



Velagapudi Ramakrishna  
**Siddhartha Engineering College**  
(Autonomous)  
Vijayawada – 520 007, Andhra Pradesh

**Report on**  
**Performance of the Institution for the Academic Year 2020 -21**  
**by External Peer Team of IQAC**

**Submitted to**



**University Grants Commission (UGC)**  
**Bahadur Shah Zafar Marg,**  
**New Delhi - 110002.**

Velagapudi Ramakrishna  
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 (Autonomous)  
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**IQAC-EXTERNAL PEER TEAM REPORT ON  
 PERFORMANCE OF THE INSTITUTION - ACADEMIC YEAR 2020 -21**

**Members of External Peer Team:**

**Dr. P. Siddaiah** - Professor, ECE Department, Acharya Nagarjuna University College of Engineering & Technology, Guntur & External Peer Team Member, IQAC, VRSEC

**Dr. L. Krishnanand** - Professor, Department of Mechanical Engineering, National Institute of Technology, Warangal (NIT/W) & External Peer Team Member, IQAC, VRSEC

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1. **Name of the College** : Velagapudi Ramakrishna Siddhartha Engineering College  
Kanuru, Vijayawada – 520 007
2. **Name of the Principal** : Dr. A.V. Ratna Prasad
3. **Telephone/ Fax / Email** : Phone No: 0866 – 2582333; 0866 – 2584930  
Fax: 0866 – 2582672  
Email: principal@vrsiddhartha.ac.in;  
info@vrsiddhartha.ac.in  
Website: www.vrsiddhartha.ac.in
4. **Year of Establishment** : 1977
5. **Whether private or government or University maintained** : Private / Self Financing
6. **Autonomous Status** : 1. UGC granted Autonomous Status in the year 2006.  
2. UGC – Autonomous status extended for a period of 10 years up to 2028, Ref. No. F22-1/2017 (AC), dated 17.04.18
7. **Name of the Affiliating Univ.** : Jawaharlal Nehru Technological University Kakinada, Kakinada (JNTUK)

**8. Courses Offered:****UG Courses: B.Tech.,**

S. No.	Program Name	Sanctioned Intake
1	Civil Engineering	180
2	Computer Science and Engineering	180
3	Electronics and Communication Engineering	240
4	Electrical and Electronics Engineering	120
5	Electronics and Instrumentation Engineering	120
6	Information Technology	120
7	Mechanical Engineering	180

**PG Courses: M.Tech., MBA, MCA**

S. No.	Program Name	Sanctioned Intake
1	Structural Engineering	18
2	Geotechnical Engineering	18
3	Communication Engineering and Signal Processing	18
4	Computer Science and Engineering	18
5	VLSI Design and Embedded Systems	18
6	Power Systems Engineering	18
7	Data Science	18
8	CAD / CAM	18
9	Thermal Engineering	18
10	Master of Business Administration (MBA)	60
11	Master of Computer Applications (MCA)	60

**9. Students on Rolls:**

Year of study	B.Tech.,	M.Tech.,	M.B.A.	M.C.A.	Total
1 <sup>st</sup> year	1151	51	64	63	5422
2 <sup>nd</sup> year	1273	106	62	58	
3 <sup>rd</sup> year	1260			60	
4 <sup>th</sup> year	1274				
<b>Total</b>	<b>4958</b>	<b>157</b>	<b>126</b>	<b>181</b>	

**10. Faculty Strength:**

Department	Professor	Associate Professor	Sr. Asst. Professor	Assistant Professor	Total	No. of Ph.D's
PRINCIPAL	1	0	0	0	1	1
CE	7	5	0	31	43	15
CSE	5	3	0	30	38	12
ECE	4	5	0	21	30	15
EEE	8	10	0	35	53	22
EIE	1	3	0	17	21	5
IT	2	5	0	22	29	10
ME	7	5	0	36	48	20
MBA	1	1	0	4	6	4
MCA	1		0	5	6	3
Science & Humanities	2	5	0	41	48	27
<b>TOTAL</b>	<b>38</b>	<b>42</b>		<b>242</b>	<b>323</b>	<b>134</b>

