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# Learning and Growing - A collaborative enterprise in Digital Age



In my close association with the field of education in recent years, I have observed that while institutions are built on the pillars of faculty, research, infrastructure, collaborative and administrative strengths, it is affirmed that it is only a passion for excellence which elevates it to a high order.

I feel greatly inspired when I see Pandit Deendayal Petroleum University evolve into an institution which can hand-hold students through a transformational journey where knowledge is acquired while nurturing excellent human values, where learning has moved beyond the classroom - all proving to be priceless assets in one's professional life. As citizens of this great nation, and as part of a greater world order, where socioeconomic dynamics are undergoing rapid change, and the fact that India's youth will increasingly play a key role in the global scheme of things, I can sense great optimism in the air.

PDPU's holistic education philosophy across the programs of management, engineering and liberal arts proves crucial for it helps to create a fine talent pool that can make a vital difference in the way they address their professional roles. My best wishes to all of you and I hope that the corporate world will respond with great enthusiasm on assessing your professional capabilities.

I have always believed that just physical infrastructure of an institution does not make it world class. It is the intellectual infrastructure that matters more. It is the faculty members who have made our institution a Centre of Excellence.

#### Dr. Mukesh Ambani

Founder President & Chairman BoG

# Innovation for Industry 4.0 and beyond



PDPU has developed a vibrant campus with advanced facilities and technologies on its campus. It has set up State of the art Laboratories in each discipline with support of Industries. Knowledge partners and internationally renowned University partners. The University has also developed cutting edge digital infrastructure with up to date research and educational curriculum to promote and facilitate research and learnings.

Students have shown tremendous talent and innovation in the field of education, learning & research and to build the Institute's reputation and recognition. PDPU also provides international exposure to its students to create values and cultivate their mind towards innovation by collaborating with reputed International Universities. Faculty with their experience and immense subject knowledge in specialized filed plays vital role in upbringing the student's development. At PDPU, researchers and students collaborate with industry and government to create innovative solutions merging engineering and creativity, theory

and practice, and University and society.
Experts from Industry and Academia,
Members from our Board of Studies provide
scientific advice to craft the curriculum in
order to meet industrial requirements.

University offers liberal scholarships & exposure and facilities to students and faculty compared with the best in Academics to nurture all-round talent. I welcome all to this reservoir of knowledge.

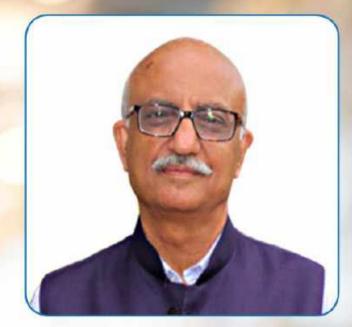
As there is a global quest for more efficiency through Industry 4.0, we are prepared with the opportunity of finding innovative solutions to these challenges, and becoming reservoir of knowledge for radical yet sustainable societal transformation.

### **Dr. S. Sundar Manoharan**Director General



We at PDPU facilitate learning and mentoring of young and ignited minds and create next generation leaders and innovators." We focus on inclusive development of a student by way of educating on technological, intellectual and moral development to draw out the best from within.

### Prof. Tarun Shah Registrar



The school is now embarking on the journey of Industry 4.0, digital transformation and sustainable development as the engine for growth through innovation, and is dedicated to building great careers. We are committed to delivering the best, being seen as the best and being the best.

### **Prof. Sunil Khanna**

Director, School of Technology (SOT)



The school is a researchoriented institute believeing in
strong industry-academia
connect. SPT has a good alumni
base in Oil and Gas Industry. I
feel proud to say that within a
short span of time, SPT has built
a good reputation with the
industry and our placement is
reflecting the same.

