SELF STUDY REPORT VOLUME I

Submitted to

National Assessment and Accreditation Council

Pandit Deendayal Petroleum University

Gandhinagar, Gujarat

Contents

Preface

Institutions of Higher learning evolve and grow. Like any other organism the early formative years are the most dynamic and challenging. At the same time they are abundantly rewarding for those engaged with this evolution and growth. These are the formative years that define the character of the institution. We are very fortunate as we come close to completing the first decade of our existence to have had amongst the best of brains in this part of the world to have come together and contributed in making 'Pandit Deendayal Petroleum University' (PDPU) a centre of learning par excellence. We have put in our best efforts in defining the scope and expanse of the kind and nature of academic courses we would offer at this University. Starting with a strong domain specificity in the 'Petroleum' sector, the scope is expanded to not only cover the entire energy spectrum, but also learning opportunities in liberal studies while, at the same time, enlarging in the standard areas of learning in technology and management.

As an institution of higher learning we are fully aware of our obligations – obligations towards our stakeholders – a combination of students and parents, the industry, the policy makers and above all larger social community within which we operate. Again as a private University established under the State Act, our need to remain relevant and significantly contribute to the society is prime. Accordingly we have developed a set of Undergraduate, Graduate, Post Graduate and research programmes in the domains of management, technology and the social sciences offering an extremely well appointed platform for innovative teaching-learning and research with a sharp focus on quality and excellence. In order to achieve this we have not only stretched the horizons of academic ambience but devised programmes and schools to house them, that are considered as a sharp deviation from the norms of traditional academics, while remaining within the realm of permissible conventional basis of knowledge creation, assimilation and dissemination. These cover pedagogic approaches and styles, incorporation of state of the art technologies and a liberty of decision making at the smallest level of operations.

At PDPU we have subjected ourselves to internal as well as external reviews. The second phase of strategic review is undertaken at the Board of Governors level assimilating data of last 5 years

of functioning of the University. The University has recently been awarded the ISO 9001:2008 certificate for Design, Development & Delivery of Higher Education Programmes & Training from M/S. Bureau Veritas Certification, after a robust intensive multi-layered audit programme.

The multiple reviews point out the deviations for corrections and also help validate the course and direction taken with the defined vision, mission and goals of the University. IQAC and IQEC being practiced at the University shall also stand in good stead for the University when it comes to the accreditation and assessment process of NAAC.

Having practiced the IQEC over last few years, the exercise of preparing the SSR – Self Study Report for NAAC has been a rewarding experience. The preparation provided for elaborate interactions amongst all the academic and non-academic staff bringing about camaraderie which no other programme would have achieved. The involvement, dedication and positive orientation manifested at all levels of employment at PDPU during the entire process of data collection correction and collation is worth mentioning.

The faculty and staff team of volunteers making-up the Steering Committee has successfully lead the exercise to bring it to a platform in the form of this SSR. An appreciation of the efforts of this team is warranted at this stage and I am sure their efforts will be truly rewarded in the rating offered us by the NAAC Committee.

Raghavendra H B
Director General, PDPU

The SSR Preparation

Developing an elaborate report is an assiduous task especially when it is an evaluative report. It becomes all the more complex when it is a self evaluative report. With concentrated effort and tireless enthusiasm several teams have worked towards preparing this Self Study Report (SSR). Pandit Deendayal Petroleum University (PDPU) in its ninth year of establishment has been evolving fast both within the concentration of discipline as also diversifying into diverse domains. With rapid growth day to day engagements offer challenging enough a work schedule and then the task of preparing the SSR added to the tasks at hand. Fortunately from beginning of the first academic programme, academic and administration functions are continuously monitored, evaluated, reviewed, corrected and enhanced as needed. This approach of senior management percolating down to the smallest functionary at PDPU has helped in a big way while putting together the SSR. A parallel preparation and submissions for ISO certification process, duly awarded, also helped in preparing the SSR.

The task was humungous when we started off with guide book provided by the NAAC. Sufficient time was devoted to understand the needs and requirements right at the word go, when the Letter of Intent (LOI) was prepared and submitted. Immediately after submitting LOI preparations for drafting SSR were begun. Approach taken was to distribute all sections and the seven criteria to all schools and departments and request them for information and data on each aspect of different section and criteria. This information was collected and assigned to a select team of faculty colleagues making them responsible for collection of complete information from a school or a department. After collecting information the same team was requested to collate information for each aspect as received from each school/department by section and by criterion. After completing collation of information and data, the same was converted to a single response point to point for all points and sub-points under each section and criterion from a University perspective.

I take this opportunity to mention the laudable efforts of volunteers and various teams towards collecting, collating, correcting and finalizing each part of SSR. It is for us to realize that such is

not a onetime effort, a continuous scrutiny, assessment and reorientation towards achieving the larger goals of the University is the only way to success. It is at best a very good beginning and I am sure with the practice of continuous reassertion of the spirit of University Vision and Mission in everything we do shall lead us to be one amongst the best in the region to begin with and globally very soon.

I thank Directors and Deans of all schools and heads of departments and management functionaries, and all volunteers whose efforts have gone into preparing this SSR. Thanks to all those colleagues who have put in untiring efforts to go through draft upon draft correcting, adding, editing the contents to make this as flawless a document as possible.

Dr H B Raghavendra
Director General - PDPU

List of Abbreviations

AC	Academic Council
ACC	Academic Coordination Committee
ACIP	Advisory Committee for International Partnerships
ACRPM	Advisory Committee for Research and Project Management
AS	Academic Services
AQAR	Annual Quality Assurance Report
BoM	Board of Management
BoS	Board of Studies
BS	Basic Sciences
BA	Bachelor of Arts
BBA	Bachelor of Business Administration
B.Com	Bachelor of Commerce
B.Tech	Bachelor of Technology
CBCS	Choice Based Credit System
CII – Yi	Confederation of Indian Industries – Young Indian
CPDA	Cumulative Professional Development Allowance
CSP	Concentrated Solar Power
CSSI	Community and Social Services Internship
DC	Department Core
DE	Department Electives
DEP	Distance Education Programme
EAS	Engineering Arts & Sciences
Ed.CIL	Educational Consultants India Limited
ERP system	Enterprise Resource Planning system
FC	Finance Committee
F.o.E.T	Faculty of Engineering & Technology
F.o.L.S	Faculty of Liberal Studies
F.o.M	Faculty of Management
GERMI	Gujarat Energy Research & Management Institute

HM	Humanities & Social Sciences
ICEI	International Conference on Energy & Infrastructure
IEP	International Exposure Programme
IT	Information Technology
IQAC	Internal Quality Assurance Cell
IQEC	Internal Quality Enhancement Cell
MA	Master of Arts
MBA	Master of Business Administration
MDP	Management Development Programme
MoU	Memorandum of Understanding
MOOCs	Massive Open Online Courses
M. Phil	Master of Philosophy
M.Tech	Master of Technology
OIR	Office of International Relations
OPAC	Online Public Access Catalogue
p.a.	per annum
PDPU	Pandit Deendayal Petroleum University
PG	Post Graduate
PGDPM-X	Post Graduate Diploma in Petroleum Management for Executives
Ph D	Doctor of Philosophy
RAB	Research Advisory Board
R & D	Research & Development
SLS	School of Liberal Studies
SoT	School of Technology
SPM	School of Petroleum Management
SPT	School of Petroleum Technology
SSE	School of Solar Energy
TiE	The Indus Entrepreneurs
UC	UG Core
UG	Undergraduate
UE	UG Electives

Glossary

Academic audit	:	An exercise which serves to provide assurance that the delegated responsibilities for quality and standards of academic provision are being appropriately discharged.
Academic calendar	:	The schedule of the institution for the academic year, giving details of all academic and administrative events.
Academic flexibility	:	Choice offered to the students in the curriculum offering and the curriculum transactions.
Accreditation	:	Certification of quality that is valid for a fixed period, which in the case of NAAC is five years.
Assessment	:	Performance evaluation of an institution or its units based on certain established criteria.
Benchmarks	:	An example of good performance that serves as a standard for comparison of one's own performance. It is a technique in which an institution measures its performance against that of the best of others.
Beyond syllabus scholarly activities	:	Participation in academic activities beyond the minimum requirements of the syllabus.
Blended learning	:	A mixing of different learning environments such as traditional face-to-face classroom methods with modern computer-mediated activities.
Bridge course	:	A teaching module which helps to close the gap between two levels of competence.
Catering to student diversity	:	The strategies adopted by institution to fulfill the needs of a heterogeneous group of students.
Choice based credit system	:	A mode of learning in higher education which facilitates a

