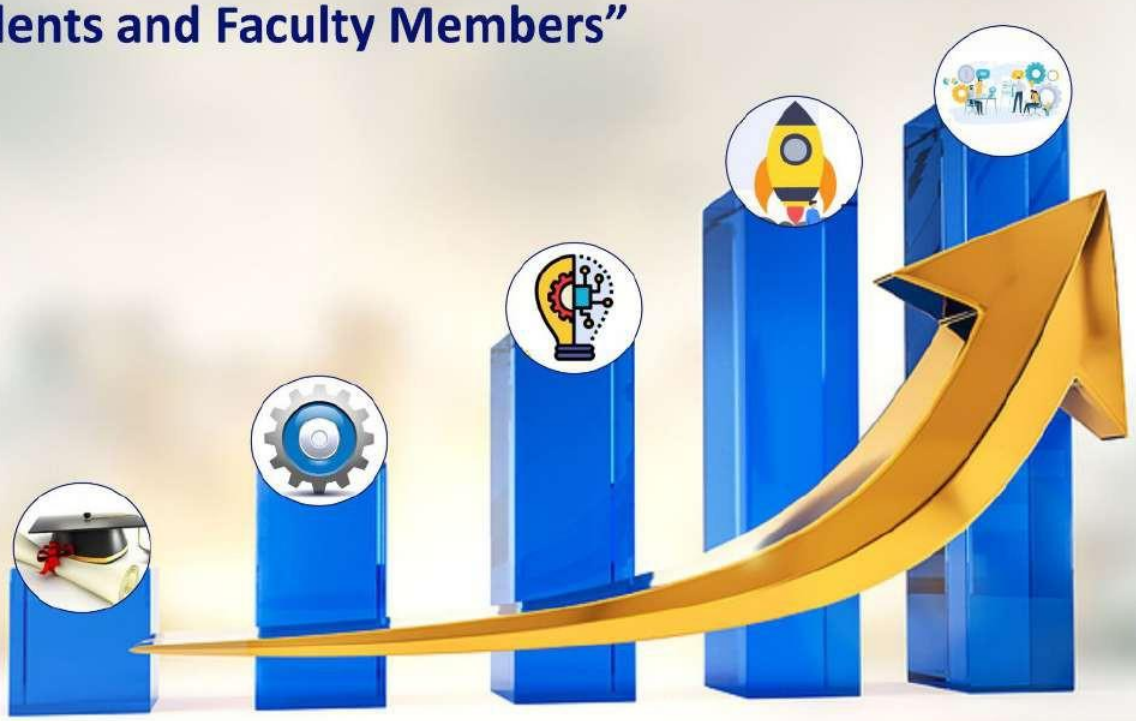
DRONACHARYA
College of Engineering

INSTITUTION'S INNOVATION COUNCIL
(Ministry of HRD Initiative)

Dronacharya - Innovation and StartUp Policy

"For Students and Faculty Members"



(Aligned with National Innovation and Start-up policy-2019)

DCE Innovation & Startup Policy

Contact us

Students those have any innovative idea and want to establish a successful startup are advised to contact the following faculty of their department. The nominated faculties will help them to show direction to avail pre-incubation and incubation facility.

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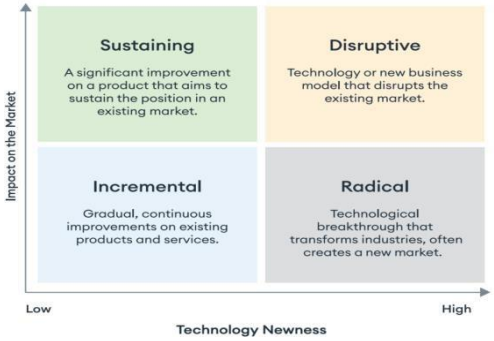
Contents :

PREAMBLE

Innovation in a broader way is the process of converting existing inventions and ideas into real time products which can be used for the betterment of the society. Innovation connects the dots between inventions. Basically there are four types of innovation:



Students are encouraged and supported to convert their thoughts/ideas into real time products. Faculty members help students in solving their doubts. These approaches of college have made its students capable enough to overcome all the hurdles coming their ways and earn laurels. The student's innovation can be witnessed from the https://ggnindia.dronacharya.info/Patents-Copyrights.aspx

It is our constant endeavor to explain the need of flourishing entrepreneurship behavior and its role in career development. Awareness is spread about the importance of developing entrepreneurship skills among the students. Students are exposed to develop interest in entrepreneurship by engaging them into various competitions, hackathons, events, interactive sessions, workshops, seminars, industrial visits and allowing them to experiment on their own with the much guided and needed support of the mentors. Real life situations are thrown upon the students and they are awarded for excellence and are propelled to carry innovations in this direction.

