



# JAYA SAKTHI ENGINEERING COLLEGE

[Approved By AICTE, New Delhi & Affiliated to ANNA UNIVERSITY, Chennai]

Thiruninravur-602024, Thiruvallur District, Tamil Nadu.



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## JAYA SAKTHI ENGINEERING COLLEGE

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ST, MARY'S NAGAR, (NEAR AVADI), THIRUNINRAVUR - 602024  
(A unit of Jaya Group)



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# Strategic Plan (2022-2027)



**MARCH 2024**



# JAYA SAKTHI ENGINEERING COLLEGE

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i.

## List of Abbreviations

AC	Admission Committee
AI	Artificial Intelligence
AICTE	All India Council for Technical Education
AR/VR	Augmented Reality/Virtual Reality
BFSI	Banking, Financial services and Insurance
ICAETS	International Council of Academies of Engineering and Technological Sciences
SSD	Student Skill Development
CBCS	Choice-Based Credit System
CII	Confederation of Indian Industry
CIIE	Centre for Innovation, Incubation and Entrepreneurship
COVID-19	Coronavirus Disease
IQAC	Internal Quality Assurance Cell
CSIR	Council of Scientific & Industrial Research
DBT	Department of Biotechnology
DRI	Directorate of Research and Innovation
DST	Department of Science & Technology
FDP	Faculty Development Programme
FIST	Fund for Improvement of S&T Infrastructure in Universities and Higher Educational Institutions
FSR	Faculty-Student Ratio
GA	Graduate Attributes
GoI	Government of India
HEI	Higher Education Institution
HMI	Human Machine Interface
IQAC	Internal Quality Assurance Cell
IPR	Intellectual Property Right
JSEC	Jaya Sakthi Engineering College
MHRD	Ministry of Human Resource Development
MoE	Ministry of Education
MOOC	Massive Open Online Course
MoU	Memorandum of Understanding
NAAC	National Assessment and Accreditation Council
NII	National Institute of Immunology
NIRF	National Institute Ranking Framework



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NIT	National Institute of Technology
NKC	National Knowledge Commission
NRI	Non-Resident Indian
OBE	Outcome-based Education
PBL	Project Based Learning
PEO	Program Educational Objectives
PG	Post-Graduate
PLO	Program Learning Objectives
RAC	Research Advisory Committee
R&D	Research and Development
RSP	Related Study Programme
STEM	Science, Technology, Engineering and Management
STTP	Short Term Training Program
UG	Undergraduate
UGC	University Grants Commission
UN	United Nations



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## **i. PREFACE**

The Jaya Sakthi Engineering College (JSEC) year of Establishment and Management profile has systematically emerged in last twenty two years as a hub for-quality education through its teaching-learning processes, competent faculty members, state-of-the-art infrastructure and committed efforts on research & innovation, having a tangible impact on rural societal development. During these years, the Jaya Sakthi Engineering College has become as synonym for ‘Quality Education’. The journey has been quite challenging yet very successful. Meanwhile, the JSEC has developed its Strategic Plan for the duration of 2022-27. The majority of the goals envisioned in the plan will be achieving it.

We are very happy to put forward this Strategic Plan of the Jaya Sakthi Engineering College for the period of 2022-27. It precisely articulates our aspirations to emerges the highly respected multidisciplinary and student centric engineering Institution.

We believe, with the support and dedicated efforts of all the stakeholders, in the next five years the JSEC will achieve a greater level of excellence and distinction in the higher education arena at national and global level.





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## ii. Overview of Strategic Plan (2022-2027) of Institution

The strategic plan 2022-2027 is currently in the process and details are given below.