		student to have some freedom in selecting his/her own choices, across various disciplines for completing a UG / PG programme. It is popularly known as the cafeteria model.
Citation index	:	The number of times a research papers is referred to by other researchers in referred journals and is a measure of validity of its contents.
Collaboration	:	Formal agreement/ understanding between any two or more institutions for training, research, student/faculty exchange or extension support.
Counseling	:	Assisting and mentoring students individually or collectively for academic, career, personal and financial decision-making.
Criteria	:	Pre-determined standards of functioning of an institution of higher education that form the basis of assessment and accreditation as identified / defined by NAAC.
Curriculum design and development	:	Process of defining the contents of units of study and usually obtained through needs assessment, feedback from stakeholders and expert groups. Curriculum design and curriculum development are procedures which are closely linked to the description of learning outcomes.
EBSCO host	:	Is an online reference resource with designed to cater to user needs and preferences at every level of research, with over 350 full text and secondary databases available.
Emerging areas	:	New areas of study and research deemed important to pursue. These areas may have been identified by national agencies or international bodies.
Enrichment courses	:	Value added courses offered by institution for knowledge enrichment of students. They enhance the curriculum by amplifying, supplementing and replacing such parts or features as have become ineffective or obsolete.
Evaluation process and reforms	:	Assessment of learning, teaching and evaluation process and reforms to increase the efficiency and effectiveness of the

		system.
Extension activities	:	The aspect of education, which emphasizes neighborhood services. These are often integrated with curricula as extended opportunities intended to help, serve, reflect and learn. The curriculum-extension interface has educational values, especially in rural India.
Faculty development programme	:	Programmes aimed at updating the knowledge and pedagogical skills of faculty.
Feedback	:	a) Formative and evaluative comments given by tutors on the performance of individual learners. b) Evaluative comments made by stakeholders to the institution on the quality and effectiveness of a defined process. c) Response from students, academic peers and employers for review and design of curriculum.
Financial management	:	Budgeting and optimum utilization of financial resources.
Flexibility	:	A mechanism through which students have wider choices of programmes to choose from, as well as, multiple entry and exit points for programmes / courses.
Grievance redressal	:	Mechanisms for receiving, processing and addressing dissatisfaction expressed, complaints and other formal requests made by learners, staff and other stakeholders on the institutional provisions promised and perceived.
h-**index (Hirsch Index)**	:	An index that attempts to measure both the productivity and impact of the published work of a scientist or scholar. The index is based on the set of the scientist's most cited papers and the number of citations that they have received in other publications. The index can also be applied to the productivity and impact of a group of scientists, such as a department or university or country.
Impact factor (IF)	:	A measure of the citations to science and social sciences

		journals. The impact factor for a journal is based on a three-year period and can be considered to be the average number of times published papers are cited up to two years after publication.
Infrastructure	:	Physical facilities like building, play fields, hostels etc. which help run an institutional programme.
Information and Communications Technology (ICT)	:	Consists of the hardware, software, networks and media for the collection, storage, processing, transmission and presentation of information (voice, data, text, images) as well as related services.
Institutional Eligibility for Quality Assessment (IEQA)	:	Eligibility granted to an Affiliated / Constituent colleges which are seeking assessment and accreditation for the first time.
Institutional Social Responsibility (ISR)	:	Focuses on the institution's responsibilities to the public in terms of protection of public health, safety and the environment, the public ethical behavior and the need to practice good citizenship.
Interdisciplinary research	:	An integrative approach in which information from more than one discipline is used in interpreting the content of a subject, phenomenon, theory or principle.
Leadership	:	Term used for setting direction and creating a student-focussed learning oriented climate, clear and visible values and high expectation by ensuring the creation of strategies, system and methods for achieving excellence, stimulating innovation and building knowledge and capabilities.
Learning outcomes	:	Specific intentions of a programme or module, written in clear terms. They describe what a student should know, understand, or be able to do at the end of that programme or module.
Library as a learning resource	:	The library holdings in terms of titles of books, journals and other learning materials and technology aided learning

		mechanism, which enable the students to acquire information, knowledge and skills required for their study.
Open educational resources	:	Educational materials and resources offered freely and openly for anyone to use and under some licenses to re-mix, improve and redistribute.
Optimum utilization of infrastructure	:	The infrastructure facilities are made available to the student for their maximum utilization. e.g. Extended hours for computer center and library, sharing of facilities for interdisciplinary and multidisciplinary programmes.
Organizational structure	:	The structure and functions of an institution to co-ordinate academic and administrative planning.
Outreach activities	:	Is the practice of conducting local public awareness activities through targeted community interaction. They are guided by an assessment of local needs.
Participative management	:	Refers to an open form of management where employees are actively involved in the institution's decision making process.
Physical facilities	:	Infrastructure facilities of the institution to run the educational programmes efficiently and the growth of the infrastructure to keep pace with the academic growth of the institution.
Programme options	:	A range of courses offered to students to choose at various levels leading to degrees/ diplomas/ certificates.
Research	:	Systematic intellectual investigations aimed at discovering, interpreting and revising human knowledge.
Research grant	:	Grant generated/ received from different agencies by the institution for conducting research projects.
Resource mobilization	:	Generation of funds through internal and external sources such as donations, consultancy, self-financing courses and so on.
SNIP (Source Normalized Impact per Person)	:	Is the ratio of the source's average citation count per paper in a three year citation window over the "citation potential" of its subject field.

Strategic Plan	:	A specific, action-oriented medium or long-term plan for making progress towards a set of institutional goals.
Strategy development	:	Formulation of objectives, directives and guidelines with specific plans for institutional development.
Student profile	:	The student community of the institution, their strength and the diversity in terms of economic and social strata, location and other demographic aspects such as gender, age, religion, caste, rural/ urban.
Student progression	:	Vertical movement of students from one level of education to the next higher level.
Student support	:	Facilitating mechanism for access to information, fee structure and refund policies and also guidance and placement cell with student welfare measures to give necessary learning support to the students.
Teacher quality	:	A composite term to indicate the qualification of the faculty, the adequacy meant for recruitment procedures, professional development, recognition and teachers characteristics.
Teaching-learning process	:	Learner-centered education through appropriate methodologies to facilitate leading to effective learning.
Twinning programmes	:	An arrangement between two institutions where a provider in source country A collaborates with a provider in Country B to allow students to take course credits in Country B and/or in source Country A. Only one qualification is awarded by the provider in source Country A. Arrangements for twinning programmes and awarding of degrees usually comply with national regulations of the provider in source Country A.
Weightages	:	Taking cognizance of the different types of educational institutions, differential scores are assigned to the criteria and key aspects.

Executive Summary

At the behest of the then Chief Minister – Gujarat, Shri Narendra Modi; Gujarat State Petroleum Corporation (GSPC) promoted a Public Society Trust in the name of Gujarat Energy Research & Management Institute (GERMI) to develop Human Resources for the energy and the allied sectors and to enhance the knowledge base in the domain. Vice Chairman and Managing Director, GSPC – Shri D J Pandian, IAS; took-up the challenge and initiated start-up of institutions of Higher learning in management and technology faculties in 2006-07 duly approved by the AICTE. Pandit Deendayal Petroleum University Act was enacted on *4th April 2007* by Gujarat State legislature. Under the leadership of Dr. Mukesh Ambani as Chairman of the Board of Governors and President, PDPU, the Board of Governors visualized the role and scope of work of the University and translated into the Vision and Mission statements of the University as mentioned:

Our Vision

> *"To Be an Internationally Renowned & Respected Institution*
> *Imparting Excellent Education & Training*
> *Based Upon the Foundation of Futuristic Research & Innovations"*

Our Mission

> *"Undertake unique obligation for Education in Energy Engineering and Management with special responsibilities in domain specific aspects of Energy & Infrastructure."*
>
> *"Seek to nurture students of extraordinary motivation and ability and prepare them for life-long learning and leadership in an increasingly knowledge driven world."*
>
> *"Envisage to establish institutes of excellence in education, competitive edge in research and real time relevance with futuristic thrusts in offering of programmes and undertaking of activities and projects."*

Established under the State Act of the Gujarat Legislature on 4th April 2007, the University is recognized by the UGC under Section 2(f). The University since 1st September, 2011 is recognized as Scientific and Industrial Research Organization (SIRO) by the Department of Scientific and Industrial Research (DSIR) under the Ministry of Science & Technology, Govt. of India. The University has been granted membership of the 'Association of Indian Universities (AIU) since 31st July, 2012. On 5th February, 2015, the University has been awarded the ISO 9001:2008 certification for Design & Delivery of Higher Education Programmes and Training.

Schools:

On formation of the University (PDPU) the erstwhile, 'Institute of Petroleum Management, Gandhinagar (IPMG) and 'Institute of Petroleum Technology, Gandhinagar' (IPTG) became the first two constituent Schools of the University; namely, 'School of Petroleum Management' (SPM) and 'School of Petroleum Technology' (SPT); both offering specialized programmes focused on the Energy domain. SPT offers both UG and PG programmes and SPM offers PG programmes.

The 'School of Liberal Studies' (SLS) 2009-10 and 'School of Technology' (S.o.T) 2010-11 were started soon to encompass the larger scope and vision of the University. S. o. T offers B. Tech, M. Tech and PhD programmes in engineering disciplines like; Civil, Mechanical, Electrical, Chemical, Solar, Nuclear, Environmental and Industrial engineering, whereas; SLS brought into the much needed humanities programmes at PDPU in the form of BA, BBA and subsequently B.Com Honors. SLS also offers M.A. and PhD in the areas of Humanities, Arts and

Social Sciences. The University (PDPU) accordingly operates three faculties; viz, Faculty of Engineering & Technology (F.o.E.T.), Faculty of Management (F.o.M.) and Faculty of Liberal Studies (F.o.L.S.) each offering varied courses of Higher Education.