**11. Examination Results**

Program me Name	Programme Specialization	Number of students appeared in the final year examination	Number of students passed in final semester/year examination	Pass Percentage
B Tech	Civil Engg.	195	193	98.97
B Tech	Computer Science & Engineering	212	212	100.00
B Tech	Electronics & Communication Engineering	279	276	98.92
B Tech	Electrical & Electronics Engineering	126	124	98.41

B Tech	Electronics & Instrumentation Engineering	129	120	93.02
B Tech	Information Technology	123	123	100.00
B Tech	Mechanical Engineering	202	197	97.52
M Tech	M Tech	105	90	85.71
MBA	MBA	62	59	95.16
MCA	MCA	60	60	100.00

Velagapudi Ramakrishna Siddhartha Engineering College, Vijayawada, sponsored by Siddhartha Academy of General & Technical Education is the FIRST Private Engineering College in the combined state of Andhra Pradesh established in the year 1977 and is ideally located in a vast expanse of 24 acres of land in Vijayawada on Vijayawada-Machilipatnam highway. The college is ISO 9001-2015 certified, recognized by AICTE and affiliated to JNTUK, Kakinada. UGC granted autonomous status to the college in the year 2006 and extended up to 2028.

The Institution has its own MIS to manage general administration, autonomous system, examinations, student attendance and continuous evaluation process. The college has a well-marked administrative set up in tune with the college vision and mission. The Vision and Mission statement defines the institute's distinctive characteristics in terms of addressing the needs of stake holders it seeks to serve by.

The involvement of Leadership is achieved through well-defined systems and organizational structure consistent with norms of the AICTE and UGC. Teachers play a pro-active role in the academic and administrative activities of the institution.

The Internal Quality Assurance Cell (IQAC) of V.R. Siddhartha Engineering College was established on 6<sup>th</sup> March, 2014. From the date of inception, the IQAC is making continuous efforts to maintain quality education as well as taken up various quality initiatives for the overall development of the institution.

The college has secured 178<sup>th</sup> rank in **National Institutional Ranking Framework (NIRF)** India rankings 2021 in Engineering category.

The overall performance of the institution with respect to various quality aspects is satisfactory and appreciable. Some of the key parameters with respect to the performance of the institution under various heads for the academic year 2020 – 2021 are as follows:

### **CURRICULAR ASPECTS**

- Syllabus revision was made in all Engineering PG programs, MBA and MCA during the academic year 2020-21
- 89 new courses are introduced during 2020 – 21 for the benefit of students with respect to employability / entrepreneurship / skill development. 675 courses focusing on employability/entrepreneurship/ skill development offered by the Institution during the year 2020-21.
- 35 value added courses imparting transferable and life skills are conducted for the benefit of students. 3006 students were enrolled in the 35 value added courses.
- AICTE sanctioned ‘MARGADARSHAN Scheme’ with a total grant of Rs. 25.0 Lakhs (Ref. No. 58-1/RIFD/Margadarshan/2018) the only self-financing institute in the state of Andhra Pradesh.
- About 97 Linkages with institutions/industries/research labs are established for internships, on-the-job training, project works, sharing of research facilities during the year 2020-2021.
- All the departments of institute collecting feedback on curriculum aspects from students, teachers, employers, alumni and parents through course end survey, program exit survey, employer survey and department advisory board and is being analyzed and utilized for the overall development of the institution.

### **TEACHING – LEARNING AND EVALUATION:**

- 1329 students are admitted against a sanctioned intake of 1519 during the year. The institution is presently having 77 ICT classrooms and 9 Smart Classrooms for the benefit of students.
- The institution strictly follows the academic and activity calendar prepared at the beginning of the academic year without any deviation. Program outcomes, program specific outcomes and course outcomes for all the programs offered by the institution are stated and displayed in website of the institution.
- At present 323 faculty including 134 Doctorates, with varied experience and back-ground, take interest in continuing education and are actively engaged in research work and publish their findings regularly in National and International Journals and present in Conferences.
- Student Satisfaction Survey (SSS) – 2020-21 on overall institutional performance displayed in

website of the institution.