The strong mentor at Dronacharya College of Engineering, Gurugram supports the students in the proper execution of their innovative ideas and helps them to develop entrepreneurial skills and behavior.

VISION

To create an Innovation and Start-up ecosystem for the benefit of students and develop high quality technical human resource capable of doing cutting edge research and innovation and deep-tech entrepreneurship to promote improvements in Science and Technology.

MISSION

- To create an incubation center on campus, as per MHRD/AICTE National Innovation & Start-up Policy (NISP).
- To establish vibrant and dynamic startup ecosystem across all the departments in the college.
- To enable the institute to actively engage students, faculties and staff in innovation and entrepreneurship related activities.
- To create a space for collaboration, co-creation, Business Relationships and Knowledge Exchange.
- To facilitate the institute in terms of Intellectual Property (IP) ownership management, technology licensing and equity sharing.
- Encourage the culture of Entrepreneurship in Students and Faculty.
- Expose the students to Innovation / Science/ Technology competitions at National and International forums.

1. Strategies and Governance:

Objectives

- Innovation Development
- Entrepreneurship Exposure and Skills Development
- Support Facilities for Start-up Services
- Network with Regional and National Start-up Eco-System
- Industry Support, Corporate & Private Partnership Linkage
- Commercialization of technology.
- To encourage technocrats to choose entrepreneurship as their careers.
- To motivate students to convert their Innovations / Ideas and projects into viable Business Models.
- To support students during the entire course of their study, for launching their startups.
- To equip students with the necessary skills for managing their business enterprise.

Short Term Goals

- Developing critical thinking skills to motivate students with entrepreneurial abilities.
- Building Innovation and Incubation ecosystem by providing resources available at the Institute.
- In-house competency development.
- Strengthen the intra and inter institutional linkage with ecosystem enablers at different levels.
- To create pre-incubation and incubation facilities for nurturing innovations and start-ups.

Long Term Goals

- Encouraging students to file maximum number of patents.
- Innovation, Pre-incubation, Incubation and startup facilities on the campus.
- Academic courses offered by the institute on Innovation, IPR and Start-ups.
- Collaboration, Co-Creation and Technology Exchange and Commercialization.
- Increase technical employment rate through self-employment by Startups.
- Creating societal, ethical and technological entrepreneurs through National Innovation and Start-up Policy.

2. Startups Enabling Institutional Infrastructure

Pre-incubation and incubation facilities for nurturing innovation and startups will be created in the institution. Incubation and Innovation can be organically interlinked. Startup enabling infrastructure and its success is acknowledged by various government bodies

i). **Dronacharya College of Engineering, Gurugram** will create Centre of Innovation, Incubation, Entrepreneurship and Startup under which Centre of Innovation, Technology Business Incubator and Student Innovation and Entrepreneurship Club will be working by mobilizing resources from internal and external sources.

ii). Pre-Incubation/Incubation facility will be accessible 24x7 to students, staff and faculty of all disciplines and departments across the institute.

iii). Pre-incubation facilities will be managed by DCE Incubation Foundation, which will be a separate entity, registered under Section-8 of Company Act 2013. This will allow more freedom to Technology Business Incubators in decision making with less administrative hassles for executing the programs related to innovation, IPR and Startups. Moreover, they will have better accountable towards investors supporting the incubation facility.

iv). Technology Business Incubator (TBI) will offer mentoring and other relevant services through Pre-incubation/Incubation process in-return for fees, equity sharing and (or) zero payment basis. The modalities regarding Equity Sharing in Startups supported through TBI will depend upon the nature of services offered.

3. Nurturing Innovations and Startups

A. **Dronacharya College of Engineering, Gurugram,** will establish processes and mechanisms for easy creation and nurturing of Start-ups/enterprises by students, staff (including temporary or project staff), faculty, alumni and potential start up applicants even from outside the institutions.

B. Technology Business Incubator will define their processes and will ensure to achieve the following:

i. Incubation support: Pre-incubation & Incubation facility to start ups by students, staff and faculty for mutually acceptable time frame.

ii. Institute will be allowed to take IPR license on the developed 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. DCE may allow its 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 (incubated in any recognized Incubators) while studying / working with due approval of competent authority. Student Entrepreneurs may earn credits for working on innovative prototypes/Business Models. Institute will develop 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, seminars, summer trainings. The area in which student wants to initiate a start-up may be interdisciplinary or multidisciplinary. 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.