Research:

A University has a major obligation of knowledge creation along with knowledge dissemination. Fulfilling this obligation PDPU has embarked upon intensive research initiatives. At a collective level PDPU has initiated cutting edge research in the broad domain of Energy. To this end PDPU operates Centers of Excellence in Solar Energy, Shale Resources, Geo-thermal Energy, Siemens Center for Automotives and Center for Biofuel and Bioenergy Studies, wherein path breaking research is underway. These centers are funded by Government and Private Entities. Every faculty member is provided financial and administrative support for independent research initiatives. The University under the auspices of the 'Office of Research & Sponsored Programmes' (ORSP) offers financial support and administrative help for funded (internal and external) research and granted projects to students and University Faculty members. The ORSP operates as an independent department and invites proposals for funded research from PDPU student community and faculty fraternity. Within the liberal stipulated norms and through an elaborate screening process adequate funds are provided to students and faculty fostering innovative research orientation and culture at PDPU.

International linkage:

Globalization has happened and India's economy is progressively globalizing, mandating the need for human resource talent pool that is globally oriented. Foreseeing the need, PDPU management has created the 'Office of International Relations' (OIR) to identify opportunities for International exposure and manage the International Exposure Programme (IEP) to benefit students of PDPU. The OIR has developed very good relations with Institutions and Universities of repute internationally creating an opportunity base for students and faculty of PDPU for collaborative research activities.

Memberships and Associations:

Institutional linkages with scientific institutions and associations, industry and business bodies and other institutions are of prime importance for a University. PDPU has sought membership of various scientific and research bodies, industry and business associations and other institutions and organizations of repute. PDPU is a member of Confederation of Indian

Industries (CII), Association of Indian Chambers of Commerce and Industries (ASSOCHAM), Indian Society of Geomatics (ISG), Association of Petroleum Geologists (APG India), Federation of Indian Chambers of Commerce and Industries (FICCI), Petroleum Federation of India (PETROFED), Institution of Engineers India (IEI), Indian Society for Technical Education (ISTE), Institute of International Education (IIE) etc.

PDPU also houses chapters of national and international research and development organizations like Institution of Civil Engineers UK (ICE), PetroTech Society, Society of Petroleum Engineers (SPE), Indian Youth Climate Network (IYCN), European Association of Geoscientists and Engineers (EAGE), Society of Exploration Geophysicists (SEG), Institute of Electronics and Electrical Engineers (IEEE), Indian Society for Heat, Refrigeration and Air Conditioning Engineering (ISHRAE) and AIESEC etc.

Teaching Learning Process

Teaching-learning processes at PDPU are designed with a learner-centric orientation. Individual courses undergo necessary modifications at every cycle considering inputs from different stakeholders and the latest developments in the domain. The overall curriculum review exercise is undertaken periodically. The curriculum formation follows necessary inputs from academic bodies like Boards of Studies (BoS) and Concerned Faculty and approval from Academic Council of the University. Intensive curricular deliveries combined with extensive co-curricular activities prepare PDPU students for a promising career. Along with the best suited employment profiles, PDPU provides for entrepreneurial training and development for students under the aegis of Innovation and Incubation Centre (IIC) since 2015, leading right up to a start-up stage as envisaged by the Honorable Prime Minister of India, through sensitive incubation and hand-holding.

Each faculty member is expected to upgrade himself/herself utilizing the University provision of 'Cumulative Professional Development Allowance' (CPDA) on an annual basis. CPDA is an allowance provided to every faculty to the tune of Rs. 50,000/- to 1,00,000/- per annum over a three year block. Each faculty is provided with computer systems with multi-media capabilities and high speed 24x7 internet access. The PDPU campus has a campus wide Wi-Fi environment permitting seamless net connectivity to students and faculty. Extensive use of ICT is made by faculty and students to enhance the learning value of inputs provided. Faculty at PDPU follow a systematized mentorship programme, with each year specific number of students

allotted to individual faculty for year round mentorship. Multiple criteria based continuous evaluation of students helps monitor and manage student evolution and learning.

Quality at PDPU is of prime importance whereby the University has achieved ISO 9001:2008 certifications for quality assurance. The Internal Quality Assurance Cell (IQAC) ensures enhancement of the quality at PDPU leading towards excellence comparable to world class institutions of higher learning.

PDPU is amongst the few Energy focused Universities which also offers multidisciplinary programme in Engineering, Management and Liberal Studies. Established with an aim to create and disseminate latest knowledge in the domain of Energy from various perspectives and in doing so preparing the most eligible and knowledgeable talent pool for different employment profiles for industries and businesses in the energy sector, PDPU offers Undergraduate, Graduate, Post Graduate and Doctoral Programmes in technology, management and humanities disciplines. Additionally specially designed development programmes and skill enhancement programmes are also conducted on a regular basis. In pursuit of excellence in every sphere of functioning, University has developed specific strengths which shall help capitalize on emerging opportunities. Any system as it evolves should identify weaknesses that creep in and endeavour to eliminate them such that they can be improved upon and there by prepare the organization to face most difficult and challenging threats from environment. University makes an attempt at identifying Strengths and Weaknesses at PDPU and emerging Opportunities and Threats presented by the environment.

Strengths

PDPU is first of its kind domain specific university established under State Act. With a luminous leadership and effective operational management, university has a built in strength for quick navigation towards development. The following strengths are identified contributing towards excellence and evolution of the university –

1. Well defined organizational structure, vision and mission statements and established statuary bodies spear headed by visionary leadership.
2. A luminous Board of Governors with representation from Industry and Government.
3. Finance Committee, Academic Council, Research Advisory Board, Faculties and Boards of Studies comprising of Who's Who of Academia and Industry.

4. Contemporary academic systems and practices are established and followed to achieve academic and research excellence guided by IQAC and IQEC.

5. Best in class curriculum structure and design duly awarded at National level.

6. State of the Art ICT tools for encouraging better classroom engagement and seamless internet connectivity through WiFi across the campus.

7. State of the art teaching and learning mechanism have been adopted to achieve academic rigor and efficiency.

8. Continuous and transparent evaluation system imparting Choice Based Credit System (CBCS).

9. Office of Research and Sponsored Projects (ORSP) supporting students and faculty research.

10. Compulsory Civic and Rural, Industry Internship for students.

11. Campus Management System (CMS): Student and faculty records.

12. Faculties drawn from both academics and industries creating a balanced portfolio with doctoral and post doctoral qualification.

13. World class infrastructure and amenities creating the most amenable ambience.

14. Centre of Excellence for research in -
    a. Geothermal Energy
    b. Biofuels and Bioenergy
    c. Solar Research and Development Centre
    d. Siemens Centre for Automotive
    e. Climate Change – Air Quality and Pollution

15. 1 MW Pilot Solar plant at university campus.

16. Office of International Relations (OIR) for active partnerships with foreign institutions providing opportunities under international exposure programme.

17. Office of Students Activities and Leadership (SAL) complementing academics with extra-curricular activities coordinated by more than 40 Students Club.

18. Excellent infrastructure for sports and wellness.

19. Community outreach and engagement including corporate citizenry.

20. NCC and NSS activities.

21. Facility to accommodate all students on campus.

Weakness

1. Lack of autonomy in fees and admissions in fulfilling vision and mission of the university.

2. Inadequacy of funds for momentum and growth.

3. Non availability of adequate and qualified faculties in specialized domain.

4. Inadequate domain specific placement.

5. Inadequate funds for scholarships.

6. Captive admission controlled by the State Government.

7. Infrastructure required for cutting edge research is still in nascent stage.

8. Unable to tap resources like online and distance education system in regular course delivery.

9. Being young university alumni association is in nascent stage.

10. Limited presence of international students due to statuary requirements.

11. University not able to provide accommodation for faculty and staff inside the campus.

Opportunities

1. Well controlled geographical location.

2. Leading institute imparting Oil and Gas Exploration, Production and Management knowledge to students.

3. Collaboration with National and International Organization, acceptance of university students globally.

4. Unique research activities in specific sectors.

5. Grapevine peer learning enabled through transdisciplinary course delivery.

6. To establish accredited laboratories for specific application and testing.

Threats

1. Mushrooming of institutions offering similar programmes.

2. Interference by regulatory authorities.

3. Complacency of being best and near best.

4. Difficulty in retaining experienced human resource.

5. Rapid changes in the know-how require faculty members to consistently upgrade themselves.

6. Market trends and poor support for placement.

SECTION – B

PROFILE OF THE UNIVERSITY

1. Name and Address of the University:

Name	Pandit Deendayal Petroleum University	
Address	Knowledge corridor, Raisan, Gandhinagar, Gujarat	
City: Gandhinagar	Pin: 382007	State: Gujarat
Website: http://www.pdpu.ac.in		