The strategic plan 2022-2027 of JSEC includes,

- Modern, flexible and interdisciplinary curriculum.
- Internationalization.
- Central library as modern information resource centre.
- Introduction of new programme.
- Healthy faculty student ratio.
- Enhancing employability and entrepreneurship.
- Diversity and inclusivity.
- Research, Innovation and Consultancy Activities.
- Impacting societal outcomes
- Generating alternate sources of revenue
- Centre of excellence
- Placement, Higher Studies and Entrepreneurship

During the plan period (2022-27), the JSEC plans to strengthen all ongoing programs by way of enriching the curriculum, offering a variety of elective courses, modernizing the labs for experiential learning, adding high caliber faculty members and promoting the culture of research and innovation.

The JSEC is very serious in effectively implementing and monitoring the progress of the Five-Year Strategic Plan. The plan will be implemented and closely monitored by a core team that will meet once in a months and review the progress. The Institutional Strategic plan (2022-2027) core team will facilitate the proper implementation of the strategic plan.



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## Strategic Plan (2021-2026) of the JSEC

### 1. **Introduction**

#### 1.1. General

Prof. A.Kanagaraj, M.A., M.Phil- Chairman and Secretary Smt. K.Vijaya Kumari, M.A., B.Ed.

have started this Institution (Jaya Sakthi Engineering College) in 2001.

#### **Vision, Mission, and Quality Policy**

##### **Vision**

To achieve Technical Education Excellence through Innovative Teaching, Research and Entrepreneurship who create wealth for our nation and develop a fulfilling global society.

##### **Mission**

- To create a state of art educational institution contributing to innovation entrepreneurship, engineering and technology for our country.
- To Provide Quality Education, Self-discipline and Ethical values.
- To identify student's skills and encourage them through creative and enriching methodologies and share their knowledge to create new society.

##### **Quality Policy**

"We, at Jaya Sakthi Engineering College, shall strive hard continuously, to achieve academic excellence in Science, Engineering, Technology and Research and to produce the most competent Scientists, Engineers, Entrepreneurs, Managers, and Researchers thorough, objective and innovative teaching methods by dedicated and duty conscious faculty, continuous and consistent updating of facilities, welfare and quality improvement of the faculty and a system of continuous Process improvement".



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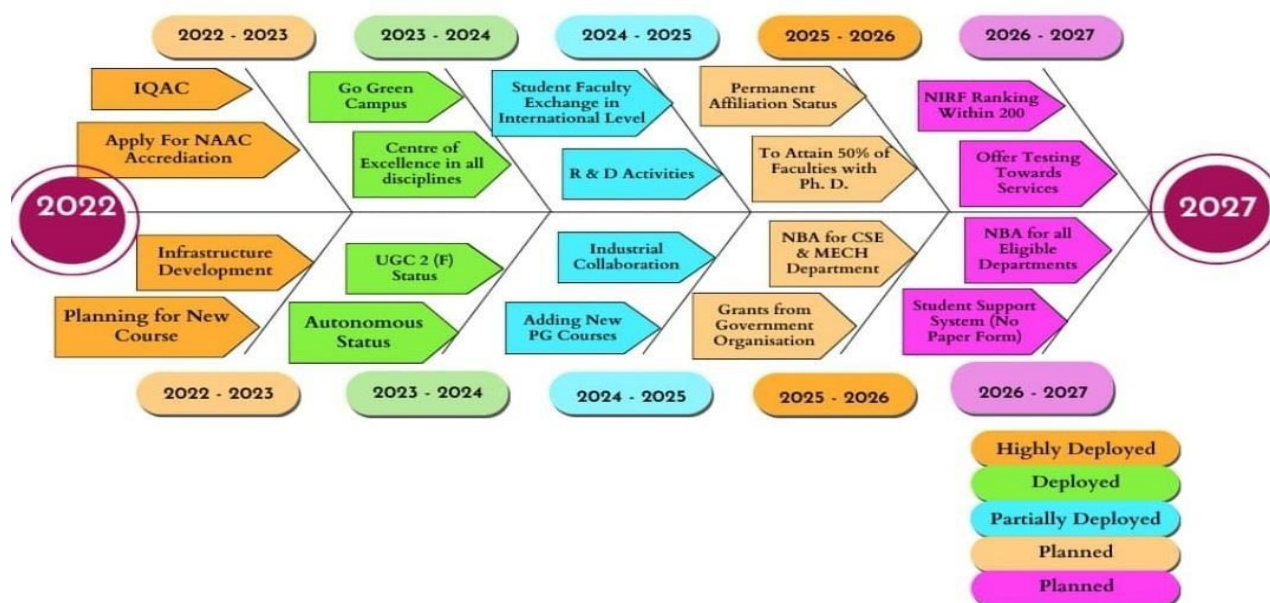
**Table1. Programmes offered UG, PG**

