



PVPSIT Innovation and Start-up policy- 2020 for students and faculty



 **Prasad V. Potluri Siddhartha Institute of Technology**
Kanuru, Vijayawada – 520007. Approved by AICTE & Affiliated to JNTU, Kakinada
Autonomous, Accredited by NBA, An ISO 9001:2015 Certified Institution
Sponsored by: Siddhartha Academy of General And Technical Education, Vijayawada



EAMCET Code : PPSV

PVPSIT INNOVATION and STARTUP Policy 2020 for Students and Faculty

PVPSIT Innovation and Startup Policy 2020 brings students, faculty and staff to innovation and entrepreneurship-related activities by enabling the creation of robust innovation and startup ecosystems on campus to be actively involved in. This policy also promotes unity across the institute in terms of intellectual property ownership management, technical licensing, and institutional startup policies.

Message from Secretary of Siddhartha Academy of General and Technical Education (SAGTE):



Sri P.Lakshmana Rao
Secretary, SAGTE

Innovation in education encourages teachers and students to explore research and exhaust all the possible ways to counter a problem. It involves some different ways of thinking out of boundaries. This kind of thinking process that goes into it will help students develop their creativity and their problem solving skills.

PVP Siddhartha Institute of Technology (PVPSIT) is pool of untapped talent waiting for their chance to showcase their innovative ideas and build them into prototypes for a better world which is made possible by Institution Innovation Council (IIC) of PVPSIT. Innovation means using new technology and using novel ways of thinking to add value to an existing idea or product and to make substantial changes in society. Innovation is the current driving force of the present modern world and one can only reach the heights if provided an environment where he/she can grow and a safe place where they can put forth their ideas. Rome isn't built in day and the same applies to a start-up venture or innovation. IIC of PVPSIT not only provides an idealistic environment for young entrepreneurs but also guides them till their company is established. PVPSIT aims to give only the best of anything and everything to their faculty and students. This policy is another step towards providing many such opportunities to grow, to innovate and to nurture future entrepreneurs.

Message from the Principal of PVP Siddhartha Institute of Technology:



**Dr. Sivaji Babu Kondapalli,
Principal, PVPSIT.**

The goal of engineering education is to cultivate a corps of talented engineers who can help us achieve prosperity and security. So far, in India, the focus has been more on overall education, with vocational and technical education taking a backseat. The high number of unemployed graduates is a result of the economy's slow growth, and the government is now emphasizing technical education in order to create more jobs for graduates. In today's economy, only technical education can guarantee a job and a comfortable living. Those who still attend conventional institutions, taking exams that have little relevance in the modern job market, find few opportunities for employment.

Despite India's large pool of technically skilled workers, it falls short of the needed quantity for many companies operating in India. There is still a large demand for skilled technical personnel.

We at PVPSIT, want to help all students start their own businesses. We will help you become a quality engineer and be a partner in the transformation of the nation.

I appreciate the IIC team for their dedication in promoting innovation culture, and their efforts in preparing the PVPSIT Innovation and Start-up policy -2020.

Message from the Convener of Institution Innovation Council:



**Dr. Jagadish Vengala,
Convener, Institute Innovation Council, PVPSIT.**

The PVP Siddhartha Institute of Technology (PVPSIT) established the Institution's Innovation Council (IIC) in the year 2018 under the Ministry of Education (MoE) through MoE's Innovation Cell (MIC), in collaboration with AICTE. The main aim of IIC of PVPSIT is to systematically foster the culture of innovation and start-up ecosystem in the campus. Primarily, IIC role is to engage large number of faculty, students and staff in various innovation and entrepreneurship related activities such as ideation, Problem solving, Proof of Concept development, Design Thinking, IPR, project handling and management at Pre-incubation/Incubation stage, etc., so that innovation and entrepreneurship ecosystem gets established and stabilized in the institute.

This policy is another step towards providing many such opportunities to grow, to innovate and to nurture future entrepreneurs.



PRASAD V POTLURI SIDDHARTHA INSTITUTE OF TECHNOLOGY

(AUTONOMOUS)

KANURU, VIJAYAWADA -520007.

(Sponsors : Siddhartha Academy of General & Technical Education, Vijayawada)

Affiliated to JNTUK, Kakinada (College Code : 50)

Approved by AICTE, Accredited by NAAC With 'A+' Grade

UG Programs are Accredited by NBA

An ISO 9001 : 2015 Certified institution

Ref :

Date :

29/01/2021

Circular

A committee is constituted with the following members to frame the Innovation and start-up policy to students and faculty of the Institute.