2. For communication:

Designation	Name	Telephone with STD code	Mobile	Fax	Email
Director General	Prof. H. B. Raghavendra	+91 (079) 23275401	9409536904	+91 (079) 23275030	dg@pdpu.ac.in
Registrar	Prof. Tarun R. Shah	+91 (079) 23275007	9426383008	+91 (079) 23275030	registrar@pdpu.ac.in

3. Status of the University: State Private University

4. Type of University: Unitary

5. Source of funding: Self-financed

6. a. Date of establishment of the university: 04/04/2007

   b. Prior to the establishment of the university, was it a/an: Not Applicable

    i.   PG Centre

    ii.   Affiliated College

    iii.   Constituent College

    iv.   Autonomous College

    v.   Any other (please specify) ……………………

If yes, give the date of establishment …………………… (dd/mm/yyyy)

7. **Date of recognition as a university by UGC or any other national agency:**

Under Section	dd	mm	yyyy
2f of UGC	11	07	2014
SIRO	01	09	2011
Association of Indian Universities	31	07	2012
ISO 9001:2008	05	02	2015

8. **Has the university been recognized**

   a. By UGC as a University with Potential for Excellence? Yes

   If yes, date of recognition (dd/mm/yyyy):

   UGC recognition – 11/07/2014

   b. For its performance by any other governmental agency? Yes

   If yes, Name of the agency and Date of recognition (dd/mm/yyyy):

   Scientific and Industrial Research Organization 01/09/2011

9. **Does the university have off-campus centers?**

   No

10. **Does the university have off-shore campuses?**

    No

11. **Location of the campus and area:**

Location of the campus and area:	Location	Campus area in Acres	Built up area in sq. mts
i. Main campus area (Gandhinagar)	Urban	90	78110.85
ii. Other campuses in the country	N.A.	N.A.	N.A.
iii. Campuses abroad	N.A.	N.A.	N.A.

12. **Provide information on the following:**

Facility	Total No.	Total Area (Sq.m.)	Remarks
Auditorium	3(with 463, 180 & 250 capacity)	1275	Being used as common facilities of PDPU

Sports facilities	Cricket Ground	11,405	''
	Basketball Ground	1250	''
	Tennis Ground	1395	''
Gymnasium	01	75	''
Cafeteria	02 storey building	3104	Separate sections for staff and students
Health center	Medical Clinic is available inside the campus. M.B.B.S. Doctor is serving to all the students and staff.		
Pharmacy	Pharmacy store is also available inside the campus.		
Banking facility	State Bank of India branch in the campus.		
Stationary shop is available with photo copying facility in the campus.			
Vagabond a travel desk run by agency inside the campus.			
Lift is available for the disabled (capacity 4 persons) in all the academic buildings. Also ramps are provided in some of buildings, which do not have lift facility. Washrooms for disabled people in all academic buildings.			
Solar power system with 01 Megawatt capacity is established to generate electricity utilized in Auditorium.			

Hostel Facility					
Sr. No.	Hostel Block	Total Floor	Rooms per Floor	Occupancy / Room	Total Capacity
Boys Hostel					
1	A1	4	14	2	112
2	B1	4	14	2	112
3	C1	4	14	2	112
4	D1	4	14	2	112
5	E1	4	14	2	112
6	A2	4	12	2	96
7	B2	4	12	2	96
8	F1	3	10	3	90
9	F1	1	10	3	30
10	I1	4	17	3	204
11	A3	11	14	3	462
12	B3	11	14	3	462
Girls Hostel					
13	G1	4	12	2	96

14	H1	4	17	3	204
	Total Capacity :				**2300**
	Less: Sr. No. 7 reserved for Guest Room :				30
	Total Students Strength :				**2270**
Hostel room facilities: Beds, mattresses, pillow with cover, study table and chairs, cupboard, internet facility, general facility of TV & R.O. water system, Ambulance, Petrocafe – Food Joint.					

13. Number of Institutions affiliated to the University

NIL (This is a non- affiliating University)

14. Does the University Act provide for conferment of autonomy (as recognized by the UGC) to its affiliated institutions? If yes, give the number of autonomous colleges under the jurisdiction of the University.

Not applicable

15. Furnish the following information:

Particulars	Number	Number of students
a. University Departments Undergraduate: Post graduate Research centers on the campus	3	100
b. Constituent School	School of Petroleum Management	147
	School of Petroleum Technology	534
	School of Liberal studies	713
	School of Technology	1914
c. Affiliated colleges	**N.A.**	**N.A.**
d. Colleges under 2(f)	2(f) is for University	
e. Colleges under 2(f) and 12B	12B for university under process	3308
f. NAAC accredited colleges	Under process	
g. Colleges with Potential for Excellence(UGC)	**N.A.**	
h. Autonomous colleges	**N.A.**	
i. Colleges with Postgraduate	All constituent schools have PG	376

Departments	departments.	
Ph.D.	University offers Ph.D. program in all the constituent Schools in several areas.	140

16. Does the university conform to the specification of Degrees as enlisted by the UGC?

Yes

17. Academic programmes offered by the university departments at present, under the following categories:

Programs	Number
UG	08
PG	11
Ph.D.	In all the respective areas enclosed in the list
PG Diploma	01

Programs Offered	Duration	Intake
School of Petroleum Management		
M.B.A.	2 Years	120
PGDPM-X	2 Years	30
School of Petroleum Technology		
B.Tech. (Petroleum Engineering)	4 Years	120
M. Tech. (Petroleum Engineering)	2 Years	30
School of Technology		
B.Tech. (Civil Engineering)	4 Years	120
B.Tech. (Mechanical Engineering)	4 Years	120
B.Tech. (Electrical Engineering)	4 Years	120
B.Tech. (Chemical Engineering)	4 Years	60
B.Tech. (Industrial Engineering)	4 Years	60
M.Tech. (Infrastructure Engineering and Management)	2 Years	30
M.Tech. (Thermal Engineering)	2 Years	30
M.Tech. (Power Systems)	2 Years	30
M. Tech. (Energy Systems & Technology - Solar)	2 Years	30
M. Tech. (Nuclear Engg)	2 Years	30
M.Tech. (Environmental Engineering and Studies)	2 Years	20

School of Liberal Studies		
B.A. (Hons.) / B.B.A. (Hons.)	4 Years	200
B.Com.	4 Years	100
M. A. (Public Administration)	2 Years	20
M. A. (English)	2 Years	20
M. A. (Political Science, International Relations)	2 Years	20
Ph.D. Programme in the respective areas is offered at every School of the University.		

18. **Number of working days (weekends, Public holidays & vacation) during the last academic year.**

    210 days

19. **Number of teaching days during the past four academic years.**

Year	Teaching days (Excluding exam days and holidays)	
	SPM, SPT, SOT	**SLS**
2014-15	180	170
2013-14	178	170
2012-13	175	170
2011-12	175	180

20. **Does the university have a department of Teacher Education?**

    No

21. **Does the university have a teaching department of Physical Education?**

    No, the university does not have a teaching department of Physical education, but a faculty in-charge is dedicated to the physical education of undergraduate students. A slot in time-table is dedicated for sports activities such as NSS, NCC etc. School of liberal studies also offers a credit course on sports.

22. **In the case of Private and Deemed Universities, please indicate whether professional programmes are being offered?**

    Yes. The professional programmes offered at PDPU are highlighted in point number 17.

23. Has the university been reviewed by any regulatory authority? If so, furnish a copy of the report and action taken there upon.

UGC expert committee visited university and granted recognition under schedule 2f. AICTE expert committee visited SPM, SPT and SOT for approval of programmes.

24. Number of positions in the university

Positions	Teaching Faculty			Non-teaching staff	Technical staff
	Professor	**Associate professor**	**Assistant Professor**		
Sanctioned by the /UGC/University/State Govt.	21	40	119	77	39
Recruited	10	19	114	75	25
Yet to be recruited	11	21	05	02	14
No. of persons working on contract basis	01	00	70	54	23

25. Qualifications of the teaching staff

Highest qualification	Professor		Associate Professor		Assistant professor		Lecturers		Other		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
Permanent Teachers											
D.Sc./D.Litt.	--	--	--	--	--	--	--	--	--	--	**143**
Ph.D.	10	--	18	01	39	05	--	--	--	--	
M.Phil.	--	--	--	--	--	--	--	--	--	--	
PG	--	--	--	--	--	--	52	12	06	--	
Temporary Teachers											
Ph.D.	--	--	--	--	--	--	--	--	--	--	**00**
M.Phil.	--	--	--	--	--	--	--	--	--	--	
PG	--	--	--	--	--	--	--	--	--	--	
Part-time teachers											
School of Petroleum Technology											
Ph.D.	--	--	--	--	--	--	--	--	--	01	**3**
M.Phil.	--	--	--	--	--	--	--	--	--	--	
PG	--	--	--	--	--	--	--	--	--	02	
School of Technology											
Ph.D.	--	--	--	--	--	--	--	--	--	--	**7**
M.Phil.	--	--	--	--	--	--	--	--	--	--	
PG	--	--	--	--	05	01	--	--	--	01	

