



ESTD. 2001

# PRATHYUSHA ENGINEERING COLLEGE

Approved by AICTE & Affiliated to Anna University, NAAC & National Board Accreditation (NBA) Accredited Institution

## PRATHYUSHA ENGINEERING COLLEGE INNOVATION & STARTUP POLICY

### Vision

To make Prathyusha Engineering College as one of the Advanced Innovation Centre and the supreme destination for Start-ups by 2025

### Mission

To create, support and nurture a lively Start-up ecosystem in Prathyusha Engineering College resulting in innovation and entrepreneurship driven employment and socio-economic growth.

### Short term Objectives

Inculcate, inspire, assist and support development of at least 8 technology start-ups in Prathyusha Engineering College

### Long term Objectives

Provide a committed support to at least 05 Indian high growth start-ups developing innovative technology solution for high social impact in sectors like hygiene, agriculture, renewable energy, healthcare, transport, etc.

### 1. Committee Members

Sl.No.	Name	Position
1.	Dr. B.R. Ramesh Babu Principal, Prathyusha Engineering College	President
2.	Dr. P. Jayaraman Professor/ Prathyusha Engineering College	NISP Coordinator
3.	Dr. S. Padmapriya Professor/ Prathyusha Engineering College	Coordinator IIC
4.	Mr. N. Ramasamy Asst. Professor/Prathyusha Engineering College	EDC Coordinator
5.	Mr. N. Gopinath Asst. Professor/Prathyusha Engineering College	Innovation Ambassador

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6.	Dr. P. Malathi Professor/ Prathyusha Engineering College	Innovation Ambassador
7.	Dr. V. Ramakrishnan,	Incubation centre/ Vice President
8.	Mr. V.S. Sriraja Balaguru	Vice President
9.	Mr. E. Ganesh	Bank/Investor
10.	Mr. Manogar Loganathan	Expert from industry
11	Mr. D. Thiyagaraja Gupta	Patent Expert
12.	Mr. Karthik Ramamohan	Start-up/Alumni Entrepreneur
13.	Mr. S. Vijay Ganesh	Start-up/Alumni Entrepreneur

## 2. Policy Problem or Thrust Area

Sl. No.	Plan
1.	PEC Strategies & Governance for Stimulating Innovation & Entrepreneurship
2.	Creating Innovation Pipeline and Pathways for Entrepreneurs at institute level
3.	Building Organizational Capacity, Human Resources and Incentives
4.	Collaboration, Co-creation, Business Relationship and Knowledge Exchange
5.	Norms for Students Driven Innovations and Start-ups
6.	Incentivizing Faculty & Students for Entrepreneurship
7.	Norms for Faculty Start-up
8.	Incubation & Pre-Incubation support
9.	IP Ownership Rights for Technologies Developed at PEC
10.	Pedagogy & Learning Interventions for Supporting Innovations & Start-ups
11.	Entrepreneurial Performance Impact Assessment



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## 1. PEC Strategies & Governance for Stimulating Innovation & Entrepreneurship

The NISP initiative has opened up a channel for students and faculty to adopt an entrepreneurial mindset as one of their career possibilities. Following steps have been taken to implement PEC ISP.

- i. A dedicated Center for Innovation and Entrepreneurship (CIE) has been formed to support the growth of an entrepreneurial ecosystem within the organization. The CIE has clear specific objectives and associated performance metrics for assessment.
- ii. Through the establishment of a unique "Innovation fund," at least 1% of the institution's yearly budget must be set aside for financing and supporting innovation and startup-related activities.
- iii. Fundraising efforts from both government (state and central), such as AICTE, DSIR, CSIR, DST, DBT, MoE, BIRAC, NSTEDB, Startup India, and MSME, as well as non-government sources will be supported.
- iv. It will be strongly encouraged and welcomed to contact private and corporate sectors to produce funding under corporate social responsibility (CSR) to assist innovation and entrepreneurship encouraging activities.
- v. The Institute's Center for Innovation and Entrepreneurship (CIE) will put on institutional events like conferences, symposiums, seminars, webinars, workshops, and more to raise awareness about the value of the innovation and entrepreneurial agenda.
- vi. In order to encourage the student population to engage in entrepreneurial activities, PEC has established a student-owned ED Cell.