### **Engagement of students during COVID-19 lockdown:**

- The Pending syllabus for all semesters of UG & PG Engineering, MCA and MBA for the academic year 2020-21 was completed by online platforms during lock down. While second midterm examinations & Projects for the above programs were conducted through Moodle LMS platform, as per the guidelines of the UGC & JNTUK. While the Semester end examinations for the academic year 2020-21 were conducted offline.
- The institution utilized the lockdown period effectively in engaging both the faculty and students for their value addition through “Coursera” online platform. Where they completed courses on Higher education, Skill development & New technologies relevant to industry & employment and Research.

### **RESEARCH, INNOVATIONS AND EXTENSION:**

- Implemented five-year strategic plan for the institute and its annual review for achieving strategic goals.
- Improved Placements significantly closed to 1300 in top notch companies such as Amazon, Microsoft, Deloitte, CISCO and 400+ students with more than 4 lakhs packages.
- 269 Research Publications in the Journals notified on UGC, Scopus and WoS (Web of Science), 210 papers published as Book Chapters in edited Volumes / Books published, and papers in National/International Conference Proceedings.
- 41 Patents are filed and 40 patents are published and 15 patents were granted during the year 2020-2021.
- Established 20 collaborative labs and Centres of Excellence in association with Siemens & Dassault - AP State Skill Development Corporation, IBM, CISCO, Oracle, NI, DRDO, DST, etc.
- The Institute sanctioned seed money of Rs.15,33,980/- to faculty members for carrying out research work.
- R&D projects worth of Rs.76.5 Lakhs were sanctioned by various government and non-government agencies to various departments of the institution.
- An amount of Rs. 2,02,14,469/- was generated through Consultancy during the year 2020-2021.

- Institution has 34 functional MoUs signed with institutions of National, International importance, other institutions, Industries, Corporate houses during the year 2020 - 2021.
- **Institution Innovation Council (IIC)** is established under the MHRD's Innovation Cell and college achieved 4.5 star ranking for the activities organized with respect to Innovations, IPRs, Startups and Entrepreneurship.
- Recognized as Scientific & Industrial Research Organization (SIRO) by DSIR, MST, Govt. of India since August 2017.
- Implemented annual Academic Audit by external members from institutions of reputation, in addition to internal audit.

### **INFRASTRUCTURE AND LEARNING RESOURCES:**

- An amount of Rs. 885.94 Lakhs was utilized for infrastructure development during the year.
- An amount of Rs.834.94 Lakhs was utilized for maintenance of academic facilities and maintenance of physical facilities during the year.
- Bandwidth of Internet connection available in the institution is enhanced to 1030 MBPS/ GBPS for the benefit of students and faculty.

### **STUDENT SUPPORT AND PROGRESSION:**

- 3313 students were benefited through the scholarships from government and non government organisations. Institute along with Alumni Association provides a financial support of Rs. 13,95,000 (Siddhartha Sahaaya Scholarship) to 93 students and Rs. 30,60,000 to 143 students by North South Foundation. In addition to these 22 students received scholarships under the schemes 1. Central sector scheme of scholarships for college and University students, 2. Prime Minister Scholarship, 3. KVSS Scheme - National during 2020 – 2021.
- Institution organizes various capability enhancement and development schemes for the benefit of students as given below.
- About 5427 students are benefitted through career counseling activities and competitive examinations. Out of which, 149 students are passed in the competitive examinations and **1261 placements offered received from industry.**

### **GOVERNANCE, LEADERSHIP AND MANAGEMENT:**

- The institution is effectively implementing e-governance in various areas of operations as



follows:

- **Planning and Development:**

Institute has MISoperational modules CMS Software Tool, BEES Examination Tool, Tally accounting software to manage general administration, autonomous system, examinations, student attendance, continuous evaluation process and online student feedback for faculty. Libsys software has been used for the management of library related activities. In view of COVID-19, online classes are being arranged along with off line classes for all programs, using zoom, webex, Goggle meet etc. As part of ICT, digital boards in all departments, emails, whatsapp are in practice. The institute is working under CCTV surveillance

- **Administration:**

The College operates in both vertical and horizontal directions. Heads of the departments disburse the information by conducting the faculty meetings/ through email/ SMS to the stakeholders - staff, students and their parents. Each programme is managed by a programme coordinator who works under the HOD. Biometric Attendance is used to generate various reports such as Biometric Attendance Report- Department wise and faculty wise. CCTV surveillance is used to monitor and security purpose. E-notice Board is used for display of messages/ circulars and notices to faculty and students.