C. 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 Principal and Registrar, DCE Gurugram.

D. Students entrepreneurs will be allowed to sit for the examination, even if their attendance is less than the minimum permissible percentage, with due permission from Principal and Registrar, DCE Gurugram.

E. Institute will allow their students to take a semester/year break (or even more depending upon the decision of review committee constituted by the University) to work on their start-ups and re-join academics to complete the course. Student entrepreneurs may earn academic credits for their efforts while creating an enterprise. DCE will set up a review committee for review of start up by students, and based on the progress made, it may consider giving appropriate credits for academics.

F. DCE will explore provision of accommodation to the entrepreneurs within the campus for some period of time.

G. DCE may allow faculty and staff to take off for a semester / year (or even more depending upon the decision of review committee constituted by the University) as sabbatical/ unpaid leave for working on startup and come back. University may consider allowing use 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.

H. DCE will start startup and entrepreneurship subject for students. However, in long term University may decide to start part-time/full time MS/ MBA/ PGDM (Innovation, entrepreneurship and venture development) program where one can get degree while incubating and nurturing a startup company as per guideline issued by AICTE.

I. DCE 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. Further, necessary incentive in terms of resources, infrastructure, finance, time and support for students and faculties will be provided as per need basis.

v. License institute IPR as discussed.

J. In return of the services and facilities, Technology Business Incubator may 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 (a limit of 9.5% is suggested so that University has no legal liability arising out of startup. The University will normally take much lower equity share, unless its full-time faculty/ staff have substantial shares). 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 University; however, this share will be within the 9.5% cap of company shares, listed above.

• No restriction on shares that faculty / staff can take, as long as they do not spend more than 20% of office time on the startup in advisory or consultative role and do not compromise with their existing academic and administrative work / duties. In case the faculty/ staff holds the executive or managerial position for more than three months in a startup, then they will go on sabbatical/ leave without pay/ earned leave.

• In case of compulsory equity model, Startup may be given a cooling period of 3 months to use incubation services on rental basis to take a final decision based on satisfaction of services offered by the TBI.

K. The TBI will also provide 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 TBI on rental basis.

L. TBI could extend this startup facility to alumni of the University as well as outsiders.

M. Participation in startup related activities needs to be considered as a legitimate activity of faculty in addition to teaching, R&D projects, industrial consultancy and management duties and must be considered while evaluating the annual performance of the faculty. Every faculty may be encouraged to mentor at least one startup.

N. Product development and commercialization as well as participating and nurturing of startups would now be 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 might also need to update/change/revise performance evaluation policies for faculty and staff as stated above.

P. DCE and TBI ensure that at no stage any liability accrues to it because of any activity of any startup.

4. Product Ownership Rights for Technologies Developed at DCE

A. When DCE 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. DCE will not hold the equity as per the current statute, so institute will 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 no more than 4% of sale price, preferably 1 to 2%, unless it is pure software product. 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 DCE Incubation Foundation and the incubated company.

B. On the other hand, if product/ IPR is developed by innovators not using any DCE 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 membered committee consisting of two

faculty members (having developed sufficient IPR and translated to commercialization), two of the DCE industry experts / alumni (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. DCE can use alumni/ faculty of other institutes as members, if they cannot find sufficiently experienced alumni / faculty of their own.

D. DCE Centre of Innovation or Technology Business Incubator will only be a coordinator and facilitator for providing services to faculty, staff and students. They will have no say on how the invention is carried out, how it is patented or how it is to be licensed however in specific case, clarifications can be sought. When DCE is paying for patent filing, institute will constitute 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-university funds, then they alone should have a say in patenting.

E. DCE decision-making body with respect to incubation / IPR /technology-licensing will consist of faculty and experts who have excelled in technology translation. Interdisciplinary research and publication on startup and entrepreneurship will be promoted by the DCE.

5. Organizational Capacity, Human Resources and Incentives

A. DCE will recruit staff that have a strong innovation and entrepreneurial/ industrial experience, behaviour and attitude. This will help in fostering the Innovation and entrepreneurial culture.

i. Some of the relevant faculty members with prior exposure and interest should be deputed for training to promote innovation and entrepreneurial.

ii. To achieve better engagement of staff in entrepreneurial activities, DCE policy on career development of staff should be developed with constant Upskilling.