### Dr. Rakeshkumar Vij

Director, School of Petroleum Technology (SPT)

### **Engineering Programs Intake**

Branch	B.Tech	M.Tech
Computer Science & Engineering	240	48
Chemical Engineering	120	36
Civil Engineering	120	54
Electrical Engineering	120	18
Mechanical Engineering	120	54
Petroleum Engineering	120	36
Information & Communication Technology	120	-
Automobile Engineering	60	-
Electronics & Communication Engineering	60	-
Energy Systems (Focussed on Solar Energy)	12	18
Nuclear Science & Technology	læ.	18
Material Science & Engineering	Æ	18

### New B Tech Programs from 2020-21

#### B.Tech. Automobile Engineering

B.Tech Automobile Engineering course curriculum offers study on manufacturing, rapid prototyping, aerodynamics, chassis, emissions, electronics, ergonomics, materials, alternative fuels, vehicle, power train, electric vehicle and pedestrian safety or supply chain management. A unique International Center for Excellence in Automobile Engineering that was established through a tripartite agreement between PDPU – Maruti Suzuki and Government of Gujarat has a vibrant presence in the campus. This state-of-the art facility with an investment of up to 75 crores will offer a hands-on experience to the aspirants with which it aims to bridge the skill gap that the current training ecosystem falls short of.

#### B.Tech. Electronics & Communication Engineering

B.Tech in Electronics and Communication programme intends to impart an in-depth understanding of signals, circuits, Digital Signal Processing, Computer Networks, Wireless Sensor Networks, Analog Electronics, Network Theory, Digital Communication, Computer Architecture and offer technical skill enhancement. In addition, the programme also focuses on the current trends in cyber physical systems including Artificial Intelligence, Internet of Things and virtual reality. Industrial visits and experiential learning aimed at augmenting the skill sets of students will be the specialized focal point of the programme.

#### **B.Tech. Chemical Engineering**

B.Tech Chemical Engineering degree provides competitive and lucrative job opportunities in many fields like petrochemicals, oil and paints, food, dyestuff, polymers, biomedical and pharmaceutical industries, manufacturing, energy and environmental engineering sectors. The department has the robust and operative presence of national and international collaborations with industries and research labs like NCL, Pune and ICT, Mumbai. The department is further strengthened by its focused research on energy, environments and allied areas, fully equipped experimental and simulation laboratories with unique research facilities.



The department is committed to excellence in Chemical Engineering education and has a pool of experienced faculty who are constantly striving towards excellence in teaching and research. The

department has strong linkages with renowned national/international academia, R & D institutions and industries.

**Dr. Swapnil Dharasker** HoD - Chemical

### **B.Tech. Civil Engineering**

The strengths of the department are Well qualified and experienced faculty members. courses realigned to cater to the current needs of the construction industry that emphasizes on digital transformation, smart and sustainable infrastructure. Industry 4.0 and sustainable development goals are the major propellers of the department in producing graduates who are tailor made for the modern workforce. The introduction of choice-based system and interdisciplinary open electives, industry supported state-of-art laboratories having more than 3.25 crores in terms of equipment and software, research funding and national and international exposure make the curriculum more relevant and productive.



With the support of Government, Industries and well placed alumni across the world, the department is growing at an exponential pace. The courses are aligned with Digital transformation and smart

and sustainable infrastructures. The state-ofthe- art Industry supported laboratories and financial support for 'Start-Ups' make the department a unique destination for bright and young talent to build careers in Civil Engineering.

**Dr. Tejas Thaker** HoD - Civil

#### **B.Tech. Computer Science & Engineering**

The specially designed program helps in unveiling the latest trends in the software development industry thereby offering the students the much-needed practical exposure and experience. Research Labs via internships. industrial training and sponsored research and hands-on experience present the students with the training, practicality and expertise in advanced technologies, Cloud Computing, Data Analytics, Machine Learning, Artificial Intelligence, Image Processing, Highperformance Computing, etc. Participation in National-level Hackathon, Ideathon, and other coding competitions equip students with the necessary skill sets making them competent and workplace ready.



The department has structured a well-planned eco system of choice based credit system, industry driven syllabus, well equipped laboratories, a wide range of elective subjects and project-based

learning. The department is associated with professional development bodies through activities pertaining to technological innovations and methods. Students are encouraged for and exposed to research driven projects.

