

Mahatma Education Society's  
**Pillai College of Arts, Commerce & Science**  
(Autonomous)

Affiliated to University of Mumbai

Dr.K.M.Vasudevan Pillai Campus, Sector-16, New Panvel – 410206

“Re-accredited ‘A’ Grade by NAAC” “Best College Award by UOM” “ISO 9001:2015 Certified”

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### **Innovation and Entrepreneurship Policy**

At PCACS we encourage students to think out of the box by providing a good platform through design thinking and help them to bring their ideas and imaginations into reality. This initiative stimulates the entrepreneurial ecosystem for the current and future generations of students to develop a new developed economy. The National Innovation and Startup Policy 2019 for students and faculty of Higher Education Institutions (HEIs) is a guiding framework to enable the college to actively engage students, faculties and staff in innovation and entrepreneurial thinking, the spirit of which is imbibed in us.

To be a center of Innovation and Entrepreneurship that fosters synergy between academia and industry to fuel innovation and entrepreneurial spirit among students to help them to be self reliant and contribute to nation building.

Our Mission is to work on a holistic 3 growth building centers, for building an Entrepreneurial mindset and learning environment to Learn, Collaborate and network. These 3 centers act as pillars of PCACS covering all streams of lives to strengthen our education system. Rather providing an advanced learning environment, we focus on constructing a culture focusing on delivering effective teaching, learning, innovation building, skill and career development, industry connect and social responsibility initiatives. Entrepreneurship promotion and development is the core of PCACS Institution's strategy. To facilitate development of an entrepreneurial ecosystem in our Institution, specific objectives and associated performance indicators are defined for assessment.

**Innovation and Startup Policy Formulation Committee**

<b>Sr . No .</b>	<b>Name of Member</b>	<b>Member Type (Teaching/ Non- teaching / External Expert)</b>	<b>Key Role/ Position assigned in IIC</b>
1.	Dr. Priam Pillai	COO, Mahatma Education Society	IP Expert and Angel Investor
2.	Dr.Gajanan P Wade	Principal PCACS	Head of Institution
3.	Mrs. Deepika Sharma	Vice Principal	Social media coordinator
4.	Dr. Aarti Sukheja	IQAC Coordinator	ARIIA coordinator
5.	Mrs. Nithya Varghese	HOD, Business Management	President IIC
6.	Mrs.Jennie Prajith	HOD, Financial Markets	Vice President IIC
7.	Mrs. Suparna Deepak	HOD, Bio Technology	Convener IIC
8.	Mrs. Sujata Shahbade	Teaching	Innovation activity coordinator
9.	Mrs. Archana Deepak	Teaching	Start up Activity & EDP Cell in-charge
10.	Mrs. Padmaja Ganti	Teaching	Internship coordinator
11.	Dr. Navami Dayal	Teaching	IPR coordinator
12.	Ms. Bhavana Parab	Teaching	NIRF coordinator
<b>Industry experts</b>			
13.	Tito Aby Idicula	External Expert	Start Up Alumni entrepreneur
14.	Nischal Kapadia	External Expert	Industry Expert
15.	Sagar Chandni	External Expert	Incubation Centre In-charge

### **Innovation and Entrepreneurship Policy of PCACS**

## **Strategic Intent:**

Entrepreneurship promotion and development should be one of the major dimensions of all programmes introduced in the academics.

- Facilitate development of an entrepreneurial ecosystem in the organization, specific objectives and associated performance indicators should be defined for assessment.
- Investment in entrepreneurial activities should be a part of the institutional financial strategy. Minimum 1% fund of the total annual budget of the institution should be allocated for funding and supporting innovation and startups related activities through creation of separate 'Innovation fund'.
- The strategy should also involve raising funds from diverse sources to reduce dependency on the public funding.
- Try to get maximise external funding through government (state and central) such as DST, DBT, MHRD, AICTE, TDB, TIFAC, DSIR, CSIR, BIRAC, NSTEDB, NRDC, Startup India, Invest India, MeitY, MSDE, MSME, etc. and non-government sources should be encouraged.
- To support technology incubators, through IIC the start ups may approach private and corporate sectors to generate funds, under Corporate Social Responsibility (CSR) as per Section 135 of the Company Act 2013.
- PCACS may also raise funding through sponsorships and donations.
- PCACS should actively engage alumni networks for promoting Innovation & Entrepreneurship (I&E).
- Implementation of entrepreneurial vision at the PCACS should be achieved through mission statements rather than stringent control systems.
- The entrepreneurial agenda should be the responsibility of a senior person at the level of Principal/ Head of PCACS/ HODs equivalent position to bring in required commitment and must be well understood by the higher authorities. However, one must understand that promoting entrepreneurship requires a different type of mindset as compared to other academic activities. Therefore, this person should be very carefully chosen from someone who understands the industry and above all business.
- Resource mobilisation plans should be worked out at the PCACS for supporting pre-incubation, incubation infrastructure and facilities. A sustainable financial strategy should be defined in order to reduce the organizational constraints to work on the entrepreneurial agenda.