- **Finance and Accounts:**

Tally software is in operation for administrative work (Payment of salaries, accountability of CL's/EL's/ML's etc and Student Records). Student Admission and Support the Administrative Officer looks after the activities executed by clerical, programming, data entry and administrative staff.

- **Student Admission and Support:**

Student admissions are carried out through web counseling. Learning Management System - MOODLE is a user-friendly software used by the faculty and students that supports learning and training needs. CMS – Content Management System is in operation with respect to student data, attendance and continuous evaluation process. Selection of courses is (open electives) also done through CMS. Online feedback system has been taken up to foster transparency by inviting innovative ideas /

suggestions for improvement in various academic and administration functions. Libsys software is used in the central library that provides centralized management such as book issue, book circulation history, administration, cataloging, reporting.

- **Examinations**

Autonomous Section is headed by Controller of Examinations and is assisted by a Deputy Controller and Assistant Controllers of examinations. BEE's examination Tool Software is in operation for pre-examination and postexaminations works. Barcoding and automation process is in practice for the examination to avoid manual involvement to maintain more confidentiality All the monetary transactions (both the receipts and payments) are processed through CMS online software.

- In order to maintain and improve Internal Quality, Academic and Administrative Audit has been carried out by Internal and External Agencies regularly.

## **INSTITUTIONAL VALUES AND BEST PRACTICES:**

- **Eco-friendly Campus:**

- The institution established solar power system and approximately 50% of power requirement is met by solar energy.
- Campus Solid Waste Management
- Plastic Free Campus
- Increase in Plantation & greenery area
- Rainwater harvesting
- Environmental Audit

- **Best Practices of the Institution:**

Even though the college has quite a number of best practices, five of them, PBAS, Technical model development, Proctor system, Academic Audit and usage of MOODLE deserve special mention. There is a growing need for higher educational institutions to be more accountable to the expectations of Stakeholders. They have largely contributed to the achievement of the institutional goals as well as to the quality improvement of the activities. Among the five, the two best practices of the institution are as follows:

1. **Performance Based Appraisal System (PBAS)** is an open, formal, and systematic procedure designed to assist both employer and employees in planning, managing, evaluating and realizing performance improvement in organization with an aim of achieving organizational goals.

2. **Technical Model Development:** The students of VRSEC are encouraged to transform their innovative ideas into technical models and exhibit in Engineers day /Innovation day celebrations organized in the institute annually. The identified best models are promoted to exhibit in the events organized by prominent outside institutions / organizations at national level.

➤ **Institutional distinctiveness:**

The thrust areas focused to achieve 'VISION' are

- Outcome based education
- Training of faculty and students in advanced Technologies through Collaborative laboratories
- Projects on society relevant problems.

Out of the areas mentioned above the Institute has a distinction by establishing several Centers of Excellence (CoE) and Industry Collaborative Laboratories.

**INDUSTRY COLLABORATIVE LABORATORIES:**

1. **CISCO networking academy:** This facility established in 2017 is contributing towards Industry recognized certifications with career-oriented courses periodically on Cyber security, etc.
2. **IBM software lab for emerging technologies:** This lab is established in 2016, Dept of IT to provide training on essentials of Bigdata with Hadoop using IBM infosphere, etc and on identity management.
3. **DASSAULT systems:** This facility established in 2018 in ME dept. stands as a 3D Experience centre supported by APSSDC to offer training on a bi-layered format in technologies on CATIA, SIMULIA, DELMIA, etc followed by opting for training in the domains of Automotive, Aerospace, Defence Ship building etc.
4. **ORACLE corporation:** The Lab started in CSE in 2017 has been running Oracle licensed software for developing applications.
5. **APPLE authorized training center for education (aatce)** This facility was established in 2019 in IT Dept to provide training on developing apps related to IOS and SWIFT Programming.

6. **Video analytics research lab-** It is established in CSE Dept in 2014 to provide a base for video analytics research and to improve algorithm robustness.
7. **ANBLICKS ignite centre** It is established in 2019 to promote collaborative research activity between Anblinks and VRSEC, and to provide internships, product development avenues and Placements to students.

