Strategic Vision (2015-30)

for

Gayatri Vidya Parishad College of Engineering

1. Executive Summary

Gayatri Vidya Parishad College of Engineering (GVPCE) aspires to transcend its current status and emerge as a nationally acclaimed Deemed University by 2025. Established in 1996, GVPCE has been a driving force in engineering education, achieving notable strides in academic excellence and innovation. This strategic vision, spanning from 2015 to 2030, outlines the institution's transformative journey towards achieving five distinct aspirations. These include attaining academic eminence through affiliations and rankings, revolutionizing research endeavors, fostering innovation and entrepreneurship, establishing national/global academic partnerships, and championing sustainability and community development. Through meticulous goals, key milestones, and steadfast efforts, GVPCE envisions a future where it stands as a beacon of holistic education, impactful research, and societal progress on a national scale.

2. Aspiration, Goals, Milestones and Current Status

Aspiration	Goal	Key Milestone(s)	Current Status
Exemplary Academic Eminence	1. Achieve Deemed University Status by 2025 2. Attain top 150 National ranking by 2028.	1. Apply for Deemed University by 2024 2. Top 200 NIRF by 2027 (Excelling in all 5 parameters of NIRF assessment)	✓ Choice Based Credit System (CBCS), Open Electives, Design Thinking & Innovation, Wider Internship Opportunities, Honours and Minor Programmes, Self-Learning Avenues established ✓ NBA and NAAC Accreditations achieved; ✓ NIRF ranking demonstrated continuous improvement, with a noteworthy rise from Band 101-150 in 2017 to achieving a notable rank of 188 in 2020. However, in 2022 reduced to Band: 251-300. Scope for improvement. ✓ Deemed Application process is in progress

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Boundary-Shattering Research Landscape	Elevate research output and recognition	1. Increase Quality publications in WoS and Scopus by 10% YoY 2. Attain 50 Patent Grants by 2027 3. Host at least 2 prestigious international research symposiums, drawing participants from diverse disciplines, by 2026. 4. Sponsored Research Grants and Consultancy amount by 10% YoY	✓ 117 SCI, 213 Scopus in last 5 years (2019-23) ✓ 87 Conference Papers in last 5 Years (2019-23) ✓ 18 Patents Granted (2019-23) ✓ 294 Lakhs worth of Sponsored Research and 100 Lakhs worth of consultancy in last 5 Years (2019-23) ✓ Established Scientific & Industrial Research Centre (SIRC) recognized by Ministry of Science and Technology
Innovation Hub for Impact	Nurture a thriving innovation ecosystem by incubating a minimum of 20 student-led startups by 2027	1. Launch an on-campus Innovation Center by 2020 2. Establish a mentorship program connecting students with industry experts, resulting in five successful startups by 2024. 3. Host an annual Innovation Fair showcasing student innovation and attracting investors by 2025	✓ Center for Innovation and Incubation Established in 2011 and subsequently MSME BI Established in 2020 by Ministry of MSME ✓ 30.2 Lakhs worth of Projects sanctioned by MSME ✓ 7 startups incubated by the Center for Innovation and Incubation ✓ IIC under MHRD achieved a 4.5-star rating for the year 2019-20 ✓ Apply for Atal Incubation Centre/Atal Community Innovation Centre applied in 2017 but not achieved it. Planning to apply again.
National/ Global Nexus of Learning and Exchange	Establish collaborations with universities/Industry	1. Forge strategic partnerships with universities outside state and country. 2. Develop a robust framework for cross-cultural research projects	✓ In collaboration with SIEMENS, the Andhra Pradesh State Skill Development Centre (APSSDC) initiated the establishment of six state-of-the-art laboratories under the Technical Skills

		involving national/international collaborators by 2028.	Development Initiative (t-SDI), representing an investment of Rs. 2.0 Cr. ✓ Robotics and Automation Centre Established ✓ Currently 20 MoUs. Increase them by 40 in next 5 years
Sustainability and Social Responsiveness	Achieve carbon neutrality on campus and contribute to local community development through outreach programs.	1. Implement mandatory sustainability coursework across all disciplines by 2025, cultivating environmentally conscious graduates. 2. Establish a Social Impact Center that coordinates community engagement initiatives by 2024. 3. Reduce carbon emissions by 25% through sustainable infrastructure upgrades and practices by 2030.	✓ Social Hours are credited ✓ Center for Social Responsibility (CFSR) has been established ✓ 2 Villages are adopted by the institution ✓ Five Student chapters are running to inculcate the empathy and social responsibility among the students. ✓ Structured carbon emission reduction plan yet to implement in complete way

3. Rolling Strategic Plan for next 15 years

The following table presents rolling strategic plan in order to achieve the above aspirations and goals.