S.NO.	Programmes Offered	Year of Establishment
<b>Under Graduates Programme</b>		
1.	B.E-Computer Science and Engineering	2006
2.	B.E. – Mechanical Engineering	2007
3.	B.E. – Biomedical Engineering	2020
4.	B.Tech – Artificial Intelligence and Data Science	2022
5.	B.Tech – Pharmaceutical Technology	2021
6	B.E -Computer Science (Cyber Security)	2023
7	B.Tech - BioTechnology	2024

## 2. Life Cycle of Strategic Plan: 2022-2027

Strategic plan is an important tool for JSEC and it ensures the following.

- Frame work for effectiveness and sense of direction
- Goals and measurable targets
- Guiding day-to-day actions
- Evaluating progress and changing approaches when moving forward



**Fig No. 6.2.1 Life Cycle of Strategies Plan for the Institutions**



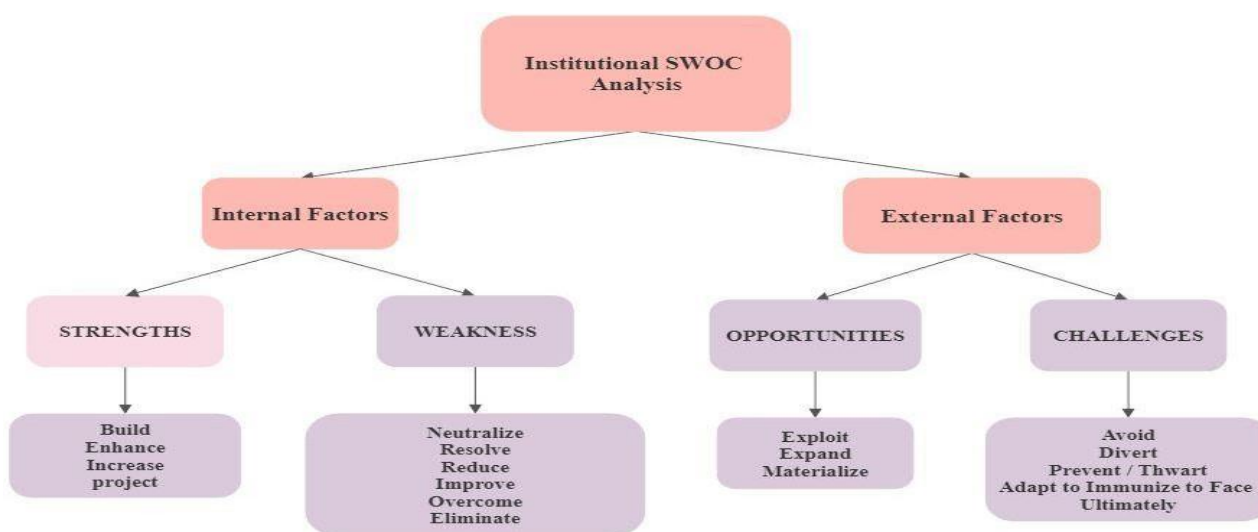


The plan is developed to establish uproots that provide firm foundation for the constant up- gradation of the JSEC, as well as to energize the drive of experimentation and innovation, keeping the focus on Institution vision and mission. The strategic plan sets out a framework of priorities for the JSEC.