School of Petroleum Management											
Ph.D.	03	01	02	02	--	--	--	--	--	--	
M.Phil.	--	--	--	--	--	--	--	--	--	--	**26**
PG	--	--	01	--	03	--	--	--	13	01	
School of Liberal Studies											
Ph.D.	04	02	01	01	07	04	--	--	--	--	
M.Phil.	--	--	--	--	01	--	--	--	--	--	**40**
PG	--	--	--	--	--	--	--	--	10	10	

26. Emeritus, Adjunct and Visiting Professors

	Emeritus	Adjunct	Visiting
SPT		03	02
SoT	01	01	02
SPM	01		15
SLS		01	40

27. Chairs instituted by the university/industry:

School	Chairs
School of Petroleum Management	01
School of Petroleum Technology	01
School of Technology	03

28. Students enrolled in the university departments during the current academic year, with the following details:

School of Petroleum Management

Students	PG		Ph.D.		PG Diploma	
	M	F	M	F	M	F
From the Gujarat State	44	28	13	4	8	NIL
From other state	35	7	1	NIL	10	1
NRI students	NIL	NIL	NIL	NIL	NIL	NIL
Foreign Students	NIL	NIL	NIL	NIL	1	NIL
Total	**79**	**35**	**14**	**4**	**19**	**1**

School of Petroleum Technology

Students	UG		PG		Ph.D.	
	M	F	M	F	M	F
From the Gujarat State	375	15	20	NIL	3	NIL
From other state	105	13	25	5	2	3

NRI students	1	NIL	NIL	NIL	NIL	NIL
Foreign Students	1	NIL	NIL	NIL	NIL	NIL
Total	**482**	**28**	**45**	**5**	**5**	**3**

School of Liberal Studies (SLS)

Students	UG		PG		Ph.D.	
	M	**F**	**M**	**F**	**M**	**F**
From the Gujarat State	217	324	10	18	03	14
From other state	36	50	00	00	--	--
NRI students	16	11	--	--	--	--
Foreign Students	10	04	--	--	--	--
Total	**279**	**389**	**10**	**18**	**03**	**14**

School of Technology (SoT)

Students	UG		PG		Ph.D.	
	M	**F**	**M**	**F**	**M**	**F**
From the Gujarat State	1316	96	28	34	48	39
From other state	337	35	20	3	9	2
NRI students	--	--	--	--	--	--
Foreign Students	2	1	--	--	--	--
Total	**1655**	**132**	**148**	**37**	**57**	**41**

29. 'Unit cost' of education

(Unit cost = total annual recurring expenditure (actual) divided by total number of students enrolled)

(a) Including the salary component = Rs. 1.59 lacs

(b) Excluding the salary component = Rs. 0.88 lacs

30. Academic Staff College: No

Year of establishment ………… NA

Number of programmes conducted (with duration)

UGC Orientation

UGC Refresher

University's own programmes

31. Does the university offer Distance Education Programmes (DEP)?

No

32. Does the university have a provision for external registration of students?

Yes, external registration for Ph.D. program is allowed at PDPU. 11 students availed this provision in the year of 2015-16.

33. Is the university applying for Accreditation or Re-Assessment? If Accreditation, name the cycle.

Accreditation: Cycle 1

34. Date of accreditation* (applicable for Cycle 2, Cycle 3, Cycle 4 and re-assessment only):

Not applicable

35. Does the university provide the list of accredited institutions under its jurisdiction on its website? Provide details of the number of accredited affiliated / constituent/ autonomous colleges under the university.

Not applicable

36. Date of establishment of Internal Quality Assurance Cell (IQAC) and dates of submission of Annual Quality Assurance Reports (AQAR).

IQAC established on 5/09/2012

AQAR(i) 10/10/2014 (ii) 14/10/2014

37. Any other relevant data, the university would like to include (not exceeding one page).

Solar Research and Development Center:

The center is developing with core capability to investigate various issues related to solar energy conversion through (Initially) PV and (later) CSP technologies.

Centre of Excellence for Geothermal Energy

Centre of Excellence for Geothermal Energy (CEGE) was established on 10th October, 2013 and is currently working on R&D activities in area of Geothermal Energy. The centre has

been established with the support of Govt. of Gujarat (GoG). CEGE is carrying out exhaustive research and investigative studies for analyzing the resource potential in Gujarat and potential sites have been identified for geothermal exploration. CEGE has used various techniques such as Remote Sensing, Geochemical studies, Magnetotelluric (MT) survey, and Gravity survey to identify the location of geothermal reserves in Gujarat. The acquisition, processing and interpretation of MT data have depicted the subsurface picture reasonably well. CEGE team has integrated the results obtained from the above mentioned techniques and concentrated on two sites namely, Dholera, and Unai for further investigation.

Currently, CEGE is planning to drill shallow bore-well at Dholera to conduct research and implementation of district heating and cooling system. CEGE is also planning to drill a geothermal parametric well at Dholera, which may be converted into an exploratory well based on the data obtained from parametric well.

Student Research Promotion Scheme:

The scheme facilitates the research projects to the UG students with the financial support from the University. The financial assistance ranges from Rs. 5000/- to Rs. 2,50,000/- for approved research project.

University Lectures:

University observes following days every year. Eminent personalities are invited to PDPU to deliver lectures:

- Pandit Deendayal Memorial Lecture
- Prof. Kartik Khilar Memorial Lecture
- Engineer's Day
- Public Diplomacy Lecture
- Teacher's Day

University also felicitates expert engineers from industry and eminent teachers during Engineer's Day and Teacher's day celebration

National MoUs:

Sr. No.	MoU with
1.	Ahmedabad Management Association
2.	Entrepreneurship Development of India (EDI), Bhat, Gandhinagar
3.	Ruttonsha International Rectifier Ltd., Mumbai
4.	Hazira LNG Pvt. Ltd., Ahmedabad

5.	Institute of Seismology Research, Gandhinagar
6.	Cairn India Ltd., Gurgaon
7.	Bhaskaracharya Institute of Space Applications and Geo-Informatics (BISAG), Gujarat
8.	Gujarat Institute of Disaster Management, Gandhinagar
9.	Tata Power, Mumbai
10.	Institute of Plasma Research, Gandhinagar

International MoUs:

Sr. No.	MoU with
1.	University of Toronto, Canada
2.	University of Alberta, Canada
3.	National Mineral Resource University, Russia
4.	University of Saskatchewan, Canada
5.	ICCC (Indo Canada Chamber of Commerce)
6.	Texas A & M University, USA
7.	University of Manitoba, Canada
8.	Edith Cowan University, Australia
9.	Memorial University of Newfoundland, Canada
10.	ICBC (Indo Canada Business Chambers) & SLS (School of Liberal Studies)
11.	University of Bahrain, Bahrain
12.	University of Trinidad & Tobago
13.	University of Wollongong, Australia
14.	Seneca College, Canada
15.	Mewborne School of Petroleum & Geological Engineering, University of Oklahoma
16.	Ministry of Infrastructure Republic of Rwanda
17.	University of Regina, Canada
18.	Georgia Tech Research Corporation
19.	University of Houston , Houston, USA
20.	University of Tulsa

CRITERION I: CURRICULAR ASPECTS

1.1. Curriculum Design and Development

1.1.1. How is the institutional vision and mission reflected in the academic programs of the university?

All the educational programmes offered at the Pandit Deendayal Petroleum University *(shall be referred as PDPU/University hereafter in this document)* draw their inspiration from the declared Vision and Mission statements of the University.

The University through its various programmes makes a sincere effort in offering contemporary education in all disciplines viz. management, technology and liberal education, that is meaningful and allows the students to think independently, communicate well, remain open to new ideas, be tolerant to views contradicting their values & beliefs, remain responsible citizens who are socially aware and most importantly focuses on knowledge for the sake of growth and contribution to society.

All the academic programmes are a blend of theory and experiment based learning in the form of industrial exposure and field based learning.. PDPU offers cross-discipline study through choice based learning. PDPU ensures intensive project works, extensive interface with cultural, social and development areas of human endeavors in Indian context and puts an effort of inculcating excellence in research.

Programmes like industry orientation, industry visits and one year industry oriented project works are in line with the university's mission and vision.. PDPU has collaborated with many national and international institutes and organizations and also gives opportunity to students for getting an international exposure through its International Exposure Program (IEP). PDPU is planning for semester exchange with International Universities and is working on the same.

The programmes offered at Petroleum Management and Petroleum Technology schools are in tune with the institutional vision and mission of higher education and research in energy & infrastructure domain. The academic programmes at each stage, i.e. conceptualization, design, delivery and review, go by the benchmark of this vision & mission.

The Schools offering Liberal Studies and Engineering are also in sync with PDPU vision of being an internationally renowned & respected institution imparting excellent education & training based upon the foundation of futuristic research & innovations. All the schools are also in tune with PDPU mission of envisaging establishing institutes of excellence in education, competitive edge in research and real time relevance with futuristic thrusts in offering of programmes and undertaking of activities and projects.