## 2. Creating Innovation Pipeline and Pathways for Entrepreneurs at institute level

- i. The awareness programs conducted by ED Cell, IIC and Incubation center under their structured Entrepreneurship Awareness Camps of 3-day duration and awareness sessions conducted during induction programs for first year students by ED cell and IIC coordinators helps the students to understand about entrepreneurship and innovation.
- ii. Students can build a variety of skills necessary for the entrepreneurial journey through specialized workshops and short-term courses in IPR, entrepreneurship development, various technology-based skill development programs, etc.
- iii. The institution needs to create Institution's Innovation Council (IIC) in accordance with the recommendations of the MoE Innovation Cell and allocate adequate funding for the council's operations. Institutions should follow IIC's guidance as they carry out various initiatives to promote innovation, startups, and entrepreneurship.
- iv. Access to capital for future entrepreneurs must be made available through laboratories, research facilities, IT services, training, mentoring, etc. for the new businesses in order to boost the innovation funnel of the institute.
- v. The incubation center has specialized selection committees for incubation and project monitoring made up of professionals in incubation and entrepreneurship, prototype development, IPR, marketing, finance, and technology.

  
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- vi. The students incubated in PEC Incubation center shall be presenting their proposal in front of Project Selection Committee for funding through various government schemes and agencies.
- vii. For prototype or product development, fabrication and rapid prototyping facilities are being provided by PEC through laboratories and design center.
- viii. The incubated student is mentored and presented to angel investors, venture capitalists, and investors for scaling up his or her firm when the incubated student registers his/her company.
- ix. Reducing teaching loads, other administrative burdens and offering awards and trainings are to be followed to encourage staff members to engage in entrepreneurial activities.
- x. A performance matrix will be established and used for evaluation of yearly performance.

### 3. Building Organizational Capacity, Human Resources and Incentives

- i. PEC will hire employees who possess a strong sense of innovation, entrepreneurialism, and industrial experience. This will support the culture of innovation and entrepreneurship inside the institution.
- ii. Some of the knowledgeable faculty members who have experience and an interest in fostering innovation and entrepreneurship should be assigned to training.
- iii. A course on innovation, entrepreneurship management, and venture development will be made available to faculty and staff.
- iv. PEC will create academic and non-academic incentives and reward mechanisms for all staff members and stakeholders who actively contribute to and support the agenda and activities of entrepreneurship in order to attract and retain the right personnel.

### 4. Collaboration, Co-creation, Business Relationship and Knowledge Exchange

- i. Industry partners, national and international organisations, social enterprises, schools, alumni, professional bodies, and business owners will all be encouraged to participate in and collaborate on all activities related to the institute's entrepreneurial agenda.
- ii. The CIE and associated team will be Single Point of Contact (SPOC) in the institute for the students, faculty, collaborators, partners and other stakeholders.
- iii. Institute has collaborations with CII, various government departments and ministries like DST, AICTE, polytechnic institutes, research organizations like IIT, Anna University, entrepreneurship promoting institutes EDII, IP firms and network of angel funding and venture capitalists etc. The student's entrepreneurial experience is benefited by all of these connections.

### 5. Norms for Students Driven Innovations and Start-ups

- i. Students have access to the pre-incubation and incubation facilities for a mutually agreeable amount of time that has been granted by PEC IIC.
- ii. Students interested to pursue entrepreneurship career will be stimulated to register in the ED Cell.



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- iii. Students from ED Cell will be registered and mentored in CIE through various Entrepreneurship Awareness Programs and guidance for various projects. They will be encouraged to form Student Startups.
- iv. Student startups are eligible to apply for a seed fund subject to the approval of PEC IIC.
- v. The student's proposed start-up area may be interdisciplinary or multidisciplinary. However, the student must explain how they will clearly differentiate and distinguish between the work being done at the start-up and their ongoing research efforts as a student.
- vi. It should be possible for students who are enrolled in an incubator program but are also pursuing certain entrepreneurial endeavours to register their businesses using the institution address.
- vii. PEC may provide accommodation to the entrepreneurs within the campus for particular period.
- viii. PEC may consider in allowing its resources students/ wishing to establish start up as a fulltime effort.
- ix. Interdisciplinary research and publication on startup and entrepreneurship shall be promoted.
- x. Work and creativity of student innovators will be full honoured by supporting it in different forms. Available infrastructure will be provided to the innovator for a nominal fee and taking equity in the venture. This equity will be limited from 2% to 9.5% and will immune institute from legal liability. In addition space, machineries, seed fund, mentorship, legal support and support for account will also be provided.