### **3. SWOC Analysis**

The more commonly used practice in strategic planning is to do SWOT/ SWOC analysis: Strengths, Weaknesses, Opportunities and Treat/Challenges. It is a simple analysis system designed to check the strategic position of a particular system in its field of operation, and because of its methodological simplicity.

SWOC analysis is divided into two parts: the internal environment where strengths and weaknesses are identified, and the analysis of the external environment, where opportunities and challenges are determined.



**Divisions of SWOC analysis**



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The salient points emerging out of the SWOC analysis of the university are listed below:

## Strengths

- Excellent local and regional reputation with well- established national recognition.
- Young, dynamic and dedicated faculty members aligned with institutional goals.
- Learner centric approach.
- Focus on synergy between teaching and all-round development of the student
- Meritorious students with geographical diversity.
- Continuous up-gradation of curriculum.
- Transparent management policies, with well-defined procedures.
- Well-disciplined conducive academic environment.
- Active linkages with nearby institutions, industries and research organizations.
- Continuous emphasis on faculty and staff development.

## Weaknesses

- Relatively less exposure to global experience amongst faculty and students.
- Less number of specialized laboratories for state- of-the-art research.
- Limited sponsored research and consultancy activities.

## Opportunities

- Increase in the number of educational aspirants.
- Global growth in demand of professionals
- Catering to the need of the industry by customized programme and services to generate alternate sources of revenue.
- Encouraging policies of state and central governments for establishing CoE /IoE.
- Developing inter disciplinary programmes.
- Foreign institutes are looking towards India for academic and research collaborations.
- Establishing new as well as strengthening existing national and international linkages.
- Recognition of faculty members as fellows of national and international academic and professional societies/bodies.



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- Establishing a global presence through a large pool of alumni in diverse industries and institutions.
- Outcome based Education.
- Internationalization of various activities.

## **Challenges**

- Establishment of educational institutions of repute in the vicinity providing local, regional and global competition.
- Attracting and retaining experienced faculty members and developing a wide spectrum of expertise across the disciplines.
- To establish a strong provider of consulting and training services
- Rapid changes in all the disciplines and correspondingly changing expectations from industry and society.
- Getting more avenues of placement of Students in economies at national and global level.

## **4. Strategic Goals**

Keeping in mind the integrated themes developed in the previous section, the following strategic goals are developed by JSEC:

Goal-1: Become a medium-sized national Institution.

Goal-2: Promote research and innovation.

Goal-3: Develop faculty to meet emerging academic and employability challenges

Goal-4: Provide high quality infrastructure and facilities.

## **5. Strategies, Targets and Implementation Plan**

### **Goal-1: Become a medium-sized National Institution**

Strategy-1. Launch new programmes in the institutes

Strategy-2. Increase the number of students in different programmes.

Strategy-3. Achieve A++ grade in the First cycle of NAAC accreditation.

Strategy-4. Improve ranking in National Institutional Ranking Framework (NIRF), Ministry of HRD, Government of India.

### **Goal-2: Promote research and innovation in the constituent institutes**

Strategy-1. Increase scholarships for doctoral students through funding.

Strategy-2. Establish various center of excellence in the institutes.

Strategy-3. Increase seed money grants for minor research projects.

Strategy-4. Increase external research funding.



**Goal-3: Recruit and develop faculty members to meet the emerging academic and employ ability challenges**

Strategy-1. Selection of faculties with PhD. D qualification.

Strategy-2. Recruit faculty who have done their post-graduation/doctoral studies from a foreign/ reputed institution.

Strategy-3. Conduct two-week FDP training programme for all faculty.

Strategy-4. Ensure that most faculties have developed mental experience.

**Goal-4: Provide high quality infrastructure and facilities.**

Strategy-1. Develop the central library with reputed journal.

Strategy-2. Modernize different laboratories in various departments.

Strategy-3. Implement requisite ICT infrastructure.

