Perspective Plan

Preamble

St. Xavier's Catholic College of Engineering has successfully completed 25 years of service in the field of technical engineering education and has established uniqueness in offering high quality professional education in the southern district of Tamil Nadu. The college was started in the year 1998 with the vision of service to rural society and successfully crossed the developing stage for the period of fourteen years (1998-2012) and majority of the goals envisioned in the first plan were achieved.

In the last decade i.e, during the second growth stage (2013-2022) the college work with the vision of empowering human society and had achieved several milestones and attained the new heights of NAAC and NBA accreditation that makes a differential change among other higher education institutions and also reached the autonomous status.

To further scale and to achieve new heights in this highly competitive dynamic global scenario and to meet the expectations of the stakeholders, the college intended to renew the strategic plan for the next ten years (2023-2033). Based on the detailed analysis and deliberations of present scenario with the internal and external experts a new strategic plan has been proposed on focusing Eminent, Efficiency and Excellence in Academic, Futuristic, Holistic development of students and Engaging with community developmental activities towards social transformation.

Focused Key Areas for the Next 10 years

1. **Academic Excellence** (Contemporary Curriculum, Impactful Pedagogy, Global Exposure)
2. **Student Formation** (Optimal Human Development)
3. **Staff Development**
4. **Research and Innovation** **(**Intensive Research, Extensive Collaborations)
5. **Placement and Futuristic** **(**Outstanding Placements)
6. **Societal Responsibilities** (Engaging Societal issues)
7. **Infrastructure** (World-class Infrastructure)
8. **Finance Mobilization**
9. **Quality Assurance & Enhancement**

DETAILED GOALS

1. **Academic Excellence** (Contemporary Curriculum, Impactful Pedagogy, Global Exposure)
   (i) Design and development of a contemporary curriculum
   (ii) Enhancing experiential learning in the teaching-learning paradigm
   (iii) Effective methodologies to improve academic performance
2. **Student Formation**
   (i) Motivation for encompassing the whole
   (ii) Assess and identify the capabilities by student Profiling
   (iii) Streamline the system for holistic development
   (iv) Effective utilization of the campus (campus liveliness)
3. **Staff Development**
   (i) Promoting academic and technical skills of the staff members
   (ii) Promoting staff-student relationship
   (iii) Engage their services with the Local Community
   (iv) Work-life balance to retain well-qualified and experienced faculty
4. **Research and Innovation (**Intensive Research, Extensive Collaborations)
   (i) Promoting an intensive Research Culture
   (ii) Promoting Product Development & Innovation
   (iii) Project based learning (part of experiential learning)
5. **Placement and Futuristic (**Outstanding Placements)
   (i) Improve placements with a high package salary
   (ii) Increase the number of successful Entrepreneurs
   (iii) Promoting higher studies (IITs, Central Universities & Abroad)
6. **Societal Responsibilities**
   (i) Effective engagement with societal problems
   (ii) Promoting outreach and extension activities
7. **Infrastructure**
   (i) Improve the Infrastructure to enhance teaching learning and research activities
   (ii) Automation of administration and governance
8. **Finance Mobilization**
   (i) Incorporating financial aid by increasing enrollment
   (ii) Finding grants to raise funds
9. **Quality Assurance & Enhancement**
   (i) Quality Initiatives
   (ii) Accreditation and Ranking