Committeemembers:

- | | |
|---|------------------------------------|
| 1. Dr. K. Sivaji Babu
<i>Principal</i> | Convener of I&S policy formulation |
| 2. Dr. V. Jagadish
<i>Associate professor, Civil Engineering, Convener IIC of PVPSIT</i> | Member |
| 3. Dr.B. Surya Prasada Rao
<i>Associate Professor, ECE and EDC coordintor</i> | Member |
| 4. Mr. A. Ashok Babu
<i>Assistant Professor, ECE, & NISP nominated faculty</i> | Member |
| 5. Mr. J. Surendra
<i>Assistant Professor, Mech., & ARIIA Coordinator</i> | Member |
| 6. Dr. A. Haritha
<i>Assoc. Professor, IT.</i> | Member |
| 7. K. Jaswanth Raghu
<i>Start-upfounder(Student)</i> | Member |





PRINCIPAL
PRASAD V. POTLURI
SIDDHARTHA INSTITUTE OF TECHNOLOGY
KANURU, VIJAYAWADA - 520 007
Fax : (0866) 2581184
website : www.pvpsiddhartha.ac.in

phones: (0866) 2581699, 2583037
E-Mail : principal@pvpsiddhartha.ac.in

Contents

Preamble

Overview

Focus and functions of IIC

Value added services offered by the IIC

Mission

PVPSIT Innovation and Startup Policy 2020 for Students and Faculty

1	Strategies and Governance	11
2	Startups Enabling Institutional Infrastructure	13
3	Nurturing Innovations and Startups	13
4	Product Ownership Rights for Technologies Developed at Institute	16
5	Organizational Capacity, Human Resources and Incentives	17
6	Creating Innovation Pipeline and Pathways for Entrepreneurs at Institute Level	19
7	Norms for Faculty Startups	20
8	Pedagogy and Learning Interventions for Entrepreneurship Development	20
9	Collaboration, Co-creation, Business Relationships and Knowledge Exchange	21
10	Entrepreneurial Impact Assessment	22
11	Information base regarding Start-up and entrepreneurship ecosystem	23
12	Glossary	24
13.	Acknowledgments	27
14.	Bibliography	28

Preamble:

The primary mandate of IIC is to encourage, inspire and nurture young students by supporting them to work with new ideas and transform them into prototypes. It is a pedestal to help knowledge driven enterprises to establish and prosper under organized scientific guidance. It also facilitates swift commercialization of a product based on sophisticated technology. The main objective of the IIC is to produce successful firms that will leave the program financially viable and free- standing. These incubators “graduates” create job, commercialize new technologies, and strengthen national economies. Incubator tenants not only benefit from business and technical assistance, they also benefit from official affiliation with the incubator, a supportive community with an entrepreneurial environment, direct link to entrepreneurs, and immediate networking and commercial opportunities with other tenant firms.

Overview

IIC- is the umbrella body for nurturing and overseeing innovation and entrepreneurship at PVPSIT-. IIC- will leverage from past experiences and give entrepreneurship a stronger push as well as serve to coordinate and promote innovation-driven activities at the institute. IIC- seeks to nurture technology and knowledge based ventures through their start-up phase by providing the necessary support to help entrepreneurs survive in the competitive market and reach a stage where they can scale-up their ventures further. The IIC- aims to build and share resources including space and infrastructure, access to business support services, mentoring, training programmes to enhance the skills of entrepreneurs and seed funds. The scope of support is broad-based, and covers technologies/IP developed wholly at the Institute or partly through collaborations elsewhere, as well as external start-ups with which PVPSIT-members are associated as consultants or mentors. IIC- is also particularly open to proposals with strong social and strategic impact:

- Technology Business Incubation.
- Training and awareness programs in Entrepreneurship (EAC, EDP, FDP).
- Competitive events, lectures and workshops on soft skill development, case studies, bplan competitions, innovators camps etc.
- Promoting Innovations in Individuals, Start-ups and MSMEs (PRISM).
- Technology Commercialization Program.

Major focus of IIC:

- To create a vibrant local innovation ecosystem and start-up supporting mechanism in the institute
- Prepare institute for Atal Ranking of Institutions on Innovation Achievements Framework.
- Establish Function Ecosystem for Scouting Ideas and Pre-incubation of Ideas.
- Develop better Cognitive Ability for Technology Students.