Dr. Samir Patel HoD - CSE

### B. Tech Programs

#### **B.Tech. Electrical Engineering**

The curriculum places greater emphasis on practical components, industrial visits and internships and projects for a strong & sound foundation. The department has well equipped laboratories for Power System Protection. Power Electronics, Process Dynamics and Control, Renewable Energy, High Voltage Engineering, Modelling and Simulations with ETAP, PSCAD, PSIM, MATLAB and MiPower software. Students run IEEE chapters and participate in extra-curricular activities through which acquiring and enhancing skills and expertise become easier. Team Kaizen with their prototype car 'Nakshatra' ranked second in India at Make the Future Challenger event organized by Shell Eco-Marathon in Bangalore.



Studying Electrical Engineering leads the students to the centre of a vibrant, digitally transformed and sustainable energy management system. PDPU has state-of-the-art

resources and problem-based learning approach and prepares the graduates for their professional career with hands on experience and industry relevant projects.

Dr. Praghnesh Bhatt HoD - Electrical

### B.Tech. Information & Communication Technology

The program exposes students to various ICT fields with a perfect blend of knowledge and understanding of hardware and software along with practical training and experience using Microwave, Antenna and Radar Trainers, Sensor Networks and Integrated Development Tools for Embedded Systems, Image Processing Techniques and Tools and Simulation Software like MATLAB, SIMULINK and Toolboxes. Guest lectures by industry experts, industry visits and live projects lead to multiple perspective and different dimensional understanding and acquisition of theoretical knowledge, conceptualization and application.



ICT encompasses communication and information devices and their applications like radio, television, cellular phones, computer and network hardware and software, satellite systems and many

other areas. The department is equipped with hardware and software laboratories to carry out innovative research in Information and Communication Technology domain. It is supported by professional bodies and industry.

Dr. Mazad Zaveri HoD - ICT

### **B.Tech. Mechanical Engineering**

The department is accredited by the National Board of Accreditation, New Delhi and enjoys the experiences brought in through industry collaborations that help in complementing and supplementing study and research. The students are given insights into important emerging areas such as nuclear technology, robotics, biomedical technology and energy systems in addition to aerospace, automotive and manufacturing. Participation in 'Vehicle Design and Development' competitions like BAJA-SAEINDIA, SUPRA-SAEINDIA result in shaping promising mechanical engineers who can make a mark in their careers through their competence, expertise and innovation.



Mechanical Engineering
Department is the first
department across PDPU
to get the National Board
of Accreditation (NBA) in
2019. Department is well
equipped with state- ofthe-art laboratories and
four Centres of Excellence

(CoE), strong industry connect and professional societies. Its Alumni are well placed in industries as well as are in foreign universities for higher studies.

Prof. Vishvesh Badheka HoD - Mechanical

### **B.Tech. Petroleum Engineering**

The course offers an extensive and exhaustive study on exploration, drilling, production, reservoir engineering, pipeline engineering, refinery operations, LNG value chain, petrochemicals and gas processing. It is akin to the course offered by the University of Oklahoma (OU). A credit exchange program is also available by which PDPU students can study at OU for one semester and earn credits which will be counted as their academic performance for that particular semester. Also, PDPU SPE Student Chapter stands as the only SPE student chapter in India to have bagged four consecutive Gold Standard Awards from SPE International for four times in a row.



The school started with a vision to impart knowledge to the young minds and to develop skilled resources for oil and gas industry. The program covers the entire value chain from the exploration of hydrocarbon

to the supply of petroleum products to end users. Importance is given to practical experience through extensive interaction with industry and Centres of Excellence in Geothermal and Drilling, Cementing & Stimulation.

Dr. Bhawanisinh Desai Asso. Prof. - Petroleum

#### Maths



Science and mathematics are integral parts of engineering. Science teaches us about the laws of the natural world and mathematics helps us to establish relationships among different quantities.

Mathematics is an integral part of the study of engineering regardless of the discipline. A two-pronged (dual) approach of the Department is to underpin the essential mathematics and also to excite interest in engineering.

