



Pillai HOC College of Engineering & Technology

Khalapur, HOC Colony Rd, Taluka, Rasayani, Maharashtra 410207

Accredited with 'A+' Grade by NAAC

NBA accredited for Civil Engg, Computer Engg, Information Technology & Mechanical Engg



Institution's Innovation Council

Report for Academic Year 2024-25





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A.

- **Vision of IIC established at the Institute**

To be a fountainhead of innovative ideas to meet the mission of entrepreneurship and startups and accelerate the efforts of skilling and up skilling for employment generation

- **Mission of IIC established at the Institute**

To develop research support and cultivate an active Start-up ecosystem in PHCET is resulting in innovation and entrepreneurship driven employment and economic growth.

- **Journey of IIC established at the Institute:** PHCET has established Institution's Innovation Council (IIC) as per the guidelines of „MoE"s Innovation Cell (MIC)" in the academic year 2020-21. The initiative was to create a vibrant local innovation ecosystem, start-up supporting mechanism, establish function ecosystem for scouting ideas and pre-incubation of ideas and to develop better cognitive ability for technology students. PHCET, IIC is actively involved in organizing and conducting various seminars, workshops, Idea competitions, Hackathon for school childrens etc. for its students and faculties.

- **Diversified representation in the IIC established at the institute from industry, Interdisciplinary & Departments/ Units etc.**

PHCET has established IIC comprising members from Industry and Interdisciplinary departments. Each member contributes to fulfil Vision and Mission of IIC established at the institute conducting expert webinars, Workshops, Field visits, Add-on programs for students and faculty of PHCET.

B. Brief mention of key functionaries at the IIC Institute

- President :**Dr. Jagdish W. Bakal**
- Convener: **Dr. G. V. Patil**
- Coordinators etc. : Refer Below Table



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C. Portfolio/graphical/Tabular representation of Resource strength (human capital and Physical capital) of the IIC institution

	Name of Member	Member Type (Teaching/ Non-teaching / External Expert)	Key Role/ Position assigned in IIC
1	Dr . J. W. Bakal	Teaching	President & Head of the institution
2	Ms. Munawira Kotyad	Teaching	Vice President
3	Dr. G.V. Patil	Teaching	Convener
4	Dr.B. K.Sarkar	Teaching	IPR Activity Coordinator
5	Dr M.D. Nadar	Teaching	Innovation Activity Coordinator
6	Mr. Raju Narwade	Teaching	Internship Activity Coordinator
7	Dr Divya Chirayil	Teaching	Member, NIRF coordinator
8	Mr. Karthik Nagarajan	Teaching	Social Media Coordinator
9	Dr. G.R. Patil	Teaching	Member, ARIIA Coordinator
10	Dr. Shilpa Kewate	Teaching	Member, NISP, Coordinator
11	Dr. Manvendra Vashistha	Teaching	Member
12	Dr Mansi Subhedar	Teaching	Member
13	Dr. Rajashree Gadhave	Teaching	Member
14	Ms. Pranita Chavan	Teaching	Member
15	Mr. Abhjit More	Teaching	Member
16	Mr. Maruti Pawar	External	Industry Expert
17	Mr. Sanjeev Raje	External	Industry Expert
18	Mr.Satish Mahajan	External	Industry Expert
19	Mr. Nikhil Raje	External	Industry Expert
20	Mr. Jitendra P.Patil	External	Industry Expert
21	Mr. Vijay Shivpuje	External	Industry Expert
22	Mr. Prathmesh Shelke	Student	Start-up Coordinator
23	Mr. Vedant Katkar	Student	IPR Coordinator
24	Mr. Arya Patil	Student	Internship Coordinator
25	Mr.Mahesh Bhopatrao	Student	Internship Coordinator
26	Ms. Sarika Patil	Student	Innovation Activity Coordinator
27	Mr. Abhas Sharma	Student	Social Media Coordinator

- Total No. of IIC Members: 23
- Total No. of IAs: 16



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- Total No. of faculty Mentors From Portal: 13
- Pre-Incubation Units, If any: Yes
- Incubation Units, If any: Yes
- IP Facilitation Unit, If any: Yes

E. Highlight Facilities, Infrastructure of Pre-Incubation & Incubation kind and Student bodies/clubs engaged in promotion of Innovation and Entrepreneurship in the campus.

PHCET has dedicated Pre-Incubation & Incubation cell with following facilities:



- Software Lab
Software lab consists of 18 no of PC"s, where students can research and



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develop projects, several no of software are used. Solid Works, Java net beans, Android SDK, Matlab, Kill, Arduino, etc. Also many software's are provided as per the project need.