Functions of IIC:

- To conduct various innovation and entrepreneurship-related activities prescribed by Central MIC in time bound fashion.
- Identify and reward innovations and share success stories.
- Organize periodic workshops/ seminars/ interactions with entrepreneurs, investors, professionals and create a mentor pool for student innovators.
- Network with peers and national entrepreneurship development organizations.
- Create an Institution's Innovation portal to highlight innovative projects carried out by institution's faculty and students.
- Organize Hackathons, idea competition, mini-challenges etc. with the involvement of industries

Value added services offered by the IIC:

Start-ups are being counseled, mentored, given technical and business advices by experts and respective faculties of the institution. We will provide 3-tier counseling to the start-ups. IIC will act as also home to other supportive programs which have been able to support entrepreneurs and innovators coming to IIC-. The presence of a constellation of associated programs as mentioned below has greatly assisted the IIC- ecosystem development. IIC- along with supporting agencies and programs at PVPSIT - supports innovators by

- Mentoring (round the clock)
- Technical support (Design, Simulations, Development and Testing)
- Financial support (Seed Support, Innovation, Refinement & Commercialization Grant)
- Legal advices are given with the help of Intellectual Property.
- Fabrication Assistance through PVPSIT --and IIT's numerous labs.
- Market Information (Product Development Strategies, Business Intelligence and Business Architecture)
- Networking with Research Laboratories (For Knowledge diffusion and day to day

interactions).

The Ecosystem:

IIC- aims to coordinate, synergize and leverage the various strands of excellence driving innovation and entrepreneurship in a thriving ecosystem consisting of research at the cutting edge of science and technology, a highly successful body facilitating industrial interactions, and incubation in sectors such as rural technologies, industrial solutions and social impact. IIC- supports members of the PVPSIT -including staff, students, alumni, faculty, and R&D partners, in creating successful business ventures that can translate benefits from technology and knowledge innovations to the society at large.

Mission:

To be a leading institute in creating the innovation/Start-up/Entrepreneurship ecosystem in the campus by engaging students in the activities such as Hackathons, field visits (Experience), mentoring and sharing ideas.

How do we achieve this?

Education: Academic programs on social innovation and entrepreneurship for students across disciplines and degrees at PVPSIT.

Research: IIC- provides an enabling environment for both student and faculty researchers interested in social enterprise research within the PVPSIT -campus.

Catalyzing Innovation: Encouraging young innovators and entrepreneurs by assisting in the development of socially-beneficial products and ideas

Collaboration: Creating an ecosystem that extends to other technology institutions, including PVPSIT -and IITs

Catalyzing Innovation: Encouraging young innovators and entrepreneurs by assisting in the development of socially-beneficial products and ideas

PVPSIT Innovation and Startup Policy 2020 for Students and Faculty

1. Strategies and Governance

- a. Entrepreneurship promotion and development is one of the major dimensions of the Institute strategy. To facilitate development of an entrepreneurial ecosystem in the organization, specific **objectives and associated performance indicators** are defined for assessment.
- b. Implementation of **entrepreneurial vision** at the institute was achieved **through mission statements** rather than stringent control system.
- c. The institute is supporting pre-incubation, incubation infrastructure and facilities by resource mobilization plan. In order to reduce the organizational constraints, a sustainable financial strategy also defined as follows.
 - i. Investment in the entrepreneurial activities was a part of the institutional financial strategy. Minimum **1% fund of the total annual budget** of the institution is allocating for funding and supporting innovation and startups related activities through creation of separate **‘Innovation fund’**.
 - ii. The institute is raising the funds from diverse sources to reduce dependency on the public funding by the strategy of bringing in external funding through government (state and central) such as DST, DBT, MoE, AICTE, TDB, TIFAC, DSIR, CSIR, BIRAC, NSTEDB, NRDC, Startup India, Invest India, MeitY, MSDE, MSME, etc. and non-government sources
 - iii. The institute also moves towards private and corporate sectors to generate funds, under Corporate Social Responsibility (CSR) as per Section 135 of the Company Act 2013.
 - iv. Institute also raise funding through sponsorships and donations by actively engaging alumni network for promoting Innovation & Entrepreneurship (I&E).
- d. For accelerating the decision making, hierarchical barriers were minimized and individual autonomy and ownership of initiatives was promoted.
- e. The Importance of innovation and entrepreneurial agenda was promoting and highlighting at institutional programs such as conferences, convocations, workshops, etc.

- f. PVPSIT student and faculty startup Policy and action plan formulated at institute level, which is in line with the NISP-2019 along with well-defined short-term and long-term goals. Micro action plan also developed to accomplish the policy objectives.
- g. Institute developed and implementing I & E strategy and policy for the entire institute in order to integrate the entrepreneurial activities across various centers, departments, faculties, within the institutes, thus breaking the silos.
- h. Product to market strategy for startups was developed by the institute on case to case basis.
- i. Development of entrepreneurship was not limited within the boundaries of the institution.

- i. The institute is also giving an opportunity for regional startups, provision to extend facilities for outsiders and active involvement of the institute in defining strategic direction for local development which helps in developing entrepreneurship culture in its vicinity.

- ii. Strategic international partnerships developed using bilateral and multilateral channels with international innovation clusters and other relevant organizations. Moreover, international exchange programs, internships, engaging the international faculties in teaching and research also promoted.