MATRIX

Strategic Area	Goals/ Objectives	Execution Methods
Academic Excellence	**Design and development of a contemporary curriculum**	1. **Design curricula & syllabus that act as an instrument of making a career.** 2. Involvement of professionals from industry and academia in the formulation and execution of the curriculum. 3. Incorporation of interdisciplinary, multidisciplinary and **trans-disciplinary** courses that address both local and global social dimensions as well as industry demands. **(Oceanology, Disaster Management, hydrology)** 4. Incorporating a greater number of theory-cum-practical courses **that give industry-oriented hands-on experiences.** 5. **Allocating sufficient time within the regulations for the enhancement of job-specific skills and comprehensive placement training.** 6. Fostering self-learning **by providing self-paced learning exercises and opportunities** through digital educational methods and introducing credit transfer options, including collaborations with MOOC platforms like Swayam-NPTEL and international universities. 7. **Incorporating specialized minors and honors degrees into the curriculum, such as Oceanology, Hydrology, Climate Change, Disaster Management, Agriculture, and more.**
	Enhancing experiential learning in the teaching-learning paradigm	1. **Implementing Outcome-Based Education (OBE) methodologies in teaching, incorporating reflective practices to encourage critical and creative thinking, as well as fostering skills in discerning cause and effect, inductive reasoning, and deductive analysis.** 2. Utilizing the Flipped Classroom approach through ICT-enabled digital instruction: Creating recorded video lectures and sharing them on the institute's YouTube channel or college website. 3. Promoting the active use of laptops by students during classroom sessions. 4. Conducting a variety of educational activities such as industrial and field visits, internships, seminars, workshops, assignments, **research-based tasks**, and other participatory learning endeavors. 5. **Integrating job-oriented skills into academic exercises, assignments, and assessments to ensure practical applicability and relevance.**

		6. Organize instructional training sessions for master's students to enhance their teaching skills.
	Effective methodologies to improve academic performance	1. Organizing motivational programs and providing personalized attention to facilitate academic excellence among students. 2. Employ diverse strategies to cater to various types of students, **(including identifying their learning styles, cultivating effective study habits, and promoting peer and group study activities for collaborative learning)** 3. Develop a comprehensive strategy for the implementation of digital assessment methods.
Student Formation	**Motivation for encompassing the whole**	1. Organizing life awareness programs to enhance personal development and self-awareness. 2. Arranging motivational initiatives tailored to the engineering profession. 3. **Assisting students in identifying their career aspirations and tailoring training accordingly, whether for placements or achieving success in GATE exams.**
	Assess and identify the capabilities by student Profiling	1. Develop structured plans for both professional and personal life trajectories. 2. Assess students' **Intelligence Quotient (IQ), Emotional Quotient (EQ), Social Quotient (SQ), and their interests** by conducting surveys and consulting with faculty experts. 3. Streamline and guide students along specific career paths while fostering a culture of self-directed learning.
	Streamline the system for holistic development	1. **Mentors should consistently offer feedback on each student's academic and career progress, nurturing their professional self-assurance.** 2. Implementation of Life Skill Courses encompassing advanced cognitive abilities, value-centric education on human virtues, harmonious living, self-driven learning, self-awareness, and personal responsibility. 3. Arrange specialized programs for holistic personality development, encompassing physical activities like cycling, swimming, driving, hill climbing, trekking, and Silambam, along with psychological growth initiatives. 4. Place strong emphasis on **English Communication** and life skills such as effective interpersonal communication, stress management, goal-driven actions, etc., through engagement in association activities. 5. **Foster mature relationships, cultivate**

		organizational prowess, leadership skills, and cultivate appropriate attitudes towards technology, people, and society via association and cell activities. 6. **Compile an annual report detailing each student's academic and skill-based achievements and communicate this information to parents.**
	Effective utilization of the campus (campus liveliness)	1. Reorient the mentoring system by forming mentee groups based on shared research interests, facilitating ongoing project development. 2. Introduce a circular group approach for student formation to encourage diverse collaboration and interaction. 3. **Mainstream all the issues using a grassroots or bottom-up approach as the primary method.** 4. Enhance the execution of club activities, considering the establishment of **debate club, media clubs and radio stations to spread technical awareness to the wider community.** 5. Extend the working hours of labs and libraries to maximize their usage. **6. Promote group activities in all the academic and non-academic activities** 7. Encourage interdepartmental collaborative initiatives to foster cross-disciplinary cooperation. 8. Enhance evening sports activities to provide more opportunities for physical engagement and recreation. 9. Expand transport facilities by offering additional options on a shift basis for increased accessibility. 10. Social Concern
Staff Development / Grooming the Staff and Faculty	**Promoting academic and technical skills of the staff members**	1. Cultivate motivation among students through targeted initiatives. 2. **Each staff member should dedicate their expertise and activities to drive societal transformation rather than solely for their livelihood.** 3. Empower faculty members to enhance their qualifications, including pursuing Post Doctorate, Ph.D., and certifications such as GATE, NPTEL, NET, and industry-specific credentials. 4. Regularly conduct training sessions on digital teaching techniques and systematic pedagogical skills. 5. Keep staff updated on the latest technologies and **industry placement trends relevant to their respective departments.** 6. Provide essential soft skills and communication

