

# Velagapudi Ramakrishna **Siddhartha Engineering College**

(Autonomous) Vijayawada – 520 007, Andhra Pradesh

# Report on Performance of the Institution for the Academic Year 2019 -20 by External Peer Team of IQAC

**Submitted to** 



University Grants Commission (UGC)
Bahadur Shah ZafarMarg,
New Delhi - 110002.

#### Velagapudi Ramakrishna

# Siddhartha Engineering College

(Autonomous)

Vijayawada – 520 007, Andhra Pradesh

# IQAC-EXTERNAL PEER TEAM REPORT ON PERFORMANCE OF THE INSTITUTION - ACADEMIC YEAR 2019 -20

#### **Members of External Peer Team:**

Dr. P. Siddaiah
 Principal, AcharyaNagarjunaUniversity 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 : VelagapudiRamakrishnaSiddhartha 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	36
5	VLSI Design and Embeded 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	1138	109	63	60	
2 <sup>nd</sup> year	1250	120	56	62	5473
3 <sup>rd</sup> year	1283	-	-	74	
4 <sup>th</sup> year	1258	-	-	-	
Total	4929	229	119	196	

# 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	2	31	45	16
CSE	5	3	5	26	39	10
ECE	7	8	3	28	46	19
EEE	4	4	1	21	30	11
EIE	1	3	0	15	19	04
IT	3	4	1	21	29	10
ME	7	5	4	31	47	18
TOTAL (Engg)	35	32	16	173	256	89
MBA	1	1	1	5	8	6
MCA	1	0	1	8	10	4
Science & Humanities	2	5	0	36	43	22
TOTAL	39	38	18	222	317	120

# 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.	200	165	82.50
B Tech	Computer Science & Engineering	202	192	95.01
B Tech	Electronics & Communication Engineering	277	242	87.36
B Tech	Electrical & Electronics Engineering	133	120	90.23

B Tech	Electronics & Instrumentation Engineering	108	74	68.52
B Tech	Information Technology	124	113	91.13
B Tech	Mechanical Engineering	198	162	81.82
M Tech	M Tech	117	96	82.05
MBA	MBA	56	55	98.21
MCA	MCA	74	68	91.89

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 156<sup>th</sup> rank in **National Institutional Ranking Framework** (NIRF) India rankings2020 in Engineering category. The college has secured PLATINUM rating in AICTE-CII Survey of Industry Linked Technical Institutes 2019.

The Annual Quality Assurance Report for the year 2019-2020 was submitted to NAAC in December, 2020. 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 2019 – 2020 are as follows:

#### **CURRICULAR ASPECTS**

- > Syllabus revision was made in all Engineering PG programs, MBA and MCA diring the academic year 2019-20
- ➤ 134 courses are modified/ introduced during 2019 20 in all UGprogrammes for the benefit of students with respect to employability / entrepreneurship / skill development.
- > 76 value added courses imparting transferable and life skills are conducted for the benefit of students.
- ➤ 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.
- ➤ The institutional data was submitted to **AISHE** (All India Survey on Higher Education), Department of Higher Education, Ministry of Human Resource Development, Govt. of India for the academic year 2019 2020.
- About 88 Linkages with institutions/industries/research labs are established for internships, on-the-job training, project works, sharing of research facilities during the year 2019-2020.
- ➤ 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:**

- ➤ 1365 students are admitted against a sanctioned intake of 1446 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 333 faculty including 130 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) 2019-20 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 2019-20 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 2019-20 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:**