- For expediting the decision making, hierarchical barriers should be minimized and individual autonomy and ownership of initiatives should be promoted.
- Importance of innovation and entrepreneurial agenda should be known across the PCACS and should be promoted and highlighted at institutional programs such as conferences, convocations, workshops, etc.
- Student and faculty startup Policy and action plan should be formulated with this document, which is in line with the NISP along with well-defined short-term and long-term goals. Micro action plans can also be developed by the departments of PCACSs to accomplish the policy objectives.
- PCACS should develop and implement I & E strategy and policy for the entire PCACS in order to integrate the entrepreneurial activities across various centers, departments, faculties, within the PCACSs, thus breaking the silos.
- Product to market strategy for startups should be developed by the PCACS on a case to case basis.
- Development of entrepreneurship culture should not be limited within the boundaries of the institution.
- The Institution can give opportunity for regional startups, provision to extend facilities for outsiders and active involvement of the PCACS in defining strategic direction for local development.
- Strategic international partnerships should be 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 will also be promoted.

## **Institutional Infrastructure Support:**

Facilitate the creation of facilities within institution for supporting pre-incubation (e.g. IICs as per the guidelines by MHRD's Innovation Cell, EDC, IEDC, Innovation Cell, Student Clubs, etc.) and Incubation/ acceleration by mobilizing resources from internal and external sources of institution.

This Pre-Incubation/Incubation facility should be accessible 24x7 to students, staff and faculty of all disciplines and departments across the institution as per availability of staff.

The facilities Provided by institution are as follows:

- **Microbiology Lab**

The Biotechnology Department has three well ventilated labs which also facilitates microbiology work fitted with burners and equipped with incubators and colorimeters. A separate preparation and washing area is also available which also houses storage for chemicals, autoclaves (different capacities), hot air oven, distillation unit and weighing balance. All these facilities can be used by start-ups as per availability.

- **Plant Tissue Culture lab**

The Biotechnology Department has a well-equipped air conditioned Plant tissue culture lab. The lab has two small rooms with laminar flow hood for aseptic work and racks for storage of cultures. The lab is equipped with a plant growth chamber for keeping cultures under controlled light, temperature and humidity. It is suitable for micropropagation of plant in vitro and agriculture related research work. These facilities can be used by start-ups as per availability.

- **Animal Tissue Culture Lab**

The animal tissue culture room is fitted with double doors in order to make it dust free and to maintain a constant room temperature. It is equipped with the following equipments:

1. Laminar hood for aseptic transfer work
2. CO<sub>2</sub> incubator for maintaining culture cells which maintains the optimum temperature, moisture (sterile environment) and optimum pH.
3. Phase contrast Inverted Microscope to observe the unstained living cells.
4. Cryocan for cryopreservation of cells under liquid nitrogen for long term preservation of cells.

These facilities can be used by start-ups as per availability.

- **Instrumentation Room**

The instrumentation room is a facility available for students and faculty to perform Molecular Biology and other Biological experiments. The following instruments are available for various research projects:

1. UV-Vis Spectrophotometer linked to a computer.
2. Phase contrast Microscope
3. Thermocycler for polymerase chain reaction.
4. Cooling centrifuges with different capacity
5. Electrophoretic apparatus with power pack and UV transilluminator.
6. Highly sensitive weighing balance
7. Small equipment like colorimeter, sonicator, lux meter, pH meter, conductometer, etc.

These facilities can be used by start-ups as per availability.