**STEP-BY-STEP IMPLEMENTATION:**

Strategic plan will be implemented at two levels: the department level and the institute level. The goals set shall be implemented in the Institution by the top leadership of the Institution. They will mobilize resources – human and financial– to achieve the goals and will be closely involved in Implementation of the JSEC – Strategic plan 2022-2027.

**6. Monitoring and Alignment: Structure and System**



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Academic Years		2022-2023	2023-2024	2024-2025	2025-2026	2026-2027
S.No	Key Progress Area (KPA)	Progressive Enhancement Targets (PET) - Year-Wise				
<b>1.INFRASTRUCTUE</b>						
1.	1.Class room with LCD Projector(Window curtain)	60% of Classes	75% of Classes	90% of Classes	100% of Classes	100% of Classes
	2.Modernization lab	25%	45%	65%	85%	New Lab
	3.Industry Institute Interaction Cell and Entrepreneurship Development Cell	Initiate	2 Programmes/year	4 Programmes/year	3 Programmes/year	6 Programmes/year
	4.CMS & LMS	Initiate	25%	50%	100%	100%
	5.Quarters for Staff	5 Nos.	15 Nos.	25 Nos.	30 Nos.	35 Nos.
	6. One Seminar hall for Each/Dept (A/c to Seminar hall- 1/dept)	All Departments	All Departments	All Departments	All Departments	All Departments





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## 2.TEACHING-LEARNING (CURRICULUM)

1.	Self Learning Material	YES	YES	YES	YES	YES
2.	Subscription to Online resources	YES	YES	YES	YES	YES
3.	NIRF Ranking	Initiate	Top 70 within TN state	Top 60 within SF TN state	Top 50 within SF TN state	Top 30 within SF TN state
4.	Professional Society tie-up	1/ Department	1/ Department	1/ Department	1/ Department	1/ Department
5.	Branding (Ranking)	1 magazines	2 new magazines	2 new magazines	2 new magazines	2 new magazines
6.	Innovative Teaching & Learning	1 Online Course /Department	2 Online Course / Department	3 Online Course / Department	4 Online Course / Department	5 Online Course / Department
7.	Outcome based education (OBE)	Initiated	Implementation	Enhance & Improve	Enhance & Improve	Enhance & Improve
8.	NBA	Plan to Initiate	Initiate	2 Dept to initiate	2 Department	All Eligible Departments
9.	NAAC	Initiated	Annual Quality Assurance Report /Semester	Annual Quality Assurance Report /Semester	Annual Quality Assurance Report /Semester	Annual Quality Assurance Report /Semester
10.	No. of Course with Question Bank	2 per Department	5 per Department	5 per Department	5 per Department	5 per Department
11.	Industrial Collaborated Courses	Plan to Initiate	1 per Department	1 per Department	1 per Department	1 per Department



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3.STUDENTS RELATED						
3	1.Admission (UG)	65%	75%	85%	90%	95%
	2.Placement (UG)	70%	70%	80%	82%	85%
	3.Lateral Entry Admission	35%	45%	47%	50%	50%
	4.Fee Concession	15%	13%	10%	9%	8%
	5.Avg Cut-off	120	125	130	135	140
	6.GATE - Appeared	20 Students	30 Students	40 Students	50 Students	60 Students
	7.GATE - Qualified	20%	30%	32%	35%	37%
	8.TANCET - Appeared	25Students	30Students	40 Students	50 Students	70Students
	9. .TANCET - Qualified	20%	25%	27%	30%	35%
	11.Entrepreneur Development	Introduce	5 Activities	10 Activities	15 Activities	20 Activities
	12.Best Student - Awards	1/Dept(Course)	1/Dept(Course)	1/Dept(Course)	1/Dept(Course)	1/Dept(Course)
	13.Top academic Students' Scholarship (Class-Wise)	2 per Class/Dept	2 per Class / Dept	2 per Class / Dept	2 per Class / Dept	2 per Class / Dept