- ➤ Honored with AICTE-CII IndPact Award for Best Industry-Linked Technical Institute for Civil Engineering and Allied Institute in 2019.
- ➤ Implemented five year strategic plan for the institute and its annual review for achieving strategic goals.
- ➤ Improved Placements significantly closed to 1000 in top notch companies such as Amazon, Microsoft, Deloitte, Cisco and 200+ students with more than 4 lakhs packages.
- ➤ 318 Research Publications in the Journals notified on UGC, Scopus and WoS (Web of Science), 83 papers published as Book Chapters in edited Volumes / Books published, and papers in National/International Conference Proceedings.
- ➤ 36 Patents are filed and 30 patents are published during the year 2019-2020.
- ➤ 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.6,32,000/- to faculty members for carrying out research work.
- ➤ R&D projects worth of Rs.110.53 Lakhs were sanctioned by various government and non-government agencies to various departments of the institution.
- An amount of Rs. 1,80,82,985/- was generated through Consultancy during the year 2019-2020.
- ➤ Institution had nineteenMoUs signed with institutions of National, International importance, other institutions, Industries, Corporate houses during the year 2019-2020.
- ➤ Institution Innovation Council (IIC) is established under the MHRD's Innovation Cell and college achieved 4.5star 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.

Sno	Name of full time teachers receiving awards from state level, national level, international level	Designation	Name of the award, fellowship, received from Government or recognized bodies
1	Dr. A.V. Ratna Prasad	Principal	Level 5 Certificate in Management & Leadership for CMI, UK
2	Dr.M.Suneetha	Professor & Head	Level 5 Certificate in Management & Leadership for CMI, UK
3	Dr. B. PandurangaRao	Professor & Dean  – Students Affairs & Consultancy	ICI (Vijaywada Centre) – Ultratech Award 2019 – Outstanding Concrete Engineer Award. Concrete Day 25.10.2019
4	Dr.M.Suneetha	Professor & Head	Active Participation Women Award, Computer Society of India.
5	Mr.Y. KalyanChekravarthy	Assistant Professor	Active Participation (Youth) of Vijayawada Chapter, Computer Society of India.
6	Dr.Y.Sangeetha	Associate Professor	Women Researcher award, International Journal Innovative Engineering and Management Research – Elsevier
7	Dr.K.Hemalatha	Associate Professor	WOMAN RESEARCHER AWARD(ELSVIER)
8	Dr. S. Vasavi	Professor	Best Going through in 2020 Women in Engineering WIE IEEE
9	Dr.Ch.Rupa	Professor	Reviewer Award Elsevier
10	Ch. Mukesh	Assistant Professor	UTHAMA ACHARYA PURASKAR, National Award from Indian Servers
11	Dr. A. Jhansi Rani	Professor	UTHAMA ACHARYA PURASKAR, National Award from Indian Servers
12	Dr. M. Padmaja	Professor	UTHAMA ACHARYA PURASKAR, National Award from Indian Servers
13	Dr.S.Ramesh	Associate Professor	International Innovative Researcher in IoT Networking, RULA Awards 2020

14	Dr.B.D.C.N.Prasad	Professor	Lifetime Achievement Award from IJIEMR-ELSEVIER SSRN Research Award – 2020 on 14- 03-2020
15	Dr. K.Narendra	Associate Professor	Chukkapallipichhiyya Memorial Best Teacher Award

#### INFRASTRUCTURE AND LEARNING RESOURCES:

- An amount of Rs. 1703 Lakhswas utilized for infrastructure development during the year.
- An amount of Rs.445 Lakhs was utilized for maintenance of academic facilities and an amount of Rs.707 Lakhs was utilized for maintenance of physical facilities during the year.
- ➤ Bandwidth of Internet connection available in the institution is enhanced to 490 MBPS/ GBPS by adding 230 MBPS to the existing 260 MBPS for the benefit of students and faculty. 490 MBPS

#### STUDENT SUPPORT AND PROGRESSION:

- ➤ Institute along with Alumni Association provides a financial support of Rs. 19,35,000 (Siddhartha Sahaaya Scholarship) to 129 students and Rs. 15,45,000 (1.Central sector scheme of scholorships for college and University students 2.Prime Minister Scholarship 3.KVSS Scheme National) to 157 students during 2019 2020
- Institution organizes various capability enhancement and development schemes for the benefit of students as given below.