- **Computer Labs**

The Information technology and Computer Science Department have 4 computer labs which have uninterrupted internet facilities. During the free time, the faculty and students can avail this resource for various research purposes related to the IT, CS and Bioinformatics research. Students may also use it for general purposes like literature reading which is one of the most important steps in research.

These facilities can be used by start-ups as per availability.

- **Language Lab**

Teachers and students use computers with language lab software for conducting language learning exercises and activities. Headsets with microphone can be used to communicate and conduct speech exercises. This facility is of great help for research in the field of language and mass media. These facilities can be used by start-ups as per availability.

Office Space:

Fully furnished office space to accommodate 20 startups together facilitating with electricity, internet services as well as staff assistance. These facilities can be used by start-ups as per availability after filling the application for using the property.

## **Nurturing Innovations**

Establish processes and mechanisms for idea generation and nurturing of Start ups/enterprises by students (UG, PG, Ph.D.), staff , faculty, alumni of our institution.

- Students who are under incubation, but are pursuing some entrepreneurial ventures while studying should be allowed to use their address in the PCACS to register their company with due permission from the institution.

- Students entrepreneurs should be allowed to sit for the examination, even if their attendance is less than the minimum permissible percentage, with due permission from the PCACS.
- students may take a semester/year break (or even more depending upon the decision of the review committee constituted by the PCACS) to work on their start ups and re-join academics to complete the course.
- Student entrepreneurs may earn 2 non-academic credits for their efforts while creating an enterprise. PCACS should 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 as well.
- The PCACS should explore provision of accommodation to the entrepreneurs within the campus for some period of time.
- Allow faculty and staff to take off for a semester / year (or even more depending upon the decision of the review committee constituted by the PCACS) as sabbatical/ unpaid leave/ casual leave/ earned leave for working on startups and come back.
- Institution should consider allowing use of its resources to faculty/students/staff wishing to establish a startup as a full time effort. The seniority and other academic benefits during such period may be preserved for such staff or faculty.
- PCACS will facilitate the startup activities/ technology development by allowing students/ faculty/ staff to use the PCACS infrastructure and facilities, as per the choice of the potential entrepreneur.
- In return of the services and facilities, the PCACS may take 2% to 9.5% equity/ stake in the startup/ company, based on brand used, faculty contribution, support provided and use of the PCACS's IPR (a limit of 9.5% is suggested so that PCACS has no legal liability arising out of startup. The PCACS should 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.
- The PCACS should also provide services based on a 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 PCACS on rental basis.
- PCACS could extend this startup facility to alumni of the PCACS as well as outsiders.
- Participation in start up 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.

- Institutions may update/change/revise performance evaluation policies for faculty and staff ( as stated above.)
- PCACS should ensure that at no stage any liability accrue to it because of any activity of any startup.
- Where a student/ faculty startup policy is pre-existing in an PCACS, then the PCACS may consider modifying their policy in spirit of these guidelines.

### **Product Ownership Rights for Technologies Developed at PCACS**

When PCACS 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 PCACS.

i. Inventors and PCACSs could together license the product / IPR to any commercial organisation, 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 PCACS may not be allowed 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 no more than 4% of the sale price, preferably 1 to 2%, unless it is a 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 PCACS and the incubated company.

b. On the other hand, if product/ IPR is developed by innovators not using any PCACS 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 commercialisation), two of the PCACS's alumni/ industry experts (having experience in technology commercialisation) 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. PCACSs can use alumni/faculty of other PCACSs as members, if they cannot find sufficiently experienced alumni / faculty of their own.

d. PCACS IPR cell or incubation centre 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. If PCACS 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-PCACS funds, then they alone should have a say in patenting.

e. All PCACS's decision-making bodies with respect to incubation / IPR / technology-licensing will consist of faculty and experts who have excelled in technology translation. Other faculty in the department / PCACS will have no say, including heads of department, heads of PCACSs, deans or registrars.

f. Interdisciplinary research and publication on start-up and entrepreneurship should be promoted by the institutions.