- 3D Printing Facility in Software Lab (Felix 3.0 3d printer)
- Facility used for rapid prototyping and fast processing
Ultimaker+ Extended Pro
3D Printing, also known as additive manufacturing, refers to various processes that synthesize a 3 dimensional object. In 3D printing, successive layers of material are formed under computer control to create an object. A 3D printer is a type of industrial robot.
- Component Library
This is the place where number of resources is incubated to process on. This facility is made with the intention of making maximum resources available to work on. Students can borrow these resources to learn and work on. Library contains resources like Microcontrollers, sensors, actuators, power supply, tools and equipment and many more.
- Workshop Facility
Research lab has dedicated workshop facility or prototyping and fabrication. Major useful tools and equipment are available with the proper guidance to use.
- Laser Cutting and Assembly Project
Laser cutting is a technology that uses a laser to cut materials, and is typically used for industrial manufacturing applications. This facility is provided for rapid prototype Designing, Assembly and manufacturing, Testing of pilot design and project based learning.

F. Highlight Achievements (Narrative/Graphical/tabular representation)

- Number and Different types of I&E and IPR activities Conducted :

IIC Activities AY 2024-25		
Sr. No.	Name of the Activity	Quarter
1	Skills of Entrepreneurship and Career Opportunities in Cyber security	I
2	Opportunities in Electronics and Innovations in electronics engineering	I
3	GitFusion: Bridging Developers & Repositories	I
4	ThinkAI Innovation and Design thinking	I



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5	Exposure visit: Missing Link of Mumbai Pune Expressway at Lonawala	I
6	TechFit: Navigating pathways to find your perfect match in Emerging Trends to develop stat up skills	II
7	Seminar on Startup & Carrier opportunities in software industry	II
8	Python and Machine Learning	II
9	LET'S START WITH R to build start-up skills	II
10	Seminar on Carrier opportunities through Innovation and Design thinking	II
11	Exposure visit: Water Treatment Plant, Bhokarpada	II
12	Regional Meet 2023	II
13	Three-day national-level hackathon Hackoverflow 2.0	II
14	Hands on Workshop on "Know Your Bike	II
15	Training for Qform International Olympiad	II
16	Exposure visit to Railway Engineering workshop" at Apta Station, Rasayani	III
17	Workshop on Domain Discovery	III
18	Hands on Flutter Workshop	III
19	Workshop on "Kickstart with DSA and Development"	III
20	Hands on Workshop of "Robotics and IOT	III
21	Hand-on Training – IOT for electronics engineers"	III
22	Workshop on "Disaster Risk Reduction Techniques "	III
23	Exposure visit to Industry: Thermal Power plant	IV
24	Training for Qform International Olympiad	IV
25	Hands-on Workshop on 3D printing & Laser Cutting	IV
26	Hands-on Workshop on 3D printing & Laser Cutting	IV
27	Hands-on Workshop on 3D printing & Laser Cutting	IV
28	Consumer day celebration and seminar on awareness about consumer rights	IV
29	Workshop on carrier opportunities Java Programming	IV
30	Carrier opportunities in Pseudo Code	IV
MIC Driven Activities		
Sr. No.	Name of the Activity	
1	Organise Viksit Bharat@2047 Utsav in Campus and Watch the Inaugural Adress by Hon'ble Prime Minister of India on 11th Dec. 2023	I
2	IIC Regional Meet 2023-24	II



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3	Orientation cum Refreshers' Session on Institution's Innovation Council Objectives, Structure, Operation for IIC Institutions	II
4	Building the Pipeline of Quality Innovations and Startups in HEIs with Ecosystem Enablers by Creating and Managing YUKTI Innovation and IPR Repository (YIIR)	III
5	Strengthening IIC Linkages with ATLs and SICs in Schools and the Framework for Providing Mentorship and Guidance	IV
	Guiding Framework for Creating and Engaging Trained Faculty and Student IIC Members, Innovation Ambassadors (IA) in IIC Institutions, and Rewarding Mechanisms for IAs	V
IIC calender Activity		
Sr. No.	Name of the Activity	Quarter
1	An Inter/Intra Institutional Innovation Competition/Challenge/Hackathon and Reward Best Innovations	II
2	Mentoring Event: Poster Presentation of Innovations/Prototypes & linkage with Innovation Ambassadors	II
3	Exposure Visit to Pre-incubation units such as Ideas LabatPillaicollegeofEngineering, Panvel	II
4	AseminaronSession on Achieving Problem-Solution Fit & Product-Market Fit	I
5	Workshop on Entrepreneurship Skill, Attitude and Behaviour Development	II
6	Expert talk on "Process of Innovation Development & Technology Readiness Level (TRL)" & "Commercialisation of Lab Technologies & Tech-Transfer	II
7	Organising Innovation & Entrepreneurship Outreach Program in Schools/Community	I
8	Workshop on Design Thinking, Critical thinking and Innovation Design	II
9	Workshop on "Entrepreneurship and Innovation as Career Opportunity	I
10	My Story - Motivational Session by Successful Innovators	I
11	My Story - Motivational Session by Successful Entrepreneurfounder	I
12	Poster Presentation of Ideas/PoC & linkage with Innovation Ambassadors	I



