobile Vision Lab
  5. IoT Lab
  6. Software Applications Lab
  7. Environmental Engineering Lab
  8. AI and Cognitive Science Lab
- ❖ Financial support in terms of seed money for In-House projects is encouraged for the faculty and students to do research projects.
- ❖ The Institution has come up with Collaborative Research strategies Viz., Industry Sponsored Research Projects, Interdisciplinary Research, Interinstitutional Research, which has resulted in measurable outcomes.
- ❖ A new scheme for providing an incentive to researchers is defined and being implemented. The incentives in terms of money, awards/prizes, more funding for ongoing projects, appreciation certificate, weightage in Career Advancement Scheme are in place.

▪ **Research Centers and Center of Excellence**

- ❖ Institution has 3 Research centers recognized by JNTUH, Hyderabad.
- ❖ The institute has spent Rs.1.78 crores on establishing good R&D infrastructure with 8 exclusive R&D laboratories and 10 Centers of Research.
- ❖ The Research and Consultancy Centre (RCC) has applied for recognition from Government agencies like Department of Scientific and Industrial Research (DSIR) to get an exemption from excise duty for importing research equipment.
- ❖ The Institute has established 10 Centers of Research to catalyze and facilitate, to create and sustain capabilities and competitiveness with a view to impacting the society through training, consulting, advice and research. The following are the centers:
  1. Centre for Disaster Mitigation(CoEDM)
  2. Centre for Renewable Energy Systems (CRES)
  3. Centre for Machine Vision
  4. Centre for Data Science.
  5. Centre for Networks and Security(CoENS)
  6. Centre for Robotics
  7. Centre for Nano Science and Technology.
  8. Centre for Education Technology
  9. Center for Joining Technology
  10. Center for Micro Car

- **Plagiarism tool:**
  - ❖ License for Turnitin tool is acquired for verifying the plagiarism for the M.Tech thesis reports and for faculty research publications.
  
- **The motivation for research culture:**
  - ❖ Motivation and support are provided to complete Ph.D. under QIP programs by providing Study leave.
  - ❖ Encouragement provided to enhance outside interaction through collaborative publications and research.
  - ❖ 3 International and 1 national conference are conducted.
  - ❖ Special Interest Groups (SIGs) are formed in every department and scheduled meetings are organized to enforce all the faculty towards research and publications. As a result of this, no. of Ph.ds and publications in the institute are increased in number.
  
- **Industry Institute Interaction cell(IIIC):**
  - ❖ IIIC previously Industry Institution Partnership Cell(IIPC) is established to understand the dynamic demands of the competitive domestic and global markets and to bridge the gap between the Institute and the Industry. The cell actively looks after the MOUs with industry, Industrial visits, Internships, curriculum inputs etc..
  
- **Collaborations and MOUS**
  - ❖ Faculty are working in collaboration with National level Institutions in the research projects like University of Hyderabad, IIIT-Hyderabad and IIT-Hyderabad.
  - ❖ 64 functional MOUs have been signed by Industries across all the departments in the areas of Curriculum enrichment, Industry visits, Guest Lectures, Internships, Placements, Consultancy and Academic projects.
  - ❖ The institute has collaboration and MOU with two foreign Universities – Oakland University, USA, Missouri University of Science & Technology, Rolla, USA.
  
- **Extension activities through NSS and VNR Student Force:**
  - ❖ Various activities like Village adoption, Blood donation camps, Environmental awareness, Green campus, Plastic-free campus, Cashless transactions etc. are initiated and happening.

#### 4. Infrastructure and Learning resources:

- **ICT classrooms and Laboratories:**

- ❖ The Institution raised the infrastructure facilities to 120 laboratories, 75 classrooms, 17 tutorial rooms and 13 Seminar Halls and 1 Auditorium.
- ❖ All the classrooms, seminar halls and most of the Laboratories are equipped with the ICT facilities.
- ❖ All the laboratories and infrastructure are well equipped and maintained. Computer laboratories are installed with licensed software as well as open source software.
- ❖ 2:1 Student Computer Ratio is being maintained in the institute.
- ❖ Laboratories are regularly updated by removing the obsolete. FIST and MODROBS funds are acquired during the accreditation period and funds are utilized for the development of Labs and infrastructure.
  
- **Career vision promotion center**
  - ❖ An exclusive facility Career Vision Promotion Centre is provided with a repository of TED and other educational videos. Here the student can utilize the facility proactively.
  
- **Library:**
  - ❖ The institution has subscribed to many online journals such as IEEE, ACM, ASME, ASCE, ASTM, Springer, Elsevier etc.
  - ❖ Established excellent Digital Library and ICT facility.
  - ❖ Kindle E-books are made available in the library.
  - ❖ High tea is served for students who spend long hours in the library.
  
- **Student Activity Center and Sports Complex:**
  - ❖ Infrastructure and facilities are provided by Coliseum-Student Activity Center (SAC) where students from different clubs practice their events. SAC is well furnished with storage spaces, speakers, music systems and refrigerator.
  - ❖ World-class Tennis court, Yoga and Gym facilities are established. Best of the trainers are recruited for every sport and their timing are beyond the academic schedules for the sake of student benefit.
  - ❖ Intensive training by the external expert trainers are being arranged during the National level competitions.
  - ❖ Transport facilities are arranged for students who stay up to 8:00 pm in SAC, Library, Weekend Projects Lab, Sports complex.
  
- **NPTEL chapter, QEEE, Spoken tutorials:**
  - ❖ NPTEL local chapter is established, students and faculty are encouraged to register and complete courses online. Concession in exam fee is being availed as the institution is a chapter.
  - ❖ QEEE classes by IIT Madras are being organized.
  - ❖ Students are benefiting from the Nodal Resource Center for Spoken Tutorials.