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4.FACULTY RELATED						
4	1.Pass % (UG)	85	85	$\geq 85$	$\geq 90$	$\geq 95$
	2.Faculty Avg. Experience	6	6	7	7	8
	3.Student-Faculty Ratio	6.1	6.1	6.1	6.1	6.1
	4.Attrition Rate	20%	15%	12%	10%	< 10%
	5. Publication per Dept (With IM. Factor)	25%	50%	70%	75%	80%
	6.Ph.D.	20%	25%	35%	50%	60%
	7.Workshop / FDP Attended - External	1/Faculty	2/Faculty	2/Faculty	2/Faculty	2/Faculty
	8.Workshop / FDP Attended - Internal	1	2	2	2	2
	9.Industrial Training	1 / Dept	2 / Dept	2 / Dept	2 / Dept	2 / Dept
	10.Faculty from Industry	3/dept	3/dept	5/dept	5/dept	5/dept



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5.CO-CURRICULAR (STUDENTS)						
5	1.Publication (UG) - Journal/Conference	20%	45%	55%	65%	85%
	2.Workshop / Seminar Attended	1/Year	1/Year	1/Year	1/Year	1/Year
	3.Industrial Visit	2/Year	2/Year	2/Year	2/Year	2/Year
	4.In-Plant Training	2	2	2	2	2
	5.Internship	6 Weeks	6 Weeks	6 Weeks	6 Weeks	6 Weeks
	6.Club to Strengthen English	Introduce	1 Activity	2 Activities	2 Activities	2 Activities
	7.Value Added Course(s)	1/Dept	2 / Dept (1 from Internal Staff)	2 / Dept (1 from Internal Staff)	2 / Dept (1 from Internal Staff)	2 / Dept (1 from Internal Staff)
	8.Placement Training	15 Days / Year	15 Days / Year	15 Days / Year	15 Days / Year	15 Days / Year
	9. Personality Development class	2 Activities/ Year	2 Activities/ Year	2 Activities/ Year	2 Activities/ Year	2 Activities/ Year



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## 6.EXTRA CURRICULAR (SUPPLEMENTARY PROCESS)

6	1.Sports	Athletic	volley ball	Judo	Basket ball	cricket
	2.Tournaments @ Level	College Level	College Level	College Level	Zonal Level	Zonal Level
	3.Alumni Association	Introduce 1/Year	2/Year + Local Chapter	2/Year + 2 Local Chapter	2/Year + Decade meet	2/Year + 2 Local Chapter
	4.Association	Introduce 1/Year	2/Year	3/Year	3/Year	3/Year
	5.IAS, IES (UPSC) & Banking exam	10 Students	20 Students	30 Students	35 Students	45 Students
	6.Foreign Language Training	1 Language	1Language	1 Language	1 Language	1Language
	7.Vocational / NSDC Training	1/dept	1/dept	1/dept	1/dept	1/dept
	8.Village adoption/ISR/CSR	5	5	5	5	5





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## 7.RESEARCH AND DEVELOPMENT STRATEGY

1.Research FDP/Workshop	2 Nos.	2 Nos.	2 Nos.	2 Nos.	2 Nos.
2.Ph.D. completion	1	2	2	3	3
3.Ph.D. registration	Plan to Initiate	4	5	6	7
4.Funded Project - applied (10 - 15 lakhs)	2 Nos.	3 Nos.	5 Nos.	7 Nos.	10 Nos.
5.Funded seminar/workshop conducted	1	2	3	4	5
6.Internatioanl Conference	1	1	1	1	1
7.Funded Student Project	1/dept	2/dept	3/dept	3/dept	4/dept
8.MoU with industry	2 Nos.	3 Nos.	3 Nos.	3 Nos.	3 Nos.
9.MoU with IIT, NIT and reputed institutions	1 No	2 No	2 No	2 No	2 No
10.Consultancy	1 /dept	2 /dept	3 /dept	4 /dept	4 /dept
11.Patent applied (TOTAL)	2	5	7	9	10
12.Technology Incubator	1	1	1	1	1