#### 6. Incentivizing Faculty & Students for Entrepreneurship

- i. All the stake holders and innovators will be rewarded for their successful start-up and innovation. Incentive can be academic or non-academic in nature such as sabbatical leave for faculties, office space, reduced teaching load, maintaining seniority while on start-up leave, sponsorship for higher education or any other suitable form. Stake holders may be rewarded as guest teachers, fellowships, associates etc.
- ii. For student innovators reward can be in terms of scholarship, forgoing limits of attendance, exemption from class and lecture hours etc.
- iii. Start-up will be encouraged as career option, over and above placement.

#### 7. Norms for Faculty Startup

- i. The institutes should develop norms for faculty to do startups in order to improve the coordination of entrepreneurial operations.
- ii. Institutions should focus on creating a "conflict of interests" policy to ensure that the faculty member's normal responsibilities are not jeopardised by his or her involvement in startup activities.
- iii. Faculty startup may include faculty members working alone, with students, other faculty from different institutions, alumni, or other business owners.



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- iv. In case the faculty/ staff holds the executive or managerial position for more than three months in a startup, they will go on leave without pay/utilize existing leave.
- v. Faculty must differentiate and clearly separate work done at the startup/company from ongoing research at the institute.
- vi. In case of selection of a faculty startup by an outside national or international accelerator, a maximum leave (as existing leave/ unpaid leave/ casual leave/ earned leave) of one semester/ year (or even more depending upon the decision of review committee constituted by the institute) may be allowed to the faculty.
- vii. Faculty are not permitted to accept gifts from the startup.
- viii. Faculty must not involve research staff or other staff of Institute in activities at the Startup and vice-versa.
- ix. Work and creativity of Faculty/staff innovators will be full honoured by supporting it in different forms. Available infrastructure will be provided to the innovator for a nominal fee and taking equity in the venture. This equity will be limited from 2% to 9.5% and will immune institute from legal liability. In addition space, machineries, seed fund, mentorship, legal support and support for account will also be provided.

#### **8. Incubation & Pre-Incubation support**

PEC has developed institutional infrastructure to enable startups and progressed in this direction from ED Cell establishment to its promotion into PEC Incubation center (Approved by MSME, Government of India).

As a part of well-developed infrastructure, a dedicated building with 2000 sq. ft. of operational area consisting of well-equipped cubicles for startup working, incubation facilities for prototyping, mentoring for IPR, marketing, business plan development, product development.

- i. As a result, pre-incubation and incubation facilities have already been established in PEC for fostering innovations and startups, and they follow the roadmap from Innovation to Enterprises to Financial Success.
- ii. The list of all the pre-incubation units in the campus i.e. Students clubs, Technical clubs, ED cell, advanced labs and design centers, centers of excellence, IPR Cell, Institute innovation's Council (IIC) has been disseminated. A functional IIC is managing all the activities regarding innovation, entrepreneurship and startup related activities within the institute.
- iii. PEC Incubation center (Approved by MSME, Government of India) has all the incubation related facilities.
- iv. The Entrepreneurship Cell, a division of CIE, is in charge of providing both structured and unstructured support to the staff and students through cutting-edge labs and design centers with all the tools necessary to turn a concept into a prototype.



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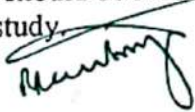


## 9. IP Ownership Rights for Technologies Developed at PEC

- i. When institute facilities / funds are used substantially or when IPR is developed as a part of curriculum/ academic activity, IPR is to be jointly owned by inventors and the institute.
- ii. On the other hand, if product/ IPR is developed by innovators not using any institute facilities, outside office hours (for staff and faculty) or not as a part of curriculum by student, then product/ IPR will be entirely owned by inventors in proportion to the contributions made by them. In this case, inventors can decide to license the technology to third parties or use the technology the way they deem fit.
- iii. Institute IPR cell or incubation center will only be a coordinator and facilitator for providing services to faculty, staff and students. If institute is to pay for patent filing, they can have a committee which can examine whether the IPR is worth patenting. The committee should consist of faculty who have experience and excelled in technology translation. If inventors are using their own funds or non-institute funds, then they alone should have a owner of patenting.
- iv. Interdisciplinary research, publication on startup and entrepreneurship would be promoted by the institution.