Prof. T.P. Singh HoD - Maths, Director - Academics

#### Science



The department of Science aims to promote, inspire and nurture the fundamentals of Chemistry and Physics to the students. It also offers research projects with greater emphasis on concept-

theory-practical training to build up research interest. Highly qualified team of faculty members graduated from IITs, IISc. NCL, PRL and other premium institutes with postdoctoral experience abroad (Humboldt-Germany, Fulbright-USA & JSPS-Japan).

**Prof. Rajib Bandyopadhyay** HoD - Science



#### Liberal Studies

In order to expose students to current global challenges and solutions, crisp, industry-focused Transdisciplinary Capsule Courses from various domains and life skills are offered by PDPU to all undergraduate students across schools. The choice-based registrations for capsule courses help students hone their skills. PDPU also offers variety of language courses such as Spanish, French, Japanese, and German for the students to enrol in. Students can also participate in language and cultural clubs to bring global literature, movies and culture to the life. Students are offered choice based selections from the basket of courses in liberal arts.

Prof. Nigam Dave
Director - School of Liberal Studies

# **Expertise on Campus**

400

Total Faculty and Staff



75

No. of Women employees



223

Ph.D. Scholars



22

Faculty with international Exposure



179

Support Staff

201

Researchers and Educators



103

**Visiting Faculty** 



I like to take up unique and challenging assignments and believe that if one has passion, belief and the will to succeed no task is difficult, no hurdle is too high, no goal is beyond reach.