1.1.2. Does the university follow a systematic process in the design and development of the curriculum? If yes, give details of the process (need assessment, feedback, etc.).

Yes, the University follows a systematic process for designing and development of curriculum. The focus is on factoring in all those academic areas which would prepare students for industry, different walks of society and life. For the existing UG and PG engineering programmes, the exercise of the curriculum design is carried out by bench marking against the IITs and equivalents. The curriculum of these programmes are evolved through brain storming sessions involving eminent subject experts and senior faculty members and renowned industry professionals. . The external and internal feedbacks (during student recruitment, discussion with other foreign universities, feedback sessions with industries etc.) are brain-stormed and courses are developed and redesigned in line with the best practices followed by the academicians and industries.

The faculty members deliberate in their group meetings over the suggestions received from various stakeholders. The curricula are developed and reviewed by respective Boards of Studies under the direction of the various Faculties (Management/Engineering & Technology/Liberal Studies) who in turn work under the umbrella of PDPU Academic Council which is a blend of senior academia and industry/professional experts. The broad roles of the *Academic Council* as clearly defined in the Act and the Statutes of PDPU are as follows:

- Prescribes and sanctions the number of academic programmes in the University and their intake for each academic year.
- Approves curricula and syllabi for the courses and studies in various schools of the University

- Formulates the rules and regulations for academic matters including the structure of student evaluation, conduct of examination and ratification of results;

- Reviews and monitor the standards of instruction, education, training and research carried on or imparted in the University;

- Approves recognition and equivalence of the certificates, diplomas and degrees of other Universities and Institutions from where PDPU intakes it's students;

- The new programmes/curricula are formally approved by the Academic Council after detailed deliberations and the minutes of the meetings are duly recorded.

Faculties at PDPU: The University Academic Council has constituted three Faculty viz. Faculty of Engineering & Technology, Faculty of Management and Faculty of Liberal Studies.

The Director General – PDPU appoints the Dean for respective Faculties. The Deans then in consultation with Directors of Schools propose the members of the Faculties– PDPU as per University guidelines for due approval by the Director General. Once constituted, Faculties after due deliberations submit the academic proposals received from the Board of Studies for different programmes to the PDPU Academic Council for advice, comments, suggestions and ratification of approved proposals.

PDPU has separate *Boards of Studies* for various programmes/departments falling under respective Faculty/School of the University. Each Board of Studies is headed by a Chairperson and has faculty members from each specialization, prominent external academicians, and noted industry experts as members. The mandate for respective board of studies includes recommending courses of studies in the subject(s) with which the board is concerned and to prescribe the detailed syllabus for each subject with related scheme of examination and credits.

The concerned Boards based on the recommendations received from the Departmental/School Faculty Council, review the same and recommend to the respective Faculty (of Engineering & Technology/ Management / Liberal Studies). The Faculty in turn after due deliberation recommends the matter to PDPU Academic Council for deliberation and approval.

The constitution and functioning of respective academic bodies (that includes members from peer institutions, industry and profession) ensures that adequate need-assessment is

undertaken with incorporation of necessary feedback towards course curriculum design and development.

1.1.3. How are the following aspects ensured through curriculum design and development?

   ∗ **Employability**

   ∗ **Innovation**

   ∗ **Research**

The details on these aspects are as follows:

Employability: Any academic curriculum that is divorced from the employability skills remains incomplete. Industry specific courses are designed keeping the up-to-date industry requirements in mind. These requirements come as inputs from various schools' continuous interaction with the industry and other sectors including PDPU alumni at various platforms.

The curriculum design has been done in such a way that foundation courses, core courses, value-added elective courses, fulfill the need of industry/social sectors where PDPU students seek employment. Accordingly the curriculum is continuously updated as per the current requirements and trends. Wherever applicable, appropriate weightage to practical /field/laboratory work is given in respective programmes. Industrial/field visits are arranged for the students to make them aware of the current practices. Expert lectures are also arranged by PDPU and experts, eminent faculty from IITs /IIMs, industry, research and social organizations are invited for interaction. The pedagogy of introducing internships and live projects with ongoing courses makes student understand the real challenges of the industry today and integrate theory with practical exposure.

However the curriculum merely does not make the students job seekers but also aim at making them job creators. The curriculum emphasizes on key skills that any student should possess like integrated approach to various disciplines, problem solving skills, team work and analytical bent of mind.

Innovation: All levels of academic governance right from individual faculty member to the formal Faculty of Management/Engineering & Technology/Liberal Studies at PDPU have complete flexibility to foster the culture of innovation at all levels-within courses as

well as across courses. Also the PDPU ecosystem through its various academic and co-curricular activities attempts at bringing in innovation in teaching & learning. Platforms are given to visit eminent research bodies, industries and students/researchers are encouraged by developing schemes for providing seed money for innovative research. Students are put through rigorous practical oriented assignments, projects and case studies where they get enough opportunities to display their innovative skills. Students also get opportunity to get associated with a particular Industry/organization for Internship Projects.

Responding to the clarion call by the Honorable Prime Minister of India, PDPU has set up an Innovation and Incubation Centre (IIC) for promoting new ideas and encouraging start-ups.

Research: Research has been at the forefront of University's vision and mission. There is the Office of Research and Sponsored Projects (ORSP) in the university and the Research Advisory Board (RAB) that guide both faculty and students to update themselves constantly with applied and pure research. The pedagogy of various schools and their curriculum gives research opportunities to all students across undergraduate, postgraduate and Ph.D. programmes. PDPU also arranges National Seminar on Interdisciplinary Approaches to Studies, every year that gives students an opportunity to network with and learn from researchers across the country. The University sponsors students to present research papers across the world. The University has also come up with creative and innovative idea of hosting 'Research Poster Competition' to let students use creative ideas and skills of creative arts to describe research and innovation. Students are also required to carry out research for last two semesters under the mentorship of faculties and domain experts from the industries. The courses are credited. Many papers have been published based on the research findings.

The role of research in ensuring the quality of learning environment is well understood and research components are introduced through Major projects and seminars in all programmes. With strong institutional financial and sabbatical related incentives available, the faculty is encouraged to not only produce research output, but also include that as content in their courses and delivery.

The University also encourages research by:

- Providing seed money for the research to the students and faculty

- Having a scheme of Cumulative Professional Development Allowance (CPDA), wherein faculty members are encouraged to participate in research conferences in India and abroad

- Offering PhD programmes to the students

- Offering stipend to all fulltime eligible PhD scholars and PG students

- Establishing laboratories in highly specialized areas and comprehensive library facilities on campus

- Wherever applicable UG and PG students are encouraged to undertake their projects in R&D institutes, industries and corporate houses.

1.1.4. To what extent does the university use the guidelines of the regulatory bodies for developing and/or restructuring the curricula? Has the university been instrumental in leading any curricular reform which has created a national impact?

UGC and AICTE benchmarks are followed at respective PDPU Schools and academic programmes. The Technology Schools for example have a good mix of humanities, science, engineering and management subjects.

PDPU Schools have provided thrust on national development through design of curriculum keeping the needs of national interests. The curricular subjects and projects provide ample opportunities for incorporating societal and national issues.

Many of the electives offered in various programmes are based on the needs of the nation either in terms of energy sector management, technology development, IT/software development, social and environmental concerns.

Fostering the collaborative academic contribution at national level, faculties from PDPU have been invited to design, develop and deliver courses for IITs and IIMs and other prestigious universities/institutes.

PDPU's Energy & Infrastructure Course Curriculum has been adjudged the best Curriculum in the sector at national level by independent not-for-profit professional organizations.

At present, PDPU is considered as a leading institution offering courses in Petroleum Engineering in India. The Petroleum Engineering courses at PDPU have created a

positive impact in the national hydrocarbon industry. The recommendations by various scholars, to present a kaleidoscope of various disciplines to all students irrespective of their specialization have encouraged the School of Liberal Studies to lead the way in India.

1.1.5. Does the university interact with industry, research bodies and the civil society in the curriculum revision process? If so, how has the university benefitted through interactions with the stakeholders?

Reviewing and upgrading the curriculum is a continuous process. This is being regularly carried out in a structured manner through various academic bodies. The University through its various academic bodies and schools is in regular interaction with all the stake holders including experts from industry, research organizations, and senior academicians for gathering systematic feedbacks of various courses regarding contents of curriculum, emerging areas, electives, laboratory work, exposure to professional/industrial practices and wherever necessary students are also associated with these efforts.

The University is continuously taking feedback from industry, research bodies, civil society for curriculum revision process, student research projects and advanced and professional training and workshops. Experts from the industry regularly interact with the students and faculty of the University for developing progressive and advanced course. They also visit the university campus for training and imparting knowledge to the faculty and students. The present course curriculum is the result of the industry interaction and suggestion. Similarly experts from various research bodies and civil society also regularly interact with faculty and research scholars for monitoring and developing the curriculum.