## 10. Pedagogy & Learning Interventions for Supporting Innovations & Start-ups

- i. PEC started adopting a variety of teaching and learning pedagogies, such as cross-disciplinary learning using mentors, labs, case studies, games, etc. in place of conventional lecture-based delivery. The resource team will include industry experts and mentors from several business and enterprise sectors. This project- and problem-based learning, online learning through a MOOC platform, and courses from Coursera make up the blended learning pedagogy model.
- ii. The Entrepreneurship Development Cell is in charge of setting up contests, boot camps, workshops, and awards. Students are fully involved in the strategic design and execution of these events.
- iii. As a part of awareness program about entrepreneurial ecosystem present in the institute, introductory sessions will be organized for all the students of all the program.
- iv. A dedicated Industry Institute Interaction Centers (CoE) with well drafted policy is responsible for conducting research and survey on trends in technology, research, innovation, and market intelligence. Activities linked to student internships, industrial visits, and consulting with industry will be organized by this center.
- v. PEC-IIC will regularly hold boot camps, visits to rural and underprivileged communities in the surrounding region, and hackathons to encourage student ideas, initiatives, and innovations based on real-life difficulties. The institute's activity calendar will show these events as well as other IIC calendar events.
- vi. Innovation champions should be nominated from within the students/ faculty/ staff for each department/stream of study.



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## 11. Entrepreneurial Performance Impact Assessment

The various parameters to be considered for Entrepreneurial Impact Assessment are

- i. Participation in awareness programs
- ii. Satisfaction of the participants in conference, symposium, workshops and training programs
- iii. Utilization of pre-incubation facilities by students
- iv. Number of curriculum projects addressing real life problems
- v. Participation in various idea, PoC, Prototype, B-plan competitions and hackathons
- vi. Participation in pitching for fund raising and grants/support from government and non-government agencies
- vii. Contribution in industrial projects and consultancy projects
- viii. Idea to PoC projects
- ix. PoC to Prototype
- x. Annual Turnover
- xi. IPR application filing, grant and commercialization
- xii. Product development and its launching in the market
- xiii. Fundraising from Government and Non-Governmental organizations.
- xiv. Startup registrations and company incorporation

The PEC-IIC team will be responsible for assigning appropriate weightages to the above parameters depending on the maturity of the process. A separate document regarding this will be made available by IIC and reviewed annually.

  
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### 3. Benchmark – KPI Monitor & Evaluation

Hierarchy of Objectives	Key Performance Indicators (KPIs)	Means and Verification
Vision	<ul style="list-style-type: none"> <li>•5% Increase in Self-Employment Rate</li> <li>•8 Established Start-ups</li> </ul>	<ul style="list-style-type: none"> <li>•ARIIA, NIRF Rankings</li> </ul>
Goal/Impact	<ul style="list-style-type: none"> <li>•Enable Environment with multiple level of support for innovation &amp; Entrepreneurship in Prathyusha Engineering College</li> <li>•5% of Graduate students will choose Entrepreneurship as career</li> <li>•10% of Student and Graduates Practice Entrepreneurship</li> </ul>	<ul style="list-style-type: none"> <li>•Biannual Survey</li> <li>•ARIIA, NIRF Rankings</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>•50% of student &amp; faculty mass with entrepreneurship Orientation</li> <li>•25% of Student &amp; faculty motivated to start any entrepreneurial activity</li> <li>•8 of IPR/Innovations developed for commercialization</li> <li>•8 of Student/Early Stage Start-ups formed</li> <li>•20% of In-house Expert Capacity available for Advisory Services</li> <li>•20% of Satisfaction over Advisory services offered to Innovators &amp; Early Stage Entrepreneurs</li> <li>•Network Established with connecting multiple stakeholders &amp; Ecosystem Enablers</li> </ul>	<ul style="list-style-type: none"> <li>•Biannual Survey</li> <li>•Quarterly News Letter</li> </ul>
Outputs	<ul style="list-style-type: none"> <li>•50% of Student &amp; faculty mass exposed to awareness/orientation building programs</li> <li>•50% of Students covered through entrepreneurship Education; MOOC, Class Room, Experiential Learning programs etc.</li> <li>•300 of beneficiaries are accessing the infrastructure &amp; facilities per Year</li> <li>•50 of innovators identified; 25 of awarded./recognized; 25 of Supported</li> <li>•20 of entrepreneurs identified; 10 of awarded/recognized; 10 of supported</li> <li>•8 of Student projects turns to (commercialize) Innovations</li> <li>•20 of IPR based product/services generated and registration filed</li> <li>•20% of in-house trained professional developed for advisory services</li> <li>•5 of Research Studies on Entrepreneurship published</li> <li>•5 of Regional, National and International linkages established for the start-up &amp; innovation</li> <li>•10% Representatives of experts &amp; entrepreneurial students across Department &amp; Disciplines.</li> <li>•8 of Beneficiaries Referred to Incubators/investors for further support through Start-up Cell</li> <li>•15 of Beneficiaries generated under various schemes and programs leveraged and converged at Start-up Cell</li> </ul>	<ul style="list-style-type: none"> <li>•Biannual Survey</li> <li>•Monthly progress report</li> </ul>