#### Shri Ankur Pandya

Chief Human Resource Officer, CTO. Head- Admission Office



### **Student Enrollment**



6185

Alumni

5838

**Total Students** 

5003

Undergraduates

655

Graduates

198

Doctoral

3632

**Engineering Students** 

1914

Humanities & Social Sciences Students

292

Management Students



### Infrastructure

100 Acre



1320
Laboratory Equipments



Food



Wi-Fi
Enabled Campus



3 Automated Libraries



1042
Hostel Rooms with 2680 Student Capacity

**57** Lecture Halls



Full Access to Scopus & Web of science

Sports
& Recreational Facilities



43
Laboratories/Workshops



4 Dining Halls
2000 Sitting Capacity

**Eco** 



### International Automobile Center of Excellence (iACE)



# 1MW Solar Power Plant Intergrated to the Grid



# Solar Research Development Centre (SRDC)



### Siemens Automotive Centre of Excellence



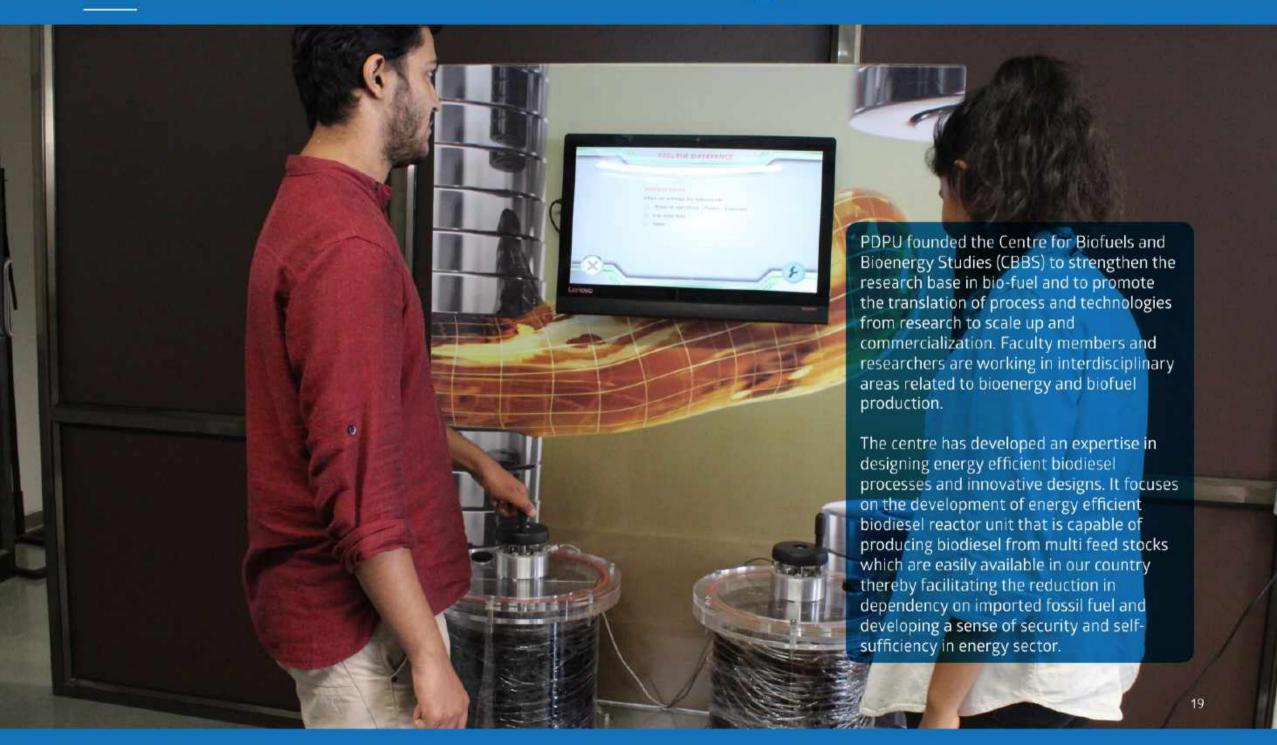
# Centre of Excellence for Geothermal Energy (CEGE)



### Drilling, Cementing & Stimulation (DCS) Research Centre



# Centre for Bio-fuel & Bio-energy Studies (CBBS)



### Research

Research is the core of all our academic programs. Process and product are created through the synergy of research, education, innovation and scientific advice by innovative researchers having a cutting edge in global collaborations. Research facilities. laboratories and Centres of Excellence at PDPU work together in developing and discovering new processes and products to actuate change and ignite innovation.

The research focuses on United Nations Sustainable Development Goals for developments towards Energy Security & Independence. Intensive research activities are carried out in the area of FEW (Fuel & Food, Energy & Environment, Water and Waste to Wealth) and in the application of Industry 4.0 standards to create a positive impact on people, planet, prosperity and partnership.

Faculty and researchers at PDPU passionately take right STEP (S - Social Engagements, T -Technology Development, E - Economic Model (PPP), P - Policy on Research & Innovation) to infuse the Youth for Tomorrow with significantly greater persistence, perseverance and competence and an never ceasing quest for the new and the latest.

42 **IPR** Filed

28 Completed **Projects** 

43 **Onging** Government & Private Sponsored **Projects** 

220 **University Funded** Student Řesearch **Projects** 

₹1,420 Million Investment in

**R&D** facilities

Charles broad corre

### **PUBLICATIONS 2016-19**



18.66

Publications

689

1.15

Field weighted Citation Impact

17.6% Top 10% most cited worldwide

India - 8.8%

42.1% Publication in O1 Journals

22.1%

Publications by PDPU researchers in last 3 years are co-published with researchers from abroad



Average Citation per

paper for Top 25%

INTERNATIONAL **CO-PUBLICATION** COUNTRIES

Canada

China

Australia

Japan

**Top 10** 

Netharlands

Poland

South Affrica

South Korea

Switzerland

**United Kingdom** 

**Unites States** of America

### **Top Recruiters**

PDPU believes in active and continuous interaction with industry to build stronger long term relationship. Industries are involved with PDPU through various activities like guest lectures, Seminars, Workshops, Industry visits, short term training programs and research apart from placement activities.





































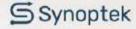


























### Innovation & Incubation Centre (IIC)

PDPU Innovation & Incubation Centre promotes the culture and spirit of entrepreneurship by providing mentoring, funding and infrastructure support to students to convert their ideas into a viable business.