		training to staff members as needed. 7. Implement routine teaching assessments to maintain instructional quality. 8. Establish a journal club and seminar club to facilitate effective knowledge sharing. 9. Sponsor faculty participation in Faculty Development Programs (FDPs), Short-Term Training Programs (STTPs), and Conferences. 10. **Encourage faculty members to lead FDPs focused on placement and entrepreneurship processes and challenges.** 11. **Integrate internships and campus experiences as integral components of all programs.** 12. **Foster foreign expert talks** in emerging domains for knowledge enrichment. 13. **Strive to achieve over 80% pass rates in all courses.** 14. **Motivate faculty members to design diploma courses and offer online courses on MOOC platforms.**
	Promoting staff-student relationship	1. Engaging in team-building exercises to foster socialization, including mutual introductions. 2. Promoting peer learning as an active learning practice.
	Engage their services with the Local Community	1. Motivating staff members to participate in local government and parish initiatives, **fostering awareness of government policies and contributing towards the achievement of National Development Goals.** 2. Offering technical solutions to address local societal needs. 3. **Actively conducting technical training sessions for the general public.** 4. Arranging a comprehensive Staff Orientation program covering subjects like the Constitution, Indian Economy, Environmental Sustainability, and Gender.
	Work-life balance to retain well-qualified and experienced faculty	1. Implementing a refresher program that focuses on mental and spiritual well-being. 2. Introducing flexible work timings to accommodate various schedules. 3. Offering weekend holidays to enhance work-life balance. 4. Providing incentives for upgrading qualifications and engaging in research activities. 5. **Reducing administrative and academic responsibilities for research-focused faculty members.**

		6. Enhancing social cohesion by organizing more get-togethers, staff tours, and family day celebrations. 7. Establishing a salary regularization plan (increment) as part of the Career Advancement Scheme.
Research and Innovation (Intensive Research, Extensive Collaborations)	**Promoting an intensive Research Culture**	1. Foster motivation through research-focused workshops and training programs, encouraging **scholarly exploration and writing**. 2. **Provide access to plagiarism detection software for all individuals to verify their written work**. **3. Cultivate habits of in-depth learning, continuous reading, effective information search, and logical thinking.** **4. Impart the virtues of persistence and resilience in problem-solving. Emphasize a proactive, challenge-based, or problem-centered approach.** 5. Conduct need analyses through local and field visits to understand the challenges faced by **artisans, workers, etc.,** encouraging technological empowerment. Engage MBA students in public surveys. 6. Regularly organize Techathons, **Tech Expos (featuring mini-models)**, science talks, and tech gatherings. Host inter-college events to showcase and develop skills, expand horizons, and facilitate interactions with experts. **7. Create a collaborative research network involving students from various institutions.** **8. Form core research teams: one tasked with seeking and securing research funding, while the other collaborates with local government entities.** 9. **Explore the campus for energy management, green audit, and waste management innovations.** 10. **Showcase projects as monuments around the campus to highlight achievements.** 11. **Provide opportunities for research apprenticeships with professors.** 12. Promote interdisciplinary research collaboration within departments. 13. Initiate collaborative research endeavors with external organizations and industries to enhance collaborative thinking. 14. Increase research publications in SCI and Scopus indexed journals, offering incentives for quality research output. 15. Encourage applications for funded projects and