2 Startups Enabling Institutional Infrastructure

The institute has been established pre-incubation and incubation facilities for nurturing innovations and startups in the institute level. Incubation and Institution Innovation Council organically interlinked. The goal of the effort by the IIC is link INNOVATION to ENTREPRISES to FINANCIAL SUCCESS.

- a. The institute created facilities within the campus for supporting pre-incubation (e.g. IICs as per the guidelines by MoE's Innovation Cell, EDC, IEDC, New- Gen IEDC, Innovation Cell, Startup Cell, Student Clubs, etc.) and Incubation/acceleration by mobilizing resources from internal and external sources.
- b. This Pre-Incubation/Incubation facility accessible 24x7 to students, staff and faculty of all disciplines and departments across the institution.
- c. Pre-incubation facilities in the campus are not a separately registered entity or Special Purpose Vehicle (SPV), but 'Incubation cum Technology Commercialization Unit' (ITCU) is a separate entity and registered under Section-8 of Company Act 2013 or 'Society' registered under Society Registration Act with independent governance structure. This will allow more freedom to Incubators in decision making with less administrative hassles for executing the programs related to innovation, IPR and Startups.
- d. The institute is also offering mentoring and other relevant services through Pre-incubation/Incubation units in-return for fees, equity sharing and (or) zero payment basis. The modalities regarding Equity Sharing in Startups supported through these units will depend upon the nature of services offered by these units and are elaborately explained in Section 3.
- e. The institute established Institution's Innovation Councils (IICs) as per the guidelines of MoE's Innovation Cell and allocating appropriate budget for its activities. PVPSIT IIC conducts various activities related to innovation, startup and entrepreneurship development.

3 Nurturing Innovations and Start-ups

- a. At the operational level, IIC- is primary responsible for nurturing new companies, as well as for identifying promising pre-company opportunities. In this process PVPSIT--resources including the extensive and very active alumni network play a major role.
- b. The institute established processes and mechanisms for easy creation and

nurturing of Start ups/enterprises by students (UG, PG), staff (including temporary or project staff), faculty, alumni and potential start up applicants even from outside the institutions through IIC.

- c. processes and mechanisms of the institute are follows:
- i. Incubation support: Offer access to pre-incubation & Incubation facility to start ups by students, staff and faculty for mutually acceptable time-frame.

In case the institute doesn't have a dedicated facility/ infrastructure of its own, then it may reach out to co-incubation facilities in other reputed institute/Andhra Pradesh Innovation Society (APIS) Govt. of A.P. in order to facilitate access to their students, staff and faculty.
 - ii. Licensing of IPR from institute to start up: Ideally students and faculty members intending to initiate a start up based on the technology developed or co-developed by them or the technology owned by the institute, are allowed to take a license on the said technology on easy term, either in terms of equity in the venture and/ or license fees and/ or royalty to obviate the early stage financial burden.
 - iii. Setting up a start up (including social start ups) and working part-time for the start ups while studying / working: The institute allow the own students / staff to work on their innovative projects and setting up start ups including Social Start ups or work as intern / part-time in start-ups while studying / working. Student Entrepreneurs earn credits for working on innovative prototypes/Business Models. Institute defined clear guidelines to formalize this mechanism. Student inventors may also be allowed to opt for start up in place of their mini project/ major project, EPICS, internships. The area in which student wants to initiate a startup may be interdisciplinary or multi-disciplinary. However, the student must describe how they will separate and clearly distinguish their ongoing research activities as a student from the work being conducted at the start up.
- d. Students who are under incubation, but are pursuing some entrepreneurial ventures while studying will be allowed to use their address in the institute to register their company with due permission from the institution.
- e. Students entrepreneurs are allowed to sit for the examination, even if their attendance is less than the minimum permissible percentage, with due permission from the institute.

- f. The institute will allow the students to take a semester/year break (or even more depending upon the decision of review committee constituted by the institute) to work on their start ups and re-join academics to complete the course. Student entrepreneurs can also earn academic credits for their efforts while creating an enterprise. Institute set up a review committee for review of start up by students, then approval from academic council, governing body and based on the progress made, it may consider giving appropriate credits for academics.
- g. The institute can explore provision of accommodation to the entrepreneurs within the campus for some period of time.
- h. Institute allow faculty and staff to take off for a semester / year (or even more depending upon the decision of review committee constituted by the institute) as sabbatical/ unpaid leave/ casual leave/ earned leave for working on startups and come back. Institution allows using of its resource to faculty/students/staff wishing to establish start up as a fulltime effort. The seniority and other academic benefits during such period may be preserved for such staff or faculty.
- i. Institute will facilitate the startup activities/ technology development by allowing students/ faculty/ staff to use institute infrastructure and facilities, as per the choice of the potential entrepreneur in the following manners:
 - i Short-term/ six-month/ one-year part-time entrepreneurship training.
 - ii Mentorship support on regular basis.
 - iii Facilitation in a variety of areas including technology development, ideation, creativity, design thinking, fund raising, financial management, cash-flow management, new venture planning, business development, product development, social entrepreneurship, product- costing, marketing, brand-development, human resource management as well as law and regulations impacting a business.
 - iv Institute may also link the startups to other seed-fund providers/ angel funds/ venture funds or itself may set up seed-fund once the incubation activities mature.
 - v License institute IPR as discussed in section 4 below.
- j. In return of the services and facilities, institute take 2% to 9.5% equity/ stake in the startup/ company, based on brand used, faculty contribution, support provided and use of institute's IPR. Other factors for consideration should be