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<p><b>Activities</b></p>	<ul style="list-style-type: none"> <li>•8 Education/Skill certification program on Entrepreneurship, IIPR, Innovation etc.</li> <li>•40 of workshops, awareness, market outreach events, orientation, advocacy meetings etc.</li> <li>•20 of networking event (Intra and Inter-institutional, enablers, stakeholders) organized</li> <li>•8 of skill and competency development training programs/FDPs/EDPs organised</li> <li>•5 of research studies related to Entrepreneurship conducted</li> <li>•02 of national and regional award and campus Hackathon like events organised</li> <li>•Incentivizing Entrepreneurship and Innovation; services and facilities; Start-up Manual, policies, tool kits etc.</li> <li>•1% of total budget/year spend against total institution revenue for start-up</li> <li>•Budget allocation and Spend ratio for the start-up mandate in institute</li> </ul>	<ul style="list-style-type: none"> <li>•Biannual Survey</li> <li>•Quarterly News Letter</li> <li>•Monthly progress report</li> <li>•Review Meetings</li> </ul>
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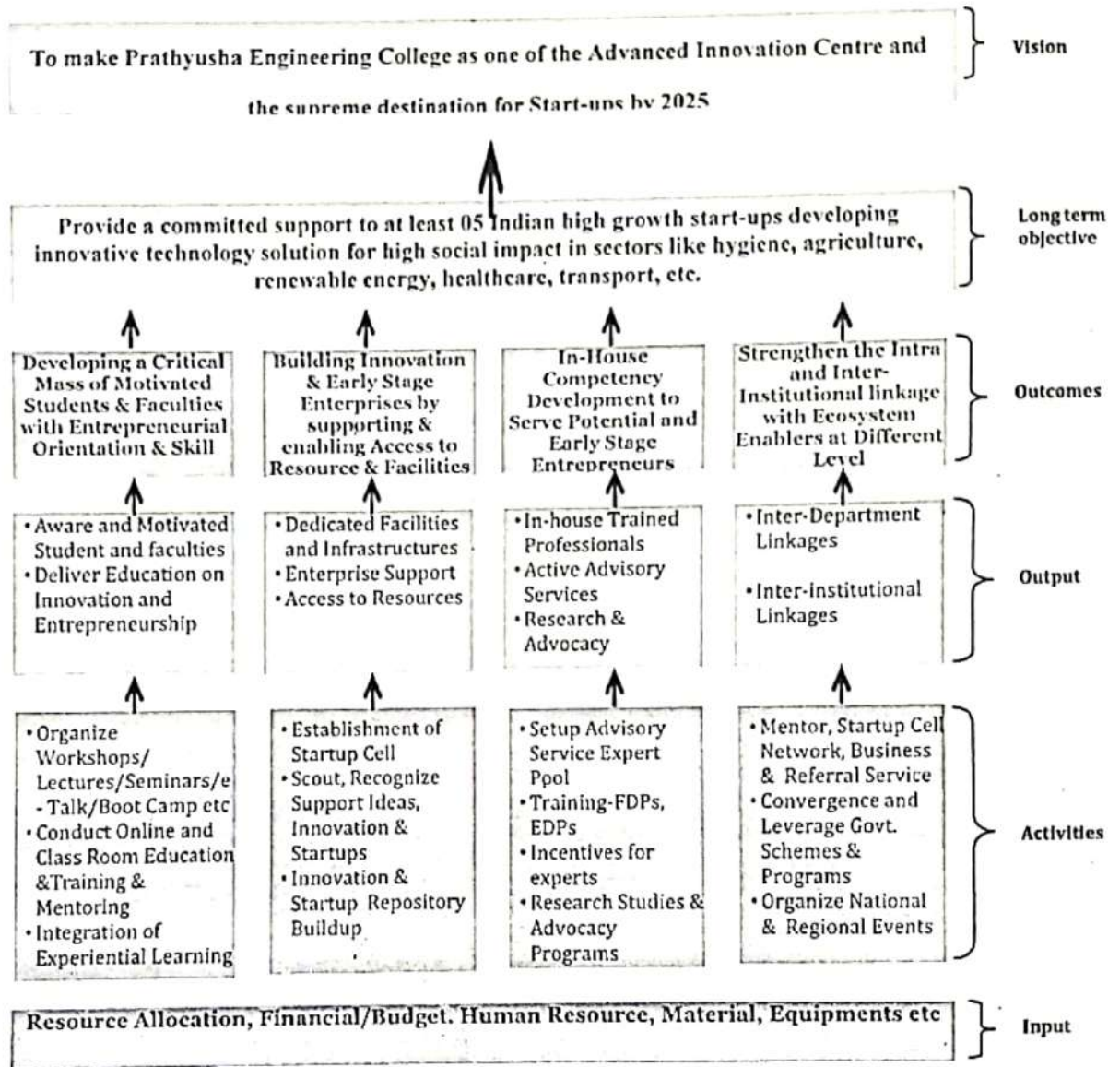
#### 4. Tentative plan for the next 5 years