Period	Key Focus Areas	Current Status during that Period
2015 - 2017	Stabilize the Existing Programs, Ramp up the Intakes, National Bodies Accreditations, Improvement of Existing Lab Infrastructure	✓ The intake has been steadily increased from 300 in 1996 ✓ Extensions of Autonomy: ✓ AY: 2014-15 to AY: 2019-20 (6 years) ✓ All Programs NBA Accredited ✓ NAAC Cycle-II: AY: 2016-17 to 2020-21 with 'A' Grade with a CGPA of 3.47/4.0 (5 years) ✓ Laboratories and Library Upgradation ○ AICITE grants for Moderation of Labs (48 lakhs during 2016 to 2020)

		Approx. 60 lakhs per annum spent on Library maintenance. ✓ Faculty Retention: Maintain good retention with less than 1% attrition.
2017 - 2019	Enrol into NIRF Ranking Process and Establish the Framework Culture in the Campus	✓ 2017- Band: 101-150 ✓ 2018- Band: 151-200

2019 - 2021	Emphasizing Research, Collaboration and Innovation	✓ Improve the Quality of the Publications
		SCI- 2019 (19), 2020(19)
		Scopus 2019(21) and 2020 (63)
		Others 2019(23) and 2020(4)
		✓ Research Grants
		2020- 3 Projects and 36.16 Lakhs
		2019- 15 Projects and 220.00 Lakhs
		✓ Consultancy
		2020- 9 Projects and 15.87 Lakhs
		2019- 8 Projects and 58.05 Lakhs
		✓ Research Centres Grant by All Department
		✓ Incubation Centre established by MSME
		✓ Patents Filing Culture Established in the campus
		✓ Centre for Innovation Established in 2011 and incubated more than 5 start-ups
		✓ Institution's Innovation Council (IIC) was established under Ministry of Education's Innovation Council (MIC) in 2018. IIC under MHRD achieved a 4.5-star rating for the year 2019-20
		✓ Established Scientific & Industrial Research Centre (SIRC) recognized by Ministry of Science and Technology
		✓ Advancing Infrastructure and Partnerships
		  • In collaboration with SIEMENS, the Andhra Pradesh State Skill Development Centre (APSSDC) initiated the establishment of six state-of-the-art laboratories under the Technical Skills Development Initiative (t-SDI), representing an investment of Rs. 2.0 Cr.
		   2019: Following the successful completion of TEQIP-II, the college was further recognized by MHRD and was equipped with 5 Interactive Digital Boards in 2019

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2021 - 2023	Engaging with the Alumni and Community	✓ 2021: CSFR (Centre for Fostering Social Responsibility) Launched. 5 Different Chapters identified and started Engaging with Public ✓ 2021: Strategic Engagement with Alumni • Alumni Involved in Placement Mock Interviews-374 • Alumni Started Startups – 8 • Alumni Invited us to their organization as Guest Faculty or any other form- 10 • No of Alumni doing Joint research with faculty/students 11 ✓ 2022: Implementation of community outreach projects. 2 Villages are adopted ✓ Apply for Atal Incubation Centre/Atal Community Innovation Centre: Earlier applied but not achieved it. Planning to apply again
2023 - 2025	Enhancing Educational Standards and Research Standards	✓ 2023: NIRF, NBA and NAAC Accreditations; Apply for University Status ✓ 2024: Choice Based Credit System (CBCS), Open Electives, Design Thinking & Innovation, Wider Internship Opportunities, Honours and Minor Programmes, Self-Learning Avenues established and achieved good results ✓ Improve Patent Grants: 18 Patents Granted between 2019 to 2023 ✓ Sustain Publications Quality-117 SCI, 213 Scopus in last 5 years (2019-23), 87 Conference Papers in last 5 Years (2019-23) ✓ Exhibited a remarkable growth in Web of Science citations, with a 103% increase in 2020 and 56% in 2021. The total count surged to 813 in 2022. ✓ Sustain NIRF Participation Year NIRF Rank • 2023 - • 2022 Band: 251-300 • 2021 Band: 201-250 • 2020 188 • 2019 198 • 2018 Band: 151-200 • 2017 Band: 101-150 ✓ MSME Grants worth of 30.2 Lakhs ✓ Robotics and Automation Centre Established ✓ MRB department established robotics lab ✓ Introduce Multidisciplinary and Emerging Technology driven Courses: MRB (Mechanical Robotics), Computer Science (Data Science), Computer Science (AI-ML) Introduced