- **Hostel:**
  - ❖ A new hostel for boys and girls with a capacity of 500 is constructed near to the institution with state of art facilities. Green initiatives like waste water management and complete solar power utilization are practiced in the hostel.
  
- **Internet and WI-Fi :**
  - ❖ 350Mbps dedicated leased line Internet facility is available to cater to the academic & research needs of the Campus.
  - ❖ The institution is completely Wi-Fi enabled.
  - ❖ The campus is under video surveillance with 210 CC cameras
  
- **Campus automation:**
  - ❖ Institute is functioning through fully automated Campus Automation Management Software (CAMS) for Academics, Administration, Examinations, Faculty Biometrics and other day to day works.
  - ❖ Bio-Metric is implemented for PG students.
  - ❖ In-house developed software are also being used for different academic purposes.
  - ❖ Maintenance of Student attendance and day to day messages to the parents/guardians is managed by MIS software.

## 5. Student support & Progression:

- **Professional chapters and Clubs :**
  - ❖ Student professional Chapters of Indian Society for Technical Education (ISTE), Institution of Electrical and Electronic Engineers (IEEE), Computer Society of India (CSI), Instrumentation Society of India (ISOI) and VLSI Society of India (VSI), Society for Automotive Engineers (SAE), Indian Concrete Institute (ICI), Indian Green Building Council (IGBC), (IETE), American Society of Mechanical Engineers (ASME) are established for conducting technical and co-curricular activities.
  - ❖ In addition to Professional chapters, Departmental Associations are formed with all the students and faculty of the discipline as the members. Technical events and extension activities are conducted under these associations.
  - ❖ Students clubs like Literary club, Music club, Creative arts club, Livewire club, Dramatics club, Classical dance club, Photography & short film shooting club are established Students actively practice and participate in extra-curricular activities in-house and outside competitions. Student Activity Center (SAC) is used by the students for their activities.
  - ❖ TEDX VNRVJIET is formed and events are being conducted every year to enhance their outlook.

- **Career Vision Approach to student support :**
  - ❖ The philosophy of education in VNVRVIET is to work with “END IN MIND” and is structured as ‘Career Vision Approach’ - a student visualizing the nature of work that he/she will be involved in after completion of the graduate program and the physical environment around their work. Four years prior to their graduation during the first week of registration, an Induction program is conducted for the students to provide support for a successful transition and to create a career vision approach.
  - ❖ To foster this practice, a Career Vision Promotion Centre has been instituted to provide TED videos, New career guides, Upcoming courses, Self-Learning videos, Videos on innovative and Creative learning
  - ❖ First-year students undergo Career guidance classes as a part of their timetable.
  - ❖ Alumni are mentoring the students in planning their career
  
- **Empowerment on MTP cell**
  - ❖ In-house Trainers for coding, analytical, reasoning, and communication skills are recruited.
  - ❖ Intensive training is being provided to students of II year to IV year on personal, soft skills and technical skills.
  - ❖ Industry personal are invited to train the students on emerging Technologies.
  
- **Diversified education**
  - ❖ Offers education for diversified students as per the state government regulations. Socio-economic profile of the students is maintained covering all categories of the society.
  - ❖ The divyangans supporting environment is developed in the institution. Lifts, ramps, Wheelchairs, specially designed washrooms are maintained.
  
- **Value Addition to curriculum:**
  - ❖ Certificate Courses are offered to the students from II year to keep them in line with the market needs. As a part of the regulation, every student should undergo at least two certificate courses for the award of their final degree. Flexibility of selecting the certificate course across all domains is provided.
  - ❖ MiniProjects are included in the curriculum in III year to improve project-based learning.
  
- **Hostel and transportation facility:**
  - ❖ New hostel with a built-up area of 97223 Sqft with state of art facilities is constructed. Transport facility from all the corners of the city is arranged in two shifts.

- ❖ Transport facilities are arranged for students who stay up to 8:00 pm in SAC, Library, Weekend Projects Lab, Sports complex.
- Institute uses M-Learning for self-learning for the students in limited manner. A Mobile app has been developed by the faculty and students for learning of English communication skills for bridging the gap in Lateral entry Students.

## 6. Governance, Leadership, and Management

### ▪ **New positions created:**

- ❖ To meet the needs of autonomous institution new posts like Dean Admin and Finance, Dean Academics, Dean Student Progression, Dean Research & Development, Dean Examination are created.
- ❖ A delegation of responsibilities at different levels is done for proper management and governance.
- ❖ Transparency is being maintained through Decentralization of powers.

### ▪ **Institution committees and Policies:**

- ❖ To support the governance of the institution 35 different Statutory and Non Statutory committees are framed. Regular revision of the members is done as per the quorum.
- ❖ Institution manuals like HR and Administrative manual, Examination and Evaluation manual, E-Governance policy, Research, and Consultancy policy, Intellectual property rights Policy and Incubation policy are developed.
- ❖ Performance Appraisal System and Training Need Analysis (TNA) system are established.

### ▪ **Prospective and Strategic Plan.**

- ❖ In lines with Vision, Mission and Objectives of the institution Prospective and Strategic plan are developed for 10 years.

### ▪ **Auditing:**

- ❖ Regular Internal Auditing and Stock verification (Departments, Sections, Library) are performed by the Internal Auditing Cell and Administrative department respectively.
- ❖ External Academic and Administrative Auditing (AAA) is being conducted by external experts and is organized by IQAC.
- ❖ SWOC analysis is being conducted with an interval of five years based on which different plans like perspective, Strategic, College Development plans are built.

- Six senior faculty members have attended management capacity enhancement program.
- Digitization of Land records has been completed.