Sl. No.	Activity	Frequency
1.	One Day Workshop on "Entrepreneurship and Innovation as Career Opportunity"	2/Year
2.	One Day Workshop on Problem Solving/Design Thinking/Ideation Workshop/ Campus Hackathon etc	2/Year
3.	Field/Exposure Visit to Village/Society /School/Industry/Market – Identity real Life Problem	1/Year
4.	Special Talk on My Story - Entrepreneur's Life & Crossroad – Motivational Speak - To be Share by Entrepreneurs	2/Year
5.	Product Development Phases - Story Telling - (Innovators in Campus)	1/Year
6.	Demo Day – Exhibition Cum Demo for PoCs & Mentorship Session for Innovators (or) Student Entrepreneurs	1/Year
7.	Internship at Innovation & Start-up Centre/Start-ups/Incubation Unit etc. during Semester Break	2/Year
8.	Field/Exposure Visit to Incubation Unit/Patent Facilitation Centre/Technology Transfer Centre	1/Year
9.	Business Plan Contest	2/Year
10.	Workshop on Business Model Canvas (BMC) and (or) Business Plan Competition to Invite Innovative Business Models from Students	2/Year
11.	One day workshop on "How to plan for Start-up and legal and Ethical Steps"	2/Year
12.	Half day Interactive/online Session/Mentoring Session "Hangout with Successful Start-ups" (Entrepreneurs in Campus )	2/Year
13.	One Day Awareness/Mentoring Session on IPR & IP Management for Innovation and Start-ups	2/Year
14.	Field/Exposure Visit to Design Centre/Makers' Space/Fab Lab/Prototype Lab/Tinkering Lab etc	1/Year
15.	Seminar on Accelerator/Incubation - Opportunity for Student Faculty - Early Stage Entrepreneurs	2/Year
16.	Seminar on Understanding Angel and Venture Capital Funding - What is there for Early Stage Innovator & Entrepreneurs	1/Year
17.	Bootcamp for Innovation product development	1/Year
18.	Innovation Day Celebrations	1/Year
19.	National Science Day	1/Year
20.	Workshop Funding Opportunities for Innovation and Entrepreneurship Development	1/Year
21.	PEC Hackathon(Software)	1/Year
22.	PEC Project Design Contest(Hardware)	1/Year
23.	Short Term Training course on Innovation /Start-up & Entrepreneurship	1/Year



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## 5. Program Implementation-Using Problem Tree and Policy Logical Tools



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NISP-Coordinator:

Date: 22.08.22

Place: Tiruvallur