space, infrastructure, mentorship support, seed- funds, support for accounts, legal, patents etc.

- For staff and faculty, institute can take no-more than 20% of shares that staff / faculty takes while drawing full salary from the institution; however, this share will be within the 9.5% cap of company shares.
- k. The institute also provides services based on mixture of equity, fee-based and/ or zero payment model. So, a startup may choose to avail only the support, not seed funding, by the institute on rental basis.
- l. Institute extends this startup facility to alumni of the institute as well as outsiders.
- m. Participation in start-up related activities considered as a legitimate activity of faculty in addition to teaching, R&D projects, industrial consultancy and management duties and considered while evaluating the annual performance of the faculty. Every faculty encouraged to mentor at least onestartup.
- n. Product development and commercialization as well as participating and nurturing of startups added to a bucket of faculty-duties and each faculty would choose a mix and match of these activities (in addition to minimum required teaching and guidance) and then respective faculty are evaluated accordingly for their performance and promotion.
- o. Institute also update/change/revise policy guidelines according to changes in the rules and regulations of MoE after constituting the committee.

4 Product Ownership Rights of all Technologies Developed at Institute

- a. 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.
 - i. Inventors and institute could together license the product / IPR to any commercial organization, with inventors having the primary say. License fees could be either / or a mix of
 - 1. Upfront fees or one-time technology transfer fees
 - 2. Royalty as a percentage of sale-price
 - 3. Shares in the company licensing the product
 - ii. An institute not to hold the equity as per the current statute, so SPV may be requested to hold equity on their behalf.
 - iii. If one or more of the inventors wish to incubate a company and license the

product to this company, the royalties would be 1 to 2%, of sale price. If it is shares in the company, shares will again be 1% to 4%. For a pure software product licensing, there may be a revenue sharing to be mutually decided between the institute and the incubated company.

- b. 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.
- c. If there is a dispute in ownership, a minimum five member committee consisting of two faculty members (having developed sufficient IPR and translated to commercialization), two of the institute's alumni/ industry experts (having experience in technology commercialization) and one legal advisor with experience in IPR, will examine the issue after meeting the inventors and help them settle this, hopefully to everybody's satisfaction. Institute can use alumni/ faculty of other institutes as members, if they cannot find sufficiently experienced alumni / faculty of their own.
- d. Institute Innovation Council (IIC) facilitates for providing services to faculty, staff and students. IIC will not say on how the invention is carried out, how it is patented or how it is to be licensed. If institute is to pay for patent filing, a committee constituting of faculty who have experience and excelled in technology translation can examine whether the IPR is worth patenting. If inventors are using their own funds or non- institute funds, then they alone should have a say in patenting.
- e. IIC of the PVPSIT is also the nodal body to frame and monitor agreements regarding policy and fair use between PVPSIT and incubated companies.
- f. The institute promote interdisciplinary research publication and patents from startup and entrepreneurship

5 Organizational Capacity, Human Resources and Incentives

- a. Faculty members at PVPSIT - are continuously engaged in knowledge generation and dissemination. A large number of R&D activities are being carried out by faculty members and students in several cutting-edge science and technology areas.

However, most of these research outcomes do not get translated into commercial products, benefiting the society in general, due to several reasons including lack of interest of the industry in commercializing new and futuristic technologies. Towards this end, PVPSIT, in line with the best practices of other institutes of

higher learning across the world, proposes to encourage interested faculty members to open companies, be on the board of such companies in capacity of a Director, Chairman or any such role. It is expected that faculty members will make all efforts to balance their academic responsibilities while assuming the above role