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13	Inter/Intra Institutional Idea Competition/Challenge/Hackathon and Reward Best Ideas	I
14	Session on Problem Solving and Ideation Workshop	II
15	Demo Day/Exhibition/Poster Presentation of Business Plans & linkage with Innovation Ambassadors/Experts for Mentorship Support	II
16	Organise an Inter/Intra Institutional Business Plan Competition and Reward Best Innovations	III
17	Workshop on Intellectual Property Rights (IPRs) and IP management for start up	III
18	Session on "How to plan for Start-up and legal & Ethical Steps"	III
19	Session/ Workshop on Business Model Canvas (BMC)	III
20	Field/Exposure Visit to Incubation Unit/Patent Facilitation Centre/ Technology Transfer Centre such as Atal Incubation Centre etc	III
21	Workshop on Prototype/Process Design and Developmen	III
22	Linkage with Innovation Ambassadors/Experts for Mentorship Support	IV
23	Organise an Inter/Intra Institutional Start-up Competition and Reward Best Start-ups.	IV
24	Organising Innovation & Entrepreneurship Outreach Program in Schools/Communit	IV
25	Session/ Panel discussion with innovation and Start-up Ecosystem Enablers from the region/state/national level	IV
26	Session on Angel Investment/VC Funding Opportunity for Early Stage Entrepreneurs.	IV
27	Organise Session on "Lean Start-up & Minimum Viable Product/Business"- Boot Camp (or) Mentoring Session	IV
28	Session on Accelerators/Incubation - Opportunities for Students & Faculties - Early Stage Entrepreneurs	IV
29	Session on Innovation/Prototype Validation – Converting Innovation into a Start-up or Session on Achieving "Value Proposition Fit" & "Business Fit"	IV

- No. of student"s & faculty ideas generated: **19**
- No. of student"s & faculty Innovation/prototypes developed: **12**
- No. of IPs generated, published and granted: **45 (FER Generated)**
- No. of Student & Faculty Start-ups/Ventures established : **In Process**
- Amount spent on promotion and awareness generation on Innovation Entrepreneurship in the campus: **1 Lakh**



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- Amount grant or fund supported to student & Faculty lead Innovations, start-ups and IPR : **4 Lakhs**
- No. of Technology Transfer and Commercialization happened: 00

G. Highlight few best IIC Faculty/Student members and their achievements/
Rewarded for the innovations at different forum

- a. **Dr. M. D. Nadar:** Graduated, post graduated and doctorate in the field of Mechanical Engineering and specialized in the area of industrial Engineering. I had 4 years Industry experience and I have worked in the area of teaching since 1991 and research work since 2010. I have guided more than 50+ under graduate students and guided more than 25+ Post graduate students final year projects and I have been selected for best research work by Mumbai University, I have coordinated many faculty development program institute level, national level sponsored by remote center by IIT-Mumbai, AICTE Atal Academy FDP Program.

H. Highlight selected best Innovations & images with mention of inventor/innovation name:

Title: "Sustainable Sandwich Composite Circular Manhole Cover Designed for Pedestrian Networks"

ID:IR2022-808334

Team Members:

1. Dr. Shilpa Kewate
2. Ms. Sonam Bhopatrao



Grant in aid Sanction Letter:



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All India Council for Technical Education
(A Statutory body under Ministry of Education, Govt. of India)

Nelson Mandela Marg, Vasant Kunj, New Delhi-110070 Website: www.aicte-india.org

File No. - P/11/2024-US C1/1 (Computer No. 4959)

Dated: - 06.05.2024

Grant Support to Innovations - Sanction Letter

To

The Drawing and Disbursing Officer,
All India Council for Technical
Education, Nelson Mandela Marg,
Vasant Kunj, New Delhi - 110070

Sub: Release of Rs. 200000/- (Rupees Two Lakh only) being the Grant-in-Aid under the scheme of Grant Support to Innovations, MIC for the year 2023-24 payable during the current financial year 2024-25 to Pillai HOC College of Engineering and Technology.