Name of the capability enhancement scheme	Date of implementation	Number of students enrolled	Agencies involved
Guidance for competitive examinations	15.09.2019	1007	In house training
Career Counseling	10.07.2019	5475	T&P, In House Training, Campus Connect Corporate, Hyderabad
Soft skill development	15.07.2019	5475	In house training and T&P
Remedial coaching	20.09.2019	1268	In house training
Communication Skills	08.07.2019	1240	In house training

Development			
Bridge Courses	20.08.2019	266	In house training
Yoga and meditation	15.07.2019	152	Yoga trainer, Vijayawada
Personal Counselling	20.07.2019	5475	In house training

About 5475 students are benefitted through career counseling activities and about 1007 are benefitted in competitive examinations. Out of which, 137 students are passed in the competitive examinations and 955 students are placed.

#### 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 processandonline 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 postexaminationsworks. 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:

- ➤ For the promotion of Universal Values and Ethics several programmes are organized by the institution during 2019-2020.
- ➤ About 12 Gender Equity programmes are organized by the institution during 2019-2020.

#### **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 byprominent 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:

**CISCO networking academy:** This facility established in 2017 is contributing towards Industry recognized certifications with career oriented courses periodically on Cyber security, etc.

**IBM software lab for emerging technologies:** This lab is established in 2016, Dept of IT to provide training onessentials of Big data with Hadoop using IBM infosphere, etc and on identity management.

**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.

**ORACLE Corporation:** The Lab started in CSE in 2017 has been running Oracle licensed software for developing applications.

**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.

**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.

**ANBLICKS ignite centre**It is established in 2019 to promote collaborative research activity between Anblicks and VRSEC, and to provide internships, product development avenues and Placements to students.

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

**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.

**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 lakes that can be used for research, testing and consultancy.

Due to the above distinctiveness, the following outcomes have been achieved for the AY 2019-20.

#### **Outcomes:**

- Total IPRs are 36 out of which 30 published and 2 are granted
- 12 Faculty were awarded with Ph.D

• Research papers published in the Journals and conferences are 400.

#### **Student Outcomes:**

- Total Placements are 955 and Rs 4 lakh package is 200+
- Prizes/Awards in National and Global Competitions are 142
- Participation in National contests are 1038.

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

- 1. Initiated and completed the pending syllabus in the even semester of academic year 2019-20 and conduct of internal examinations online mode to handle the pandemic situation.
- 2. Provision of free access to COURSERA MOOCs platform for students and faculty to upgrade their skills during the lockdown period was initiated and succeeded in getting fruitful results.
- 3. Provision of Hardware and Software facilities to conduct the classwork for 2020-21 academic year through online mode was initiated.
- 4. Provision of precautions/measures in the campus against COVID19 unlock was initiated.
- 5. Initiated extension activity by involving technical expertise under Unnat Bharat Abhiyan.
- 6. Up gradation of College Website for better visibility
- 7. Paper setting for online exams to ensure quality
- 8. Abnormal increase in PhD registration and Ph.D's obtained

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:

- 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 in one or two years. 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 A Institution" (Rank between 06-25) in 2019-20 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 between 1 to 5, by improving the related metrics of ARIIA.

- 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 40. 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.

Enhancement of Hostel accommodation to students: The Management and
Principal aspire to provide residence to all students, both girls and boys with
adequate facilities. So that, they can carry out their academic activities very
affectively.

#### Concluding Remarks:

- > The five year strategic plan adopted by the institution is a highlight of VRSEC.
- ➤ It is observed that Velagapudi Ramakrishna Siddhartha Engineering College has been maintaining good academic standards in Curriculum, Teaching- Learning and Evaluation, Research and Consultancy, setting up of advanced laboratories involving industry for effective Institute Industry Interaction, declaration of results etc.
- > There is a considerable improvement in all the key performance indicators measured by the National Bodies.

(Dr. P. Siddaiah)

Principal

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(Dr. L. Krishnanand)

Professor, Dept. of Mech. Engg.,

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