- i. Some of the relevant faculty members with prior exposure and interest deputed for training to promote I&E.
 - ii. To achieve better engagement of staff in entrepreneurial activities, institutional policy on career development of staff developed with constant up skilling.
- b. Faculty and departments of the institute work in coherence and cross-departmental linkages to strengthen through shared faculty, cross-faculty teaching and research in order to gain maximum utilization of internal resources and knowledge.
- c. Periodically some external subject matter experts such as guest lecturers or alumni can be engaged for strategic advice and bringing in skills which are not available internally.
- d. Faculty and staff of the institute are encouraged to do courses on innovation, entrepreneurship management and venture development.
- e. In order to attract and retain right people, institute developed academic and non-academic incentives and reward mechanisms for all staff and stakeholders that actively contribute and support entrepreneurship agenda and activities.
 - i. The institute supports office and lab space for entrepreneurial activities, reduced work loads, awards, trainings, etc. to the staff
 - ii. A performance matrix developed and used for evaluation of annual performance
 - iii. it is expected that incentives to student/faculty will bolster institute's efforts to create Innovation/IP culture. Therefore, institute shall in principle promote faculty/students' in filing IP by extending monetary support.
- f. To answer the doubts and queries of the innovators and enlisting the facilities available at the institute, a ready reckoner of Innovation Tool Kit, this is kept on the IIC homepage of institute's website.

6 Creating Innovation Pipeline and Pathways for Entrepreneurs at Institute Level

- a. To ensure exposure of maximum students to innovation and pre incubation activities at their early stage and to support the pathway from ideation to innovation to market, the following mechanisms devised at institution level.
 - i. Spreading awareness among students, faculty and staff about the value of entrepreneurship and its role in career development or employability should be a part of the institutional entrepreneurial agenda through various workshops, conferences and by introducing innovation/IPR courses as part of curriculum.
 - ii. The institute added a EPICS course in the curriculum to solve the problems of the society and consumers. Entrepreneurs will innovate with focus on the market niche.
 - iii. The institute encourage the students to develop entrepreneurial mindset through experiential learning by exposing them to training in cognitive skills (e.g. design thinking, critical thinking, etc.), by inviting first generation local entrepreneurs or experts to address young minds through various facilities such as pre-incubation and incubation facilities of the institute. Initiatives like idea and innovation competitions, hackathons, workshops, bootcamps, seminars, conferences, exhibitions, mentoring by academic and industry personnel, throwing real life challenges, awards and recognition routinely organized.
 - iv. Institute encourages integration of education activities with enterprise-related activities to prepare the students for creating the start up through the education.
- b. Institute link between student start ups and companies with wider entrepreneurial ecosystem and by providing support to students who show potential, in pre-startup phase. It will help the students in understanding real challenges which may be faced by them while going through the innovation funnel and will increase the probability of success.

7. Norms for Faculty Startups

- a. The institute created norms for faculty to do start-ups for better coordination of the entrepreneurial activities.
 - i. Role of faculty varies from being an owner/ direct promoter, mentor, consultant or as on- board member of the startup.
 - ii. Institute work on developing a policy on 'conflict of interests' to ensure that the regular duties of the faculty don't suffer owing to his/her involvement in the startup activities.
 - iii. Faculty startup may consist of faculty members alone or with students or with faculty of other institutes or with alumni or with other entrepreneurs.
- b. Faculty clearly separated and distinguished on-going research at the institute from the work conducted at the startup/ company.
- c. In case of selection of a faculty start up by an outside national or international accelerator, a maximum leave (as sabbatical/ 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) permitted to the faculty based on the committee recommendation.
- d. Faculty must not accept gifts from the startup.
- e. Human subject related research in startup should get clearance from ethics committee of the institution.

8 Pedagogy and Learning Interventions for Entrepreneurship Development

- a. The institute adopted diversified approach to produce desirable learning outcomes, which includes cross disciplinary learning using mentors, labs, case studies, games, etc. in place of traditional lecture based delivery.
 - i. The Institute of PVPSIT created student clubs/ bodies/ departments for organizing competitions, boot camps, workshops, awards, etc. These bodies involved in institutional strategy planning to ensure enhancement of the student's thinking and responding ability.
 - ii. PVPSIT recommends the committee to give an annual 'INNOVATION & ENTREPRENEURSHIP AWARD' for staff and students during annual day of the college to recognize outstanding ideas, successful enterprises and contributors for promoting innovation and enterprises ecosystem within the institute.

- iii. For creating awareness among the students, the activities of PVPSIT include case studies on business failure and real-life experience reports by startups.
 - iv. Tolerating and encouraging failures: Our systems are not designed for tolerating and encouraging failure. Failures need to be elaborately discussed and debated to imbibe that failure is a part of life, thus helping in reducing the social stigma associated with it. Very importantly, this is a part of institute's philosophy and culture.
 - v. The PVPSIT identifies Innovation champions from within the students/ faculty/ staff for each department/ stream of study and nominating for in-house training to students and faculty for developing the ecosystem culture in the campus.
- b. The PVPSIT imparted Entrepreneurship education to students at curricular/ co-curricular/ extra-curricular level through elective/ short term or long-term courses on innovation, entrepreneurship and venture development.
- i. PVPSIT collaborates with external incubation centers and industries for integration of expertise of the external stakeholders in the entrepreneurship education.
 - ii. In the beginning of every academic session, institute conduct an induction program about the importance of I&E so that freshly inducted students are made aware about the entrepreneurial agenda of the institute and available support systems. Curriculum of PVPSIT continuously updated based on entrepreneurship research outcomes.
 - iii. Student innovators, startup experts are engaged in the dialogue process while developing the strategy so that it becomes need based.
 - iv. PVPSIT made pedagogical changes to ensure that maximum number of student projects and innovations are based around real life challenges. Learning interventions developed by the institutes for inculcating entrepreneurial culture are constantly reviewed and updated