#### **CENTERS OF EXCELLENCE (CoE):**

1. **SIEMENS CoE:** - This unique centre established in the college, in association with APSSDC as a PPP corporation to promote skill-development entrepreneurship in the state, is housed in a space of 23000 Sqft and other facilities worth Rs.5.50 Crores with 13 different labs.
2. **CoE in COMPOSITES:** This centre is established in 2014 with DST- FIST in ME Dept to develop new materials which are economical and ecofriendly. The facility has equipment worth Rs. 60 lakhs that can be used for research, testing and consultancy.

Due to the above distinctiveness, the following outcomes have been achieved for the AY 2020-21.

#### **Outcomes:**

- Total IPRs are 41 out of which 40 published and 15 are granted.
- Grants received from government and nongovernment agencies for research projects Rs. 76,49,831.
- 14 Faculty were awarded with Ph. D in the college.
- Faculty with Ph. D qualification in the college are 134.
- Research papers published in the CARE journals notified on UGC website are 269 and books and book chapters are 210.
- Seed money received by faculty from the institution Rs.15,33,980 /-
- Revenue generated from consultancy and corporate training Rs 1,56,25,633.

#### **Student Outcomes:**

- Placements for this AY are 1261+ and above Rs 4 lakh package is 327+
- Students won prizes/Awards in National and Global Competitions are 96
- Student Internships are 947

- Students Participated in National contests are 668.

**Significant contributions made by IQAC during the current year:**

1. Action plan was prepared to conduct the class work through digital platforms in pandemic period. Three methods were proposed
  - Paper based teaching- Camera focusing on paper & write on it and lecturing.
  - White board-based teaching- Camera focusing on white board along with faculty, writing on it and lecturing.
  - Teaching using tablet-stylus pen/slides.

Assign the teaching part to senior faculty and monitoring part of students to junior faculty.

2. Engaging the students and faculty during lock down through online courses- The College had entered into MoU with COURSERA platform and faculty & students are utilized courses on higher education, skill development technologies relevant to industry and employment and research.
3. Develop e-content in all branches of engineering by providing necessary facilities.
4. Brain storming session was conducted among Heads of the departments for finding the lapses and solutions for the betterment in NIRF & ATAL Rankings.
5. Departments are informed for Alumni identification and their diplomatic involvement in R&D and consultancy to strengthen existing Alumni cell.
6. Heads of the department are directed to inculcate the culture of innovations to their students & faculty for the preparation of more number of innovative models.
7. Required changes are brought in PBAS to meet the key performance indicators in NAAC, NBA accreditations, NIRF and ATAL rankings.
8. Head of the departments are directed to establish Incubation centers supported by identified industry

Plan of action chalked out by the IQAC in the beginning of the academic year towards Quality Enhancement and Outcome achieved by the end of the academic year.

## **FUTURE PLAN OF ACTION FOR THE NEXT ACADEMIC YEAR:**

The Institute consistently striving to impart Quality Education by updating Plan of action to meet industry and societal requirements. The plan of action is as follows:

- Proposed Five-year strategic plan 2020-25
- Road map to execute the proposed Five year (2020-25) strategic plan & yearly benchmarks to departments for achieving the targets.
- Increase in Hostel accommodation to students (Boys)
- Setting up of Sensor based energy conservation
- Initiation of Energy audit
- Planning of sports & cultural events to be organized & Identification and promotion of students for state & National level competitions
- Student projects - publications
- Frequent trainings to supporting staff (Technical/ NonTechnical)
- Industrial Training to faculty
- Institutionalization of R&D excellence award
- Annual planning of extension activities by NSS wing in collaboration with departments.