- Recognized as a Nodal Institute by the Government of Gujarat.
- Registered as Startup India Incubator under DIPP (Department of Industrial Policy and Promotion, Govt. of India)
- Approved as "Technology Business Incubator" by the Department of Science and Technology, Government of India
- Supported by Student Start-up and Innovation Policy (SSIP) by the Education Department of the Government of Gujarat
- PDPU-IIC is recognized as the "Incubation Centre of the Year with Prominent IP Culture" by Intellectual Property Protection Organization (IPPO) at IP Fest for 3 consecutive years, 2017, 2018 & 2019.
- Special Jury Recognition awarded to PDPU and PDPU-IIC for creating an innovation ecosystem to promote creativity, Innovation, Dedication, and Commitment by Gujarat Innovation Society

- PDPU has been awarded as the "Best Performing Private University" under the Private University category at the SSIP Annual International Conference on Student innovation, start-up and Ecosystem -2019 organized by the Education Department, Govt. of Gujarat.
- PDPU IIC with the support of PDPU organised Let's Hack COVID-19 Edition, an inhouse hackathon to sensitize the students of PDPU to this global pandemic and to encourage them to come up with innovative ideas and solutions for society. With a total of 46 problem statements from industry and academia, 203 teams i.e. 910 students are working to develop innovative solutions.





PDPU Innovation and Incubation Centre provides a plethora of services and expertise, from the equipment labs to the research facilities given to faculty experts. We nurture ideas and ignite entrepreneurial atmosphere to turn innovation into successful start-up.

Shri Abhinav Kapadia
Director – IIC & CFO- PDPU

### Success Story

#### **Vise Organic**

My lab is a do it yourself kit developed by Vise Organic. This kit enables a person to produce different types of bio pesticide and bio fertilizer. Bio pesticides and bio fertilizers are living microbes used in agriculture for different purposes. These microbes must be in active live form to be used as a fertilizer or pesticide.

Founder: Mr. Prakash Vaghasia

#### Techtards Solution

Techtards Solutions intends to create India's biggest distributor-retailer portal base service channel and offers all online based services to people with no access to online banking system.

Founders: Mr. Sachin Baldha, Mr. Hiten Shah, Mr. Sajith Ezhava, Mr. Samir Kagdi

#### Torch It

Torch-It aims to empower the differently abled community by providing them with effective but affordable products and services that help make their lives more independent and meaningful. Currently, we are working towards enabling the blind community with the "Power of Independence" by providing them with Accurate and Affordable Assistive Device for better and hasslefree navigation.

Founder: Mr. Hunny Bhagchandani

#### Utileaider

Utileaider developed solution that transforms streetlight energy consumption, operation and maintenance. The GRIDFIL solution reduces conventional streetlight energy consumption by 80% and increases the quality of light by three times. The energy bill for strretlights is almost zero.