9 Collaboration, Co-creation, Business Relationships and Knowledge Exchange

- a. Institute identifies potential partners, resource organizations, micro, small and medium-sized enterprises (MSMEs), social enterprises, schools, alumni, professional bodies and entrepreneurs to support entrepreneurship
 - i. To encourage co-creation, bi-directional flow/ exchange of knowledge and people ensured between institutes such as incubators, science parks, etc.

- ii. Institute organizes networking events for better engagement of collaborators and opens up the opportunities for staff, faculty and students to allow constant flow of ideas and knowledge through meetings, workshops, space for collaboration, lectures, etc. through IIC of the institute to create successful ventures.
- b. The institute managing the relationships with external stakeholders including private industries through pre-incubation and incubation facilities of the institute. From which knowledge exchange through collaboration and partnership made as a part of institutional policy.
 - i. Through formal and informal mechanisms such as internships, teaching and research exchange programmes, clubs, social gatherings, etc., faculty, staff and students of the institute given the opportunities to connect with their external environment.
 - ii. IIC of the institute which is single Point of Contact (SPOC) mechanism created in the institute for the students, faculty, collaborators, partners and other stakeholders to ensure access to information.

10. Entrepreneurial Impact Assessment

- a. Impact assessment of institute's entrepreneurial initiatives such as pre-incubation, incubation, entrepreneurship education should be performed regularly using well defined evaluation parameters.
 - i. Monitoring and evaluation of knowledge exchange initiatives, engagement of all departments and faculty in the entrepreneurial teaching and learning should assess.
 - ii. Number of start-ups created, support system provided at the institutional level and satisfaction of participants, new business relationships created by the institute should be recorded and used for impact assessment.
 - iii. Impact should also measured for the support system provided by the institute to the student entrepreneurs, faculty and staff for pre-incubation, incubation, IPR protection, industry linkages, exposure to entrepreneurial ecosystem, etc.
- b. The impact assessment should go hand in hand by circulating to the all departments existed in the campus. The information on impact of the activities should be actively used while developing and reviewing the entrepreneurial strategy.

- c. Impact assessment for measuring the success is in terms of sustainable social, financial and technological impact in the market. COMMERCIAL success is the ONLY measure in long run.

11. Information base regarding Start-up and entrepreneurship ecosystem

For exploring the top start-up stories and understanding the mechanism, the students and faculty can visit following web links:

1. How to commence the process of startup:
<https://www.startupindia.gov.in/content/sih/en/startup- scheme.html>
2. Step to Entrepreneurship Journey: <https://niesbud.nic.in/>
3. Inspiring, educating, and enabling startup entrepreneurs:
<https://www.wfglobal.org/entrepreneur/>
4. Seed funding support:
https://www.startupindia.gov.in/content/sih/en/compendium_of_good_practices/seedfundingsupport.html
5. Seed Funding and angel investor details: <https://angel.co/india>
6. Database of Indian Startups: <https://www.fundoodata.com/companytypedata/6/list-of-startups-companies-in-india>
7. Journey of successful strat-ups in India: <https://www.failory.com/blog/top-indian-startups>
8. Youtube Channels For Startup Entrepreneurs:
https://blog.feedspot.com/startup_youtube_channels/

12 Glossary

Accelerators: Startup Accelerators design programs in batches and transform promising business ideas into reality under the guidance of mentors and several other available resources.

Angel Fund: An angel investor is a wealthy individual who invests his or her personal capital and shares experiences, contacts, and mentors (as possible and required by the startup in exchange for equity in that startup). Angels are usually accredited investors. Since their funds are involved, they are equally desirous in making the startup successful.

Cash flow management: Cash flow management is the process of tracking how much money is coming into and going out of your business.

Co-Creation: Co-creation is the act of creating together. When applied in business, it can be used as an economic strategy to develop new business models, products and services with customers, clients, trading partner or other parts of the same enterprise or venture.

Compulsory Equity: An equity share, commonly referred to as ordinary share also, represents the form of fractional or part ownership in which a shareholder, as a fractional owner, undertakes the maximum entrepreneurial risk associated with a business venture. The holders of such shares are members of the company and have voting rights.