		establish research labs for approved projects. 16. Foster research collaboration and **MoUs with government sectors, local and foreign universities.** 17. Establish a Maker Space and **research clubs for experimental work,** including drone and solar demonstrations. 18. **Facilitate the establishment of research labs and excellence centers for each research group.**
	Promoting Product Development & Innovation	1. Host a startup festival and initiate an ideathon to create an idea pool, awarding credible research concepts. 2. **Launch a research journal with aspirations of achieving SCI indexing.** 3. Provide guidance in developing startup companies. 4. Establish an Intellectual Property Rights (IPR) Facilitation Centre to facilitate patent publications. 5. Set up a consultancy centre to enable faculty members to cater to technical consultancy needs of other institutions, **local government** and the public. 6. Create a Research Park and Incubation Centre to support innovation and entrepreneurship. 7. **Empower Research Clubs to address problems faced by Kanyakumari district (vulnerabilities in Agriculture and Disaster Management) and provide technological solutions.** 8. **Encourage each department to operate a company or product firm aligned with their expertise, fostering student internships and research.** 9. Establish a Centre of Excellence focusing on various fields like Resource Recovery Process, Energy Neutrality, Climate Change, Socio-economic Learning, Sustainable Development, Hydrology, Land Use Planning, Coastal Research, Waste Management, Environmental Accounting, Implicit Disaster Management, Women Entrepreneurship, and Technological Empowerment in Agriculture (Soil Biology, Microorganisms Survival).
	Project based learning (part of experiential learning)	1. Foster ongoing research projects by integrating junior and senior students in collaborative projects. 2. **Organize regular visits to specialized laboratories at renowned institutions and research organizations.**
Placement and Futuristic (Outstandin	**Improve placements with a high package salary**	1. Develop a structured syllabus for comprehensive placement training. 2. Deliver all-encompassing training that covers diverse aspects.

g Placements)		**3. Create profiles in domain-specific areas, guiding students to follow industry experts and complete relevant online certifications.** **4. Implement ongoing assessments of student progress, providing annual feedback on their job readiness through digital automation.** 5. Conduct industry-specific training and **mock interviews,** aligning with industry theories and visions. 6. Increase the number of on-campus placement drives. 7. Provide support for internships, in-plant training, and industrial visits. 8. Facilitate core company placements and explore foreign placement opportunities through alumni connections. 9. Enhance placement opportunities in governance and management sectors.
	Increase the number of successful Entrepreneurs	1. Cultivate a culture of creativity, innovation, and entrepreneurship by initiating start-up festivals and ideathons to create an idea reservoir. 2. Encourage entrepreneurship, business development, and product innovation among both students and faculty members. 3. **Showcase industrial companies and their products on campus, particularly through events (alumni Technology expos) and make students as company ambassadors**. 4. T**rain students to realize the potential of entrepreneurship** and provide guidance in becoming successful entrepreneurs, including the establishment of start-up companies **and get the problems of industry (MSME)** 5. Raise awareness about part-time job opportunities and implement training programs, with a focus on social entrepreneurship addressing waste management, natural resources, and public health engineering.
	Promoting higher studies (IITs, Central Universities & Abroad)	1. Offer comprehensive career guidance and coaching for competitive exams such as GATE, GRE, TOEFL, CAT, IES, UPSC, etc., to support successful examination outcomes. **2. Cultivate a pool of skilled research professionals through targeted training and development programs.** 3. Motivate and provide training opportunities for learning foreign languages, like French, German, etc., to enhance linguistic skills. 4. Emphasize pursuing higher studies at globally