Founders: Mr. Anand Singh

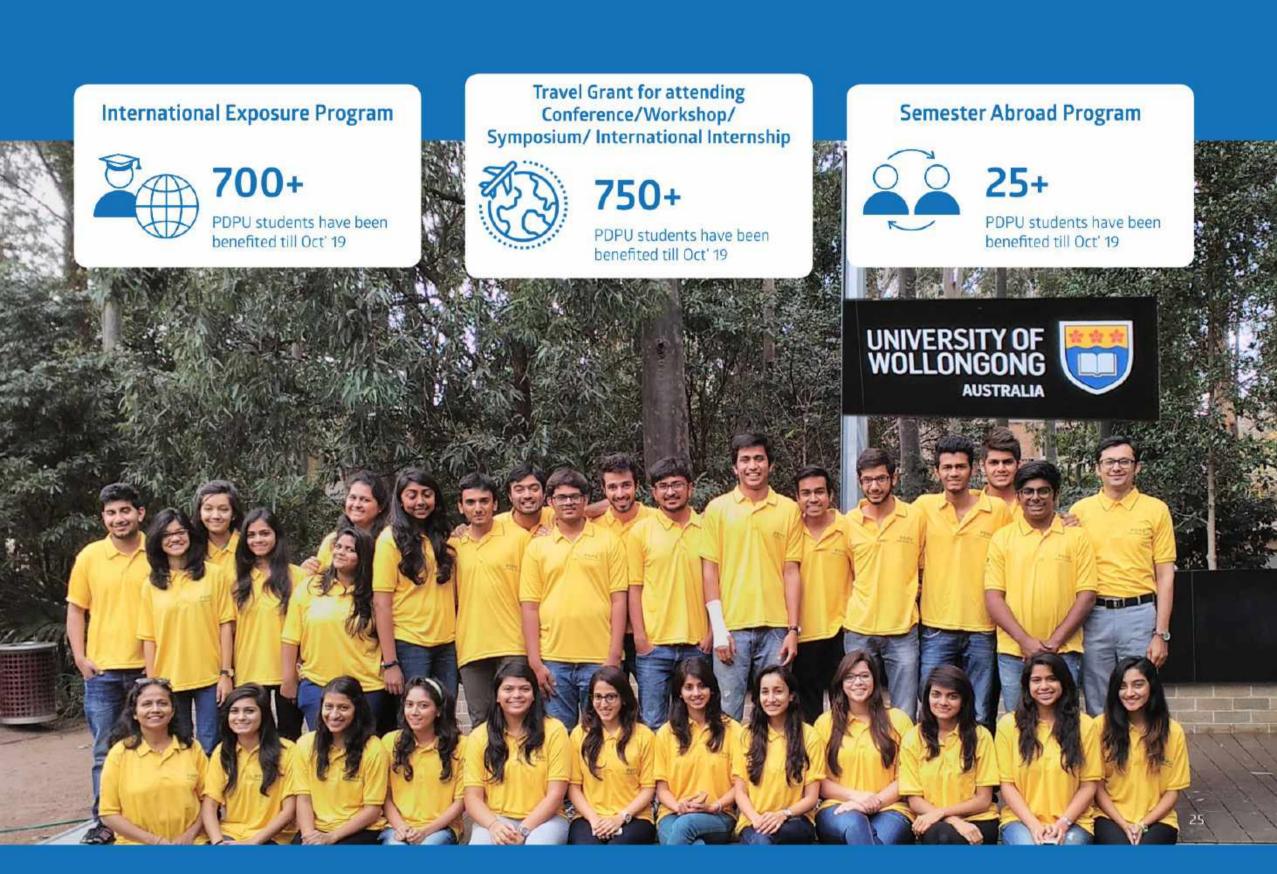
#### Swachh

Swachh is a start-up with the idea to develop a mask (smart mask) comprising high grade filters that are capable of filtering out micro-particles, toxic gases in urban polluted air and harmful bacteria and viruses, all in a single unit. The mask will automatically create an easy breathing atmosphere for the user so that it can be used for a longer period without inconvenience.

Founders: Dr. Brijesh Tripathi, Dr. Manoj Kumar

### Globalization





### Life at PDPU



































# **Distinguished Guests**



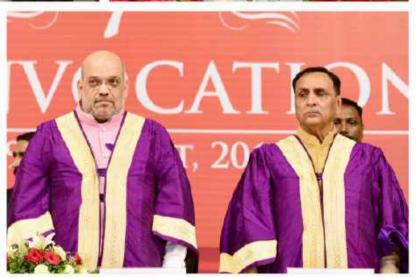




















### CONSTITUENT SCHOOLS OF PDPU













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www.pdpu.ac.in











### PDPU STANDS WITH **HUMANITY IN OUR FIGHT** AGAINST COVID-19

#### **OUR PATENTED CONTRIBUTIONS INCLUDE**

- Design, Production and Evaluation of ICU Ventilators in association with other partners
- Research on "Electrospun spinning Polyvinylpyrrolidone (PVP) layered Nanofibre for composite surgical mask"
- Research on "Rational drug delivery systems with Pegylated Liposomes: Drug repurposing of broad spectrum Antivirals & Antimalarials"