A systematic process is followed for designing and development of curriculum. The curricula are developed and reviewed by respective Boards of Studies under the direction of the respective Faculty (Management/Engineering & Technology/Liberal Studies) and the PDPU Academic Council which is a blend of senior academicians and industry experts. The Boards of Studies at the University meet periodically to develop the curricula for new programmes as well as to review the curricula of existing programmes. The chairman of the respective boards put forward the views of the teaching faculty while the industry/R&D experts project the specific developments taking place in the related

industry/field. The experience of other universities is contributed by the outside academic experts.

As mentioned earlier, the University Academic Council and Research Advisory Board (RAB) also constitutes of senior experts from prominent industries who also contribute with critical inputs and new ideas for the framing/updating of curricula. This way, the relevance of the programmes is ensured.

Thus the University's academic programmes and curricula are designed keeping in view the human resource requirements of these industries ensured by the industry experts on the Boards of Studies, Faculties and Academic Council. The University every year organizes national level HR Round Table Conferences, wherein the changing needs of the industry as opined by the HR professionals are taken and incorporated during curriculum review. Interaction with Energy and Infrastructure related companies through various conclaves, roundtables, symposium and seminars and training programmes has benefited the University in designing, redesigning, up grading and revising the curriculum. In certain cases electives and audit courses design and delivery from industry professionals are invited and - within the framework of PDPU's respective School academic structure- they are given the autonomy to incorporate relevant contemporary learning that is useful to the students.

Alumni meets are also held regularly where the view points of the alumni are also given due consideration.

1.1.6. Give details of how the university facilitates the introduction of new programmes of studies in its affiliated colleges.

Not applicable as PDPU is not an affiliating University.

1.1.7. Does the university encourage its colleges to provide additional skill-oriented programmes relevant to regional needs? Cite instances (not applicable for unitary universities).

Not applicable

1.2. <u>Academic Flexibility</u>

1.2.1 **Furnish the inventory for the following:**

* ∗ **Programs taught on campus**
* ∗ **Overseas programs offered on campus**
* ∗ **Programs available for colleges to choose from**

Various schools of PDPU offer the following programmes ranging from Undergraduate to PhD.

* ∗ *Programmes taught on campus:*

  (i). School of Petroleum Management

  * 2 Year Full Time (Residential) MBA with specializations in:
    * ~ Energy and Infrastructure
    * ~ Finance
    * ~ Marketing
    * ~ Operations Management
    * ~ Human Resource Management
  * Post Graduate Diploma Program in Petroleum Management for Executives (PGDPM-X)
  * PhD Program; (Full Time/Part Time)

  (ii). School of Petroleum Technology

  * 4 Year B. Tech in Petroleum Engineering
  * 2 Year M. Tech in Petroleum Engineering
  * Ph.D in Geosciences, Petroleum Engineering, and allied subjects

  (iii). School of Liberal Studies

  * 4 Year B.A. (Hons.) in Economics, English Literature, Environmental Studies, International Relations, Psychology, Public Administration, Mass Communication.
  * 4 Year B.B.A. (Hons.) with Marketing/ Finance/ HR
  * 4 Year B.Com. (Hons.) with Finance & Accountancy, International Business & Entrepreneurship, Banking & Insurance, Marketing & Management

- 2 Year M.A. in English Literature/ International Relations/ Public Administration
- Ph.D. in the areas of Humanities, Arts and Social Sciences

(iv). School of Technology

- 4 Year B.Tech. in :
  - ~ Mechanical Engineering
  - ~ Electrical Engineering
  - ~ Civil Engineering
  - ~ Chemical Engineering
  - ~ Industrial Engineering
- 2 Year M.Tech. in:
  - ~ Thermal Engineering
  - ~ Power Systems
  - ~ Infrastructure Engineering and Management
  - ~ Nuclear Engineering
  - ~ Energy Systems & Technology - Solar
  - ~ Environmental Engineering & Studies
- Ph.D. in Engineering and Natural Sciences

∗ **Overseas programmes offered on campus** – UGC/MHRD guidelines are awaited

∗ **Programmes available for colleges to choose from** - Not applicable

1.2.2 Give details on the following provisions with reference to academic flexibility:

a. Core / Elective options

b. Enrichment courses

c. Courses offered in modular form

d. Credit accumulation and transfer facility

e. Lateral and vertical mobility within and across programs, courses and disciplines

a. Core / Elective options

The University follows the philosophy of offering the programmes in Core and

Elective forms at its various schools. The proportion of core and electives may vary as per programme. Across the disciplines of Petroleum Technology, Engineering, Management and Liberal Studies the electives range from 15% to 40% of total delivered curriculum

b. *Enrichment courses*

The University offers courses that enrich the learning of its students. Such enrichment courses are of varying nature and format as per need and requirements of the anticipated enrichment for a particular programme. Simplest form of enrichment is offered in form of audit courses while options of industry projects, rural internships, industrial orientation and industrial training ranging from three days to 8 weeks are offered to students of different courses.

Part-time learning (continuing education) and "Earn while you learn" options in the form of research projects, industry projects and research assistance are also offered. Opportunities are also made available to students to obtain international exposure through study tours, exchange programmes, overseas project participation and overseas internship.

c. *Courses offered in modular form*

University offers courses at Post Graduate Diploma in Petroleum Management for Executives in modular format. The entire programme is distributed in eight modules, each consisting of four courses of learning.

d. *Credit accumulation and transfer facility*

The University provides autonomy to its various schools in the design of their course credits. Each school of PDPU exists for some definite purpose and hence it should follow conventions of the best practices' followed by similar exemplary institutions in its respective domain. Accordingly, the credit accumulation and transfer facility varies across faculties. The Faculty of Engineering and Technology follows the norms, rules and regulations as prescribed by the statutory body (AICTE) while the faculties of Management and Liberal Studies follows the norms practiced by leading National institutions in the discipline within the scope of norms prescribed by relevant statutory bodies.

The PhD programmes at all the schools of the University are conducted as per the

UGC norms and the research area requirements.

Some students from PDPU have been accepted by International Universities on completion of their two years at PDPU, with their credits of PDPU accepted.

e. *Lateral and vertical mobility within and across programmes, courses and disciplines*

Lateral and vertical mobility varies by faculty. For courses in the faculty of management lateral/vertical mobility is not applicable. In Faculty of Engineering and Technology lateral entries are permitted in the UG programmes across the programmes as well as Schools. Faculty of Liberal Studies also has provisions for lateral mobility for students of similar courses in other institutions.

PDPU has also started Diploma to Degree program, which is also a lateral entry program. Students holding a diploma in allied engineering disciplines are offered admission in respective degree programmes of FoET.

1.2.3 Does the university have an explicit policy and strategy for attracting international students?

The University is open to International admissions on merit basis. The university has a tie up with Educational Consultants India Limited (EdCIL). In depth information on International Admissions and its policy with details on fee structure is given on PDPU website.

The Office of International Relations of the University takes care of disseminating the relevant information to the international academic community. There is also an exclusive hostel for International Students on campus. International students also have an option to join courses at PDPU through the Direct Admission of Students Abroad (DASA) scheme. The university also has entered into several MoU for student exchanges with foreign universities.

The University has been able to attract few students from Bhutan, Nairobi, Dubai, Pakistan, Tanzania and USA.

1.2.4 Have any courses been developed targeting international students? If so, how successful have they been? If 'no', explain the impediments.

No specific courses have been developed at any of the PDPU schools specifically targeting international students. However programmes offered by PDPU in different faculties are of a universal nature comparable to similar programmes offered at leading universities across the globe. The basic frame work is common to National and International students.

No particular impediments are identified to target international students; the university has started receiving applications and admitting international students on merit basis.

1.2.5 *Does the university facilitate dual degree and twinning programs? If yes, give details.*

Presently, the University does not offer dual degree and Twinning Programmes.

1.2.6 **Does the university offer self-financing programs? If yes, list them and indicate if policies regarding admission, fee structure, teacher qualification and salary are at par with the aided programs?**

All academic programmes at the University are offered in a uniform mode. Given the nature of the University itself, these programmes can be categorized as self-financed.

PDPU is following IIT norms for faculty recruitment and compensation, having adopted the sixth pay recommendations. The admission process and fee structure are determined by state govt. from time to time and is followed by university.

1.2.7 **Does the university provide the flexibility of bringing together the conventional face-to-face mode and the distance mode of education and allow students to choose and combine the courses they are interested in? If 'yes,' give operational details.**

No. Most of the programmes offered at the University are offered on a face-to-face mode. The 'Post Graduate Diploma in Petroleum Management – Executive (PGDPM-X)' program offered by Faculty of Management for working executives has components of learning on distance self-learning mode. This program offers flexibility to the working executives to attain value added learning while being away from the Campus most of the time and at the same time also visiting the campus, once in every quarter in the intensive classroom contact programmes.

Faculty of Liberal Studies has started some sessions of OCW (Open Courseware) from

Intute, Merlot, ipl2, MIT, Compass.org and Academic Earth. The effort is to provide insight into distance mode of education and at the same time providing global academic content to students.

1.2.8 Has the university adopted the Choice Based Credit System (CBCS)? If yes, for how many programs? What efforts have been made by the university to encourage the introduction of CBCS in its affiliated colleges?