Sir,

With reference to the approval of the Council, this is to convey the sanction for payment of Rs. 200000/- (Rupees Two Lakh only) as Grant-in-Aid under the Grant Support to Innovations, MIC Scheme for Innovation title "Sustainable Sandwich Composite Circular Manhole Cover Designed for Pedestrian Networks" as per details given below: -

1.	Name and address of the Beneficiary Institution/ Institute / Incubation Unit	Pillai HOC College of Engineering and Technology, Via panvel, Rasayani, Taluka - Khalapur, Raigad - 410 207, Maharashtra, India.
2.	Name of the Team Leader:	Dr. Shilpa Pankaj Kewate
3.	Duration of the scheme:	FY 2024-25
4.	Total Grant-in-aid Sanctioned:	Rs. 400000/-
5.	1 st Phase Amount (50% of Grant-in-Aid) to be released during the financial year 2024-25:	Rs. 200000/-
6.	Sanctioned grant-in-aid is debitable to:	603.2 (a) General (MIC)
7.	The authorized officer in whose favour Cheque/ Demand Draft/ RTGS is to be made	Pillai HOC College of Engineering and Technology

VII. General instructions

- If program is not started in the period of three (03) months of the issuance of this Sanction Letter, the released amount, along with interest accrued thereon, has to be returned back to AICTE/MIC by way of a demand draft in favor of INNOVATION CELL ACCOUNT payable at New Delhi or through NEFT/RTGS at INNOVATION CELL ACCOUNT, Account No:37903899633, IFSC: SBIN0050203, SBI, SHASTRI BHAWAN, RAJENDRA PRASAD ROAD, NEW DELHI-110001. Kindly mention the File Number in your future correspondence.

The grantee Institution/Incubation Unit shall observe all financial norms and guidelines as prescribed by the AICTE/ Government of India from time to time. GOI GFR rules (@<https://doe.gov.in/order-circular/general-financial-rules-2017-0>) should be followed during utilization of grant.

- This Sanction Letter may be treated as Offer Letter for all purposes.

Yours Sincerely,

AID (MIC)

Copy forwarded for information and necessary action to:

- Pillai HOC College of Engineering and Technology, Via panvel, Rasayani, Taluka - Khalapur, District - Raigad, Pin code -410 207, Maharashtra, India., principal.phcet@mes.ac.in, 99605912965
- Dr. Shilpa Pankaj Kewate, shilpakewate@mes.ac.in
- MIC
- Guard File



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- I. Highlight selected start-ups established by students/faculties with mention of founder/cofounder name:

Mr. Gourav Sarkar

Co-Founder and CEO | (M) +91 9987549293

Friction Innovative Education LLP

217, Skylark, Sakal Bhavan Road, Sector 11, Opp. BP Marine Academy,
CBD Belapur, Navi Mumbai 400614

- J. List if any break through Innovations / Technology Developed at the institute (2-3 technology with 2-3 lines about technology and innovation:
1. Sustainable Sandwich Composite Circular Manhole Cover Designed for Pedestrian Networks
 2. Smart construction safety helmet - An Arduino-based risk and salary monitoring and management Tool
 3. Automatic Air Fill in Bike, Scooty and Car Tyres.
 4. Development of hybrid Polymeric nanocomposite using glass, carbon and basalt fibers as reinforcing elements.
- K. Participation of IIC-institute in various programs of Central and Stage Govt. Highlighting specially for the schemes or programs
- ARIIA – Participation
 - NISP Adoption status - Trained Faculty, Policy Formulation, Policy Implementation
 - Smart India Hackathon etc.
 - Yukti Innovation design challenge
- L. Detail of Social Media & Connections of IIC institute
- Website: <https://www.facebook.com/pillaihoccollege>
- Website: <https://www.instagram.com/pillaihoccollege>

M. Activities Conducted in IIC 7.0



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My Motivational Story: Dr. Ashok Khade



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Business Plan Competition 2024-25



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My Motivational Story: Dr. Maruti Pawar, Entrepreneur



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MIC Activity: Linkage with Innovation Ambassador



Hands on Workshop on Solar PV



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BIS Standard Carnival 2024

Dr.G.V.Patil

IIC Convener, PHCET, Rasayani

gpatil@mes.ac.in

Dr.J.W.Bakal

Principal, PHCET, Rasayani

principal.phcet@mes.ac.in