B. Faculty and departments of the DCE will work in coherence and cross-departmental

linkages will be strengthened 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 will be encouraged to do courses on innovation, entrepreneurship management and venture development.

E. In order to attract and retain right people, DCE will develop academic and non-academic incentives and reward mechanisms for all staff and stakeholders that actively contribute and support entrepreneurship agenda and activities.

F. The reward system for the staff may include sabbaticals, office and lab space for entrepreneurial activities, reduced teaching loads, awards, trainings, etc.

G. The recognition of the stakeholders may include offering use of facilities and services, strategy for shared risk, as guest teachers, fellowships, associateships, etc.

H. A performance matrix will be developed and used for evaluation of annual performance.

6. Creating Innovation Pipeline and Pathways for Entrepreneurs at DCE 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, mechanisms will be devised at DCE.

i. Spreading awareness among students, faculty and staff about the value of entrepreneurship and its role in career development or employability will be a part of the institute entrepreneurial agenda.

ii. Students/ staff will be taught that innovation (technology, process or business innovation) is a mechanism to solve the problems of the society and consumers. Entrepreneurs will innovate with focus on the market niche.

iii. Students will be encouraged 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. 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 will be routinely organized.

iv. To prepare the students for creating the start up through the education, integration of education activities with enterprise-related activities will be done.

B. DCE will link their start-ups and companies with wider entrepreneurial ecosystem and by providing support to students who show potential, in pre- startup phase. Connecting student entrepreneurs with real life entrepreneurs 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.

C. DCE will establish Institution's Innovation Councils (IICs) as per the guidelines of MHRD's Innovation Cell and allocate appropriate budget for its activities. IICs should guide institutions in conducting various activities related to innovation, startup and entrepreneurship development. Collective and concentrated efforts should be undertaken to identify, scout, acknowledge, support and reward proven student ideas and innovations and to further facilitate their entrepreneurial journey

D. For strengthening the innovation funnel of the DCE, access to financing must be opened for the potential entrepreneurs.

i. Networking events must be organized to create a platform for the budding entrepreneurs to meet investors and pitch their ideas.

ii. Provide business incubation facilities: premises at subsidized cost. Laboratories, research facilities, IT services, training, mentoring, etc. will be accessible to the new startups.

iii. A culture needs to be promoted to understand that money is not FREE and is risk capital. The entrepreneur must utilize these funds and return. While funding is taking risk on the entrepreneur, it is an obligation of the entrepreneur to make every effort possible to prove that the funding agency did right in funding him/ her.

E. DCE must develop a ready reckoner of Innovation Tool Kit, which must be kept on the homepage on institute website to answer the doubts and queries of the innovators and enlisting the facilities available at the University.

7. Norms for Faculty Startups :

For better coordination of the entrepreneurial activities, norms for faculty to do startups will be created by the DCE. Only those technologies will be taken for faculty startups which originate from within the institute.

i. Role of faculty may vary from being an owner/ direct promoter, mentor, consultant or as on-board member of the startup.

ii DCE will 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. In case the faculty/ staff hold the executive or managerial position for more than three months in a startup, they will go on sabbatical/ leave without pay/ utilize existing leave.

C. Faculty must clearly separate and distinguish on-going research at the DCE from the work conducted at the startup/ company.

D. 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 DCE) may be permitted to the faculty.

E. Faculty must not accept gifts from the startup.

F. Faculty must not involve research staff or other staff of DCE in activities at the startup and vice-versa.

G. Human subject related research in startup should get clearance from ethics committee of the DCE.

8. Pedagogy and Learning Interventions for Entrepreneurship Development

A. Diversified approach should be adopted to produce desirable learning outcomes, which will include cross disciplinary learning using mentors, labs, case studies, games, etc. in place of traditional lecture-based delivery.

i. Student clubs/ bodies/ departments will be created for organizing competitions, bootcamps, workshops, awards, etc. These bodies will be involved in DCE strategy planning to ensure enhancement of the student's thinking and responding ability.

ii. DCE will start annual 'INNOVATION & ENTREPRENEURSHIP AWARD' to recognize outstanding ideas, successful enterprises and contributors for promoting innovation and enterprises ecosystem within the University.

iii. For creating awareness among the students, the teaching methods will 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 will be a part of institute philosophy and culture.

v. Innovation champions will be nominated from within the students/ faculty/ staff for each department/ stream of study.