### **Outcomes of Previous strategic plan (2015-2020)**

<b>KPI</b>	<b>2015</b>	<b>2020</b>
Placements (>4LPA)	21	223
Qualification Up gradation	PhD: 52 Ph D Pursuing: 97	Ph.D:134 Pursuing: 130
Collaborative Labs	5	23
Sponsored Projects	2.94 Crs	4.17Crs
Publications Scopus/SCI	80	229
Patents filed /Published	2	84
Startups initiated	Nil	7
Professional bodies	8	15
ICT tools utilization	20%	100%
Model development	42	144
Student Paper Publications	73	176
Prizes won at National/Global student competitions	83	217
Student Internships	183	1342
Value added programs	7	35

The Institute consistently striving to impart Quality Education by updating Plan of action to meet industry and societal requirements. The plan of action is as follows:

- **National Institutional Ranking Framework (NIRF):** The institute secured 156<sup>th</sup> rank in NIRF National Ranking 2020. It is 1<sup>st</sup> rank among private Engineering Colleges in Andhra Pradesh State. Principal took a decision to bring the institute below 100 rank by the end of strategic plan 2020-25. Keeping this target in view, it is taken up a major item in the IQAC action plan.
- **ARIIA - Atal Ranking of Institutions on Innovation Achievements:** Categorized as “Band-Excellent” in 2020-21 by Ministry of HRD, Govt. of India for outstanding Innovation and Entrepreneurship Development under Atal Ranking of Institutions on Innovation Achievements (ARIIA). It is planned to secure a place within top 25 among self financed engineering colleges in India by the end of strategic plan 2020-25.
- **Alumni identification and their diplomatic involvement for R & D and consultancy:** One of the major assets of the Institution is Alumni, which spread across the world at various prominent positions, from 1981. It is decided to utilize their services in a diplomatic way in Research funding, consultancy, Incubations, Startups, etc., by identifying the appropriate alumni.
- **e-Content development and lecture capturing facilities:** The importance of online classes is fully recognized by all academic institutions during pandemic situation of COVID lockdown. Keeping in view the importance of online teaching in future, the IQAC is decided to make available the e-Content useful to the students by improving facilities of e-Content development.
- **Innovations, Incubation, Start-ups:** These are becoming a part and parcel of Higher Education. Therefore, IQAC felt the necessity of a dialog to exchange ideas with all stakeholders to promote the Incubation centers and Startups in the campus.
- **Review of Performance Based Appraisal System (PBAS):** Performance Based Appraisal System (PBAS), is an open, formal, and systematic procedure designed to assist both employer and employees in planning, managing, evaluating and realizing performance of improvement with an aim of achieving organizational goals, is one of the best practices in the Institution. The Institution implemented the PBAS since 2013-14, to evaluate the annual academic and Professional contributions of the faculty. The PBAS comprises various parameters related to academic talent, qualifications, innovations, Research & Development, contributions to the society, etc. The IQAC is decided to revise the benchmarks of those parameters to meet the current scenario of


Higher Education and strategic 5 year planning of the Institute.


- **Review on further growth of faculty pursuing PhD, new PhD registrations and quality publications:** As of today, the percentage of faculty with PhD qualification is reached to 41. To reach the targets of '2020-25 strategic plan' of the institution, the IQAC is proposed to review the faculty who are pursuing their PhD along with new PhD registrations. In addition, the publications are also reviewed for the improvement of their quality.

### Highlights of the Academic Year 2020-21

It is observed that Velagapudi Ramakrishna Siddhartha Engineering College has been maintaining good academic standards and the following figures indicate considerable improvement in all the key performance indicators mentioned below as per the Institute's strategic plan.

- Second five year (2020-25) strategic plan was proposed & approved and disseminated to all the departments along with strategy to achieve them.
- New courses introduced to improve the employability:89.
- Value added courses conducted: 35; Enrollment of students:3006.
- SCI, Scopus indexed and Web of Science publications in journals: 269.
- Book chapters / Proceedings / books published: 210
- Patents filed: 41, Published: 40 and Granted: 15, during the year 2020-21.
- R&D projects of worth: Rs.76.5 lakhs.
- Consultancy amount generated: Rs.2.02 Cr.
- MoU's signed with institutions of National, International importance, other institutions, Industries and corporate houses: 34.
- Students benefited through the scholarships: 258; Students benefited from the reimbursement provided by the government: 3055
- Total number of placements: 1261; Average package: 4.5 Lakhs; Number of students with more than 5 lakh package: 177.
- Amount utilized for infrastructure development: Rs.885.94 lakhs.
- Amount utilized for maintenance of academic & physical facilities: Rs. 834.94 lakhs.
- NIRF India ranking: 156
- ARIIA Atal innovation ranking: Band-Excellent

  
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