		renowned institutions, fostering a commitment to excellence in education.
Societal Responsibilities	**Effective engagement with societal problems**	1. Foster collaborations, **partnership** and establish Memorandums of Understanding (MoUs) with NGOs, charitable organizations, and social entrepreneurs to facilitate innovative initiatives that drive social entrepreneurship. 2. Deliver training programs for part-time job opportunities, particularly in the realm of social entrepreneurship **(women entrepreneurship)** 3. Address natural resource management and waste reduction through the principles of Reduce, Recycle, and Reuse. 4. Promote social mobility to empower disadvantaged segments of society. 5. Strive to become an exemplary institution dedicated to the upliftment of the local community. 6. Organize club activities beyond teaching hours, such as nature trekking and bird watching clubs. 7. Undertake problem adoption and solution provision, focusing on local issues like Traffic Management, Western Ghats Management, **Agriculture, Tourism, and Healthcare in the Kanyakumari region.** **8. Foster a faculty culture that upholds values like equal dignity for all, social justice, religious and caste neutrality, and inter-religious collaboration.** 9. Address the needs of various **geographical land forms – Mountainous (kurinchi), Forests (mullai), Cropland (marutham), and Seashore (neithal) – by providing relevant solutions and engagement strategies.**
	Promoting outreach and extension activities	1. Enhance and empower the NSS, NCC, and YRC wings of the institution to make substantial contributions to both society and the nation. **2.** Reinforce outreach activities, engaging with local societal issues and conducting knowledge-sharing and **awareness programs aimed at conserving natural resources.** **3. Actively participate in disaster rehabilitation efforts to aid affected communities.** **4. Twinning tribal, coastal villages, and primary Tamil medium schools for mutual benefit and**

		learning. **5.** Organize marathons or other events to raise awareness about social issues like global warming and the adverse impacts of media. **6. Exhibiting proactive approach towards social movements**
Infrastructure	**Infrastructure to enhance teaching learning & research**	1. Establish a Wi-Fi enabled campus with robust network infrastructure to facilitate laptop usage. 2. Set up interactive smart classrooms equipped with recording capabilities for each department. 3. Expand and enhance digital library facilities with a focus on instructional repositories. 4. Upgrade existing laboratory facilities **and new research labs** to align with the latest technological advancements. 5. Create a maker space on campus to support prototype fabrication and experimentation.
	Automation of administration and governance	1. Implement comprehensive E-Governance across all activities, including attendance automation. **2. Coordinate industry-sponsored sports events and extend sports-related activities to schools and the public.** 3. Enhance sports facilities, including provisions for cycling and swimming. **4. Foster open communication channels between the institution's administration and society, demonstrating a commitment to technical empowerment.** **5. Display numerous quotations and photographs of academic luminaries throughout the campus.** **6. Exhibit academic achievement posters prominently within the campus premises.** **7. Arrange frequent discussions with artists from different domains.**
Finance Mobilization	**Incorporating financial aid by increasing enrollment**	1. Introduce diploma and certification courses to diversify educational offerings. 2. Expand student enrollment by scaling up existing courses. 3. Initiate distance education programs to reach a wider audience and provide flexible learning options.
	Finding grants to raise funds	1. Pursue funded projects to advance research and innovation. 2. Engage in consultancy work to offer expertise and solutions to external entities. 3. Provide handholding support to enterprises, guiding and assisting them in their growth and development.
Quality	**Accreditation**	**1. IQAC operates diligently, overseeing the**

Assurance & Enhancement	**& Rankings**	**college's academic standards, focusing on pedagogy and assessment methods.** **2. Annual setting of realistic and ambitious benchmarks, monitored by IQAC to ensure timely execution of perspective plans.** 3. Attain NAAC A++ grade under the Autonomous category. 4. Achieve Tier 1 status from NBA accreditation. 5. Aspire to secure a prominent position in the NIRF rankings. 6. Pursue global accreditation from bodies like ABET or IET. 7. Strive to reach a status on par with renowned IITs. 8. Aim to be recognized as an exceptional institution contributing significantly to the local community's development.



Dr. J. MAHESWARAN, M.E. Ph.D. FIE. MISTE.
PRINCIPAL
SLXAVIER'S CATHOLIC COLLEGE OF ENGINEERING
CHUNKANKADAI
NAGERCOIL - 629 003