		✓ E-Mobility centre established
		✓ More than 15 crores spent to modernize and augment labs in last 5 years (2018-23)
		✓ Placements and Median Salary Increased: The current Median Salary median salary of UG graduates is Rs. 5,75,000. Planning to improve it by 20%.
		✓ A Unified Faculty Landscape maintained and to be Improved from the following levels
		  • Academic Years: 2017-18 to 2022-23
		  • Male-Female Ratio: Approximately 60% Male and 40% Female
		  • Qualifications: Diverse qualifications including Ph.D., M.Tech, MBA, and other Postgraduate degrees
		  • Average Age: Ranging from 37 to 44 years, reflecting a dynamic blend of experience
		  • Average Experience: An average of 10 to 25 years, showcasing a wide spectrum of expertise
		  • Faculty from Industry: More than 15 members
		  • Faculty Students Ratio: Goal to achieve the ratio of 1:15: Current level 1:20
		✓ e-content to be developed for some of the courses (e.g. Design Thinking) List –Refers Annexure 1. Additionally, 42 Video Lectures available in APSCHE LMS Portal
		✓ Enhancing multi-disciplinary approach in Teaching/Research
		  • Open elective concept is being introduced
		  • Joint Research on Vibration Monitoring by Both Mechanical and Civil Engineering Departments
		  • Joint Research in Diabetic Retinopathy by both ECE and CSE Department using Image Processing
		  • Joint Research in e-Mobility by electrical and electronics and communication engineering departments

2025 - 2027	University Status to be Achieved, State of Art Technology Centres Established	✓ 2025: Attainment of university status. ✓ 2026: Continued excellence in education, research, and impact. ✓ 2025: Virtual Reality and Augmented Reality Studio, Data Analytics and Business Intelligence Tools Labs with Industry Standards

2027 - 2029	Excelling in Research and Innovation	✓ 2027: Establishment of Centres of Excellence in emerging fields in collaboration with Industry, Establishment of State of Art Design Centre ✓ 2028: Breakthrough research and patents, National recognition in specialized areas. Commercialization Opportunities ✓ 2028: Angel Investors Network Established for funding access ✓ 2028: Towards 100% Doctoral Faculty.
2029 - 2030	**National Collaboration and Transformation**	✓ 2029: National partnerships with universities worldwide, fostering cross-cultural learning. ✓ 2030: Successful completion of the transformation journey. Expanded networks, transformation into a comprehensive university.

Annexure 1: The **'The Complete e-Reference to Design Thinking Course'** by Faculty Team consists of 10 modules with accompanying video references. Here is a summary of each module and its associated e-reference link:

1. Introduction: This session explores the importance of design thinking and its relevance in today's context. The e-reference link is https://www.youtube.com/watch?v=Rga2aqobKgs.
2. Orientation: This session introduces basic terminology, principles, and phases of design thinking, using the COVID-19 pandemic as a case study. The e-reference link is https://www.youtube.com/watch?v=mQu_FnSj_AM.
3. Design Thinking Scenario (Activity/Food for Thought): This session presents a story of army personnel navigating a dense forest and prompts learners to apply design thinking principles. The e-reference link is https://www.youtube.com/watch?v=WRg7MvZ6WHI.
4. Design, Designer Mindset, Relationship between Design Thinking and Innovation with Case Examples: This session clarifies the distinctions between design, design thinking, and innovation, using real-life examples. The e-reference link is https://youtu.be/cOcXg_gAzpk.
5. Design Thinking Champions (Industry and Institutions), Frameworks and Case Study Discussion: This session showcases design thinking champions from industry and institutions and provides an overview of frameworks. The e-reference link is https://youtu.be/Xc7UFXosXJU.
6. IDEO Design Thinking Framework (Inspire Phase) and Case Study Discussion: This session focuses on IDEO's design thinking framework and explores the inspire phase. The e-reference link is https://youtu.be/0Svt9hUI8fc.
7. IDEO Design Thinking Framework (Insights Phase) and Case Study Discussion: This session delves into the insights phase of IDEO's design thinking framework and helps learners differentiate between data, information, observation, and insights. The e-reference link is https://youtu.be/dAMPQ0TIhgo.
8. IDEO Design Thinking Framework (Ideation Phase) with Case Study Discussion: This session addresses the ideation phase of IDEO's design thinking framework and provides tools and techniques for generating ideas. The e-reference link is https://youtu.be/RxMLJP6oW6M.
9. IDEO Design Thinking Framework (Implementation Phase - Part 1) with Case Study Discussion: This session explores the implementation phase of IDEO's design thinking framework, using various examples and covering eight out of 18 steps. The e-reference link is https://youtu.be/M0jEhMtjwr8.

10. IDEO Design Thinking Framework (Implementation Phase - Part 2) and Case Study Discussion: This session focuses on the second part of the implementation phase of IDEO's design thinking framework and highlights the importance of partnerships, resource assessment, and defining success. The e-reference link is https://youtu.be/MZKlrFEHXZU.

These e-reference links provide access to the respective video sessions, allowing learners to engage with the content and gain a comprehensive understanding of design thinking principles and their practical applications.