### **Organizational Capacity, Human Resources and Incentives**

- To Foster Innovation & Entrepreneurial culture in PCACS, the PCACS will recruit staff with a strong innovation and entrepreneurial/ industrial experience, behaviour and attitude.
- PCACS will encourage faculty members and departments to work in collaboration with each other through shared faculty, cross-faculty teaching and research and develop cross -departmental linkages to enhance internal quality resources and knowledge base within the PCACS.
- PCACS will encourage faculty members and departments to collaborate with external subject matter experts or alumni for strategic advice and bring in skills which are not available internally.
- PCACS will encourage faculty members and staff to do courses on innovation, entrepreneurship management and venture development.
- In order to attract and retain the right people, the PCACS should develop academic and non-academic incentives and reward mechanisms for all staff and stakeholders that actively contribute and support entrepreneurship agenda and activities.

## **Creating Innovation Pipeline and Pathways for Entrepreneurs at PCACS Level**

- Encourage, mentor, extend technical and infrastructural support 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.
- Spreading awareness among students, faculty and staff about the value of entrepreneurship will be ensured.
- 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, Boot-camps, Seminars, Conferences, Exhibitions, mentoring by academic and industry personnel, throwing real life challenges, awards and recognition will be routinely organized.
- For strengthening the innovation funnel of the PCACS, access to financing will be opened for the potential entrepreneurs by providing business incubation facilities, premises at subsidized cost, laboratories, research facilities, IT services, training, mentoring, etc. and shall be accessible to the new startups.
- Networking events will be organized to create a platform for the budding entrepreneurs to meet investors and pitch their ideas.

## **Norms for Faculty Startups**

- For higher coordination of the entrepreneurial activities, norms for college to try and do startups ought to be created by the PCACS. solely those technologies ought to be taken for college startups that originate from inside identical to PCACS.
- In case the faculty/ workers hold the chief or social control position for quite 3 months in a very startup, they're going to persist sabbatical/ leave while not pay/ utilize existing leave.
- Faculty should clearly separate and distinguish on-going analysis at the PCACS from the work conducted at the startup/ company.
- In case of choice of a school start off by an outdoor national or international accelerator, a most leave (as sabbatical/ existing leave/ unpaid leave/ casual leave/ attained leave) of 1 semester/ year (or even additional relying upon the choice of review committee planted by the PCACS) could also be permissible to the school.

- Faculty should not settle for gifts from the startup.
- Faculty should not involve {research workers | staff} or different staff of the PCACS in activities at the startup and vice-versa.
- Human subject connected analysis in startups ought to get clearance from the committee of the establishment.

### **Pedagogy and Learning Interventions for Entrepreneurship Development**

- Diversified approach should be adopted to produce desirable learning outcomes, which should include cross disciplinary learning using mentors, labs, case studies, games, etc. in place of traditional lecture-based delivery.
- Entrepreneurship education should 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 should be made available to the students.
- Pedagogical changes need to be done to ensure that the maximum number of student projects and innovations are based around real life challenges. Learning interventions developed by the PCACS for inculcating entrepreneurial culture should be constantly reviewed and updated.

### **Collaboration, Co-creation, Business Relationships and Knowledge Exchange**

- Stakeholder engagement ought to run prime importance within the entrepreneurial agenda of the PCACS.
- PCACSs ought to realize potential partners, resource organizations, micro, tiny and medium sized enterprises (MSMEs), social enterprises, schools, alumni, skilled bodies and entrepreneurs to support entrepreneurship and co-design the programs.
- The PCACS ought to develop policy and tips for forming and managing the relationships with external stakeholders together with non-public industries.
- Knowledge exchange through collaboration and partnership ought to create a vicinity of institutional policy and PCACSs should give support mechanisms and steerage for making, managing and coordinating these relationships.

## **Entrepreneurial Impact Assessment**

- Impact assessment of PCACS's entrepreneurial initiatives such as pre-incubation, incubation, entrepreneurship education should be performed regularly using well defined evaluation parameters.
  1. Pre incubation: Numbers of company registered, venture capital fund created by startups.
  2. Incubation: Facilities increased, increasing number of mentors, number of successful startups.
  3. Entrepreneurship education: Quantitative measures on number of seminars, certificate courses and coaching on entrepreneurship is conducted annually.
- Formulation of strategy and impact assessment should go hand in hand. Hence the committee for both should be always the same. The information on impact of the activities should be actively used while developing and reviewing the entrepreneurial strategy.
- Impact assessment for measuring the success should be in terms of sustainable social, financial and technological impact in the market. For innovations at the pre-commercial stage, development of sustainable enterprise models is critical. COMMERCIAL success is the ONLY measure in the long run.