B. Entrepreneurship education will be imparted to students at curricular/ co- curricular/

extracurricular level through elective/ short term or long-term courses on innovation, entrepreneurship and venture development. Validated learning outcomes will be made available to the students.

i. Integration of expertise of the external stakeholders will be done in the entrepreneurship education to evolve a culture of collaboration and engagement with external environment.

ii. In the beginning of every academic session, DCE will conduct an induction program about the importance of Innovation and Entrepreneurship, so that freshly inducted students are made aware about the entrepreneurial agenda of the institute and available support systems. Curriculum for the entrepreneurship education will be continuously updated based on entrepreneurship research outcomes. This will also include case studies on failures.

iii. Industry linkages will be leveraged for conducting research and survey on trends in technology, research, innovation, and market intelligence.

iv. Sensitization of students will be done for their understanding on expected learning outcomes.

v. Student innovators, startups, experts must be engaged in the dialogue process while developing the strategy so that it becomes need based.

vi. Customized teaching and training materials will be developed for startups.

vii. It must be noted that not everyone can become an entrepreneur. The entrepreneur is a leader, who would convert an innovation successfully into a product; others may join the leader and work for the startup. It is important to understand that entrepreneurship is about risk taking. One must carefully evaluate whether a student is capable and willing to take risk.

C. Pedagogical changes need to be done to ensure that maximum number of

student projects and innovations are based around real life challenges. Learning interventions developed by the DCE for inculcating entrepreneurial culture will be constantly reviewed and updated.

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

A. Stakeholder engagement will be given prime importance in the entrepreneurial agenda of the DCE. Institute will find potential partners, resource organizations, micro, small and medium sized enterprises (MSMEs), social enterprises, schools, alumni, professional bodies and entrepreneurs to support entrepreneurship and co-design the programs.

i. To encourage co-creation, bi-directional flow/ exchange of knowledge and people will be ensured between institutes/ organizations such as incubators, software technology parks of India and science parks, etc.

ii. DCE will organize networking events for better engagement of collaborators and will open up the opportunities for staff, faculty and students to allow constant flow of ideas and knowledge through meetings, workshops, space for collaboration and lectures etc.

iii. Mechanism will be developed by the DCE to capitalize on the knowledge gained through these collaborations.

iv. Care will be taken to ensure that events don't become an end goal. First focus of the Technology Business Incubator will be to create successful ventures.

B. DCE will develop policy and guidelines for forming and managing the relationships with external stakeholders including private industries.

C. Knowledge exchange through collaboration and partnership will be made a part of DCE and Institute will provide support mechanisms and guidance for creating, managing and coordinating these relationships.

i. Through formal and informal mechanisms such as internships, teaching and research exchange programmes, clubs, social gatherings, etc. faculty, staff and students of the DCE will be given the opportunities to connect with their external environment.

ii. Connect of the DCE with the external environment must beleveraged in form of absorbing information and experience from the external ecosystem into the institute environment.

iii. Single Point of Contact (SPOC) mechanism will be created in the DCE for the students, faculty, collaborators, partners and other stakeholders to ensure access to information.

iv. Mechanisms will be devised by the DCE to ensure maximum exploitation of entrepreneurial opportunities with industrial and commercial collaborators.

v. Knowledge management will be done by the institute through development of innovation knowledge platform using in-house Information & Communication Technology (ICT) capabilities.

10. Entrepreneurial Impact Assessment

A. Impact assessment of Institute entrepreneurial initiatives such as pre- incubation, incubation, entrepreneurship education will 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 will be assessed.

ii. Number of start-ups created, support system provided at the University level and satisfaction of participants, new business relationships created by the DCE will be recorded and used for impact assessment.

iii. Impact will also be 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. Formulation of strategy and impact assessment will go hand in hand. The information on impact of the activities will be actively used while developing and reviewing the entrepreneurial strategy.

C. Impact assessment for measuring the success will be in terms of sustainable social, financial and technological impact in the market. For innovations at pre- commercial stage, development of sustainable enterprise model is critical. Commercial success is the only measure in long run.

Way Forward

Successful implementation of the 'DCE Innovation and Startup Policy' for students and faculty is the main objective. In order to achieve this, full-fledged support of all the academic, non - academic and supporting departments will be important. The roadmap suggested through this document is 'broad guidelines' and this policy document is supported by previously existing policy documents on innovation and entrepreneurship council, IPR, Industry-Institute interaction and research and development.

This policy is prepared by NISP committee under the supervision of

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