Corporate Social: Corporate social responsibility (CSR) is a self-regulating business model that helps Responsibility a company be socially accountable – to itself, its stakeholders, and the public.

Cross-disciplinary: Cross-disciplinary practices refer to teaching, learning, and scholarship activities that cut across disciplinary boundaries.

Entrepreneurial culture: A culture/ society that enhance the exhibition of the attributes, values, beliefs and behaviors that are related to entrepreneurs.

Entrepreneurial: An Individual who has an entrepreneurial mindset and wants to make his/her idea Individuals successful.

Entrepreneurship: Entrepreneurship education seeks to provide students with the knowledge, skills education and motivation to encourage entrepreneurial success in a variety of settings.

Experiential learning: Experiential learning is the process of learning through experience, and is more specifically defined as learning through reflection on doing.

Financial management: Financial Management is the application of general principles of management to the financial possessions of an enterprise.

Hackathon: A hackathon is a design sprint-like event in which computer programmers and others

involved in software development, including graphic designers, interface designers, project managers, and others, often including domain experts, collaborate intensively on software projects.

Host Institution: Host institutions refer to well-known technology, management and R&D institutions working for developing startups and contributing towards developing a favorable entrepreneurial ecosystem.

Incubation: Incubation is a unique and highly flexible combination of business development processes, infrastructure and people, designed to nurture and grow new and small businesses by supporting them through the early stages of development.

Intellectual Property: A licensing is a partnership between an intellectual property rights owner (licensor) Rights Licensing and another who is authorized to use such rights (licensee) in exchange for an agreed payment (fee or royalty).

Knowledge Exchange: Knowledge exchange is a process which brings together academic staff, users of research and wider groups and communities to exchange ideas, evidence and expertise.

Pedagogy and Experiential: It refers to specific methods and teaching practices (as an academic subject or Learning theoretical concept) which would be applied for students working on startups. The experiential learning method will be used for teaching 'startup related concepts and contents' to introduce a positive influence on the thought processes of students. Courses like 'business idea generation' and 'soft skills for startups' would demand experiential learning rather than traditional class room lecturing. Business cases and teaching cases will be used to discuss practical business situations that can help students to arrive at a decision while facing business dilemma(s). Field based interactions with prospective customers; support institutions will also form a part of the pedagogy which will orient the students as they acquire field knowledge.

Pre-incubation: It typically represents the process which works with entrepreneurs who are in the very early stages of setting up their company. Usually, entrepreneurs come into such programs with just an idea of early prototype of their product or service. Such companies can then graduate into full-fledged incubation programs.

Prototype: A prototype is an early sample, model, or release of a product built to test a concept or process.

Science parks: A science park, also known as a research park, technology park or innovation centre, is a purpose-built cluster of office spaces, labs, workrooms and meeting areas designed to support research and development in science and technology.

Seed fund: Seed fund is a form of securities offering in which an investor invests capital in a startup company in exchange for an equity stake in the company.

Special Purpose Vehicle: Special purpose vehicle, also called a special purpose entity, is a subsidiary created by a parent company to isolate financial risk. Its legal status as a separate company makes its obligations secure even if the parent company goes bankrupt.

Startup: An entity that develops a business model based on either product innovation or service innovation and makes it scalable, replicable and self-reliant and as defined in Gazette Notification No. G.S.R. 127(E) dated February 19, 2019.

Technology Business: Technology Business incubator (TBI) is an entity, which helps technology-based Incubator startup businesses with all the necessary resources/support that the startup needs to evolve and grow into a mature business.

Technology: Technology commercialization is the process of transitioning technologies from Commercialization the research lab to the marketplace.

Technology licensing: Agreement whereby an owner of a technological intellectual property (the licensor) allows another party (the licensee) to use, modify, and/or resell that property in exchange for a compensation.

Technology management: Technology management is the integrated planning, design, optimization, operation and control of technological products, processes and services.

Venture Capital: It is the most well-known form of start up funding. Venture Capitalists (VCs) typically reserve additional capital for follow-up investment rounds. Another huge value that VCs provide is access to their networks for employees or clients for products or services of the startup.

13 Acknowledgements:

IIC thank Shri L. Lakshmana Rao, Secretary, Siddhartha Academy of general and Technical Education (SAGTE), , Siddhartha Academy of general and Technical Education (SAGTE) and Dr. K. Sivaji Babu, Principal of PVPSIT for their initiative and providing guidance throughout the process. IIC want to thank all the members of committee on 'PVPSIT Innovation and Startup Policy 2020' for students and faculty. IIC expresses its sincere thanks to University Grants Commission and All India Council of Technical Education, for giving a guiding framework required for formation of this policy. IIC sincerely appreciate the members of drafting team who worked for creating this policy and gave their inputs throughout its preparation.

14 Bibliography:

1. NISP -2020
2. AP State Govt. Start-up Policy document