PDPU is following Choice Based Credit System (CBCS) by considering the UGC communications from time to time as its reference point. PDPU has adopted the philosophy of true University higher education system, where various schools of PDPU present the opportunity to students to choose from an array of courses available across schools for their academic learning and development.

1.2.9 What percentage of programmes offered by the university follows?
- **Annual system**
- **Semester system**
- **Trimester system**

With the exception of the Trimester based system in the MBA programmes offered at Faculty of Management, all other programmes at the University are offered on Semester System. 8.0 % of the total programmes follow Trimester System. 92% of the total programmes follow Semester System.

1.2.10 How does the university promote inter-disciplinary programs? Name a few programs and comment on their outcome.

The Faculty of Liberal Studies has initiated the concept of inter-disciplinary programmes. The academic concept of Liberal Studies is to emphasize on the integration of all relevant disciplines to perceive the end knowledge and wisdom. Interdisciplinary programmes offered at Faculty of Liberal Studies lead the students through multiple channels of discipline to synthesize them at the end. This not just broadens the outlook of students but also makes them move beyond the opaque walls of disciplines to understand that the end purpose of knowledge attainment is to integrate 'Satyam, Shivam, Sundaram' (Logic,

Ethics and Aesthetics).

With the implementation of CBCS, the students of Management programme shall have opportunity to undergo courses from an inter-disciplinary perspective.

Students of Faculty of Engineering & Technology study several courses from Humanities, Arts and Social Sciences to broaden their outlook. Similarly faculties of other disciplines are offered science and technology courses by FoET.

1.3. Curriculum Enrichment

1.3.1. How often is the curriculum of the university reviewed and upgraded for making it socially relevant and/or job oriented / knowledge intensive and meeting the emerging needs of students and other stakeholders?

Academic Council and its Faculty bodies have their respective structured mechanisms that reflect the unified effort of the University to make the academic programmes at the University socially relevant and/or job oriented / knowledge intensive and meeting the emerging needs of students and other stakeholders. Governed by the UGC, the University follows norms and measures as envisioned by the statutory bodies.

With a structured approach to curriculum enrichment through the formal organizational structures of Board of Studies and Faculties it is a bi-annual exercise through deliberations at meetings, discussions and report generation for minor changes becoming necessary due to changes in the environment and stakeholder expectations. Annually, the exercise is followed through three levels starting with internal subject-wise faculty meetings followed by Board of Studies meetings and culminating in the faculty meetings. The faculty-wise recommendations are presented to the University Academic Council for final deliberations, guidance and approval. PDPU faculty members also receive inputs and guidance from members of the Research Advisory Board and Board of Governors which comprise of eminent national academicians and industry stalwarts.

To guide the exercise of curriculum enhancement and enrichment the University follows a formal feedback system to obtain inputs from various stakeholders. The current students' feedback on each course and faculty is collected and taken into consideration, while discussing improvements. At regular intervals interactions with alumni are

organized to obtain their views on the curriculum they studied and its usefulness in the practical real life situations. Under different mechanisms like; individual meetings, discussions during industry oriented events, industrial visits inputs are obtained from industry professionals to help ideate changes and modifications in the curriculum to make students more industry ready. Similarly, inputs are also obtained from senior academicians of leading institutions in India and abroad when they visit the University or the University faculty and management visit other institutions.

1.3.2. During the last four years, how many new programs at UG and PG levels were introduced? Give details.

- **Inter-disciplinary**
- **programmes in emerging areas**

New programmes at UG level

- Petroleum Downstream (interdisciplinary and emerging area)
- B.Com Honours (interdisciplinary area)
    - ~ Clusters in Accountancy & Finance, International Business & Entrepreneurship, Banking & Insurance, and Marketing & Management

New programmes at PG level

- Environmental Engineering & Studies (interdisciplinary and emerging area)
- Infrastructure Engineering & Management (interdisciplinary and emerging area)
- MBA in General Management disciplines of Finance, Marketing, Human Resource Management and Operations Management (interdisciplinary area)

1.3.3. What are the strategies adopted for the revision of the existing programs? What percentage of courses underwent a syllabus revision?

All Schools of the University towards the goal of revising the existing programmes follow a unified strategy i.e. interacting with concerned stakeholders and then deliberating the same in concerned academic bodies under laid down procedure. Faculty-wise courses are reviewed at regular intervals based on needs arising from the changes in the industry and society and feedback received from various stakeholders.

Faculty of Engineering & Technology has a systematic approach to review the course structure and contents every year and approximately 15% to 25% of the courses are revised. The Faculty of Liberal Studies has been most dynamic also being the youngest at the University. Through deliberations at various levels almost 50% of the syllabus has undergone revision in the formative years of the discipline. Faculty of Management, while following the regular review and revision has undertaken two yearly cycles of major revisions of which the third was completed in the academic year 2013-14. Approximately, 40% of the syllabus is revised in such major reviews.

1.3.4. What are the value-added courses offered by the university and how does the university ensure that all students have access to them?

PDPU recognizes that the important primary roles of university education are to build research skills, vocational skills, and professional competence. The effort is focused towards building skills that lead towards upward movement in any of the 3 exit routes i.e. Job Placement / Employment; Higher Studies; Self employment / Entrepreneurship -that the student selects for himself or herself. From the initial semester/trimester, students are encouraged to get involved in myriad activities and events which lead to personality, leadership, and skills building. Workshops and sessions that enhance upward movement of the students through perspective building or skill building are encouraged and organized.

Some value added courses offered at PDPU are:

- Communication Skills
- Gandhian Thoughts
- Rural Internship
- National Sports Organization (NSO)/National Service Scheme (NSS)
- Industrial Orientation
- Industrial Training
- Managerial Computing
- Group Projects
- Summer Internship
- Business Simulation

- Leadership
- Ethics of Corporate Communication
- Personality Enhancement Program
- Community Development Initiative
- Placement Selection Improvement Program
- Audit courses

1.3.5. Has the university introduced any higher order skill development programs in consonance with the national requirements as outlined by the National Skills Development Corporation and other agencies?

The University schools, from time to time have been engaged in offering high order skill development programmes in form of Management Development Programmes (MDP). The MDPs are offered to interested participants from outside the University system in areas where there is a need to enhance a high order skill. Similarly, the University through its schools offers courses in the form of Audit Courses/Special Courses/workshops; where some students are on a lookout to fulfill a high order skill gap, which in the routine academic pedagogy would be otherwise difficult to fulfill.

To enhance the higher order skill development among the students the university has established centers of excellence and training like Siemens-Centre of Automotives. The Siemens-Centre of Excellence has been established at PDPU to cater the need of skilled man power in the automotive industry.

Siemens Centre of Excellence is equipped with the latest design, digital manufacturing, simulation, and lifecycle management software from Siemens Industry Software, and state of art industrial equipment from Siemens Industry. It has 9 fully-equipped laboratories for skill development training as mentioned below:

1. Product Design and validation Laboratory
2. Advance Manufacturing Laboratory
3. MCMT Laboratory
4. CIM Simulation Laboratory
5. Rapid Prototyping Laboratory
6. Process Instrumentation Laboratory

7. Automation Laboratory

8. Electrical Laboratory

9. Mechatronics Laboratory

1.4. Feedback System

1.4.1. Does the university have a formal mechanism to obtain feedback from students regarding the curriculum and how is it made use of?

PDPU has a formal mechanism to obtain feedback from the students regarding the curriculum and relevant aspects. All the University schools follow a structured formal approach to obtain feedback as applicable from students regarding the curriculum and delivery which is used to take need based appropriate decisions about both-curriculum and the delivery.

The feedback system obtains data and information regarding:

- Course design and structure

- Usefulness of the course content

- Usefulness of the Text – Book/reading materials prescribed

- Relevance of the reading materials

- Personal traits of instructors

- Examination and evaluation system

Course-wise feedback is shared with the teaching faculty for suitable improvements, enhancements and enrichment of the students learning experience. The Directors of various schools at the University discuss the feedback with each faculty and suggest changes through counseling and discussing best practices.

At PDPU, formal and informal feedback is taken from students at the end of each semester. Recently a system of inserting parametric responses in e-mode has been introduced wherein confidentiality is maintained. Parameter wise aggregate feedback of a faculty is obtained in the form of a bar chart. The access to this information is available only to the faculty concerned and the university administration. Student feedback is taken on basis of a questionnaire. Grading of each question is between 1 and 5.

1.4.2. Does the university elicit feedback on the curriculum from national and international faculty? If yes, specify a few methods such as conducting webinars, workshops, online discussions, etc. and its impact.

University through its Schools obtain feedback about courses from visiting faculty, alumni and industry participants whenever they would be at the campus on various occasions. The Schools organize conclaves on various themes and thus a number of industry visitors interact with the students and faculty and give their practical inputs on the courses that are being offered at these Schools. Moreover the Boards of Studies and Faculty of Management/Technology/Liberal Studies have eminent industry members/experts and these platforms are utilized for in-depth discussions on curriculum design, content and relevance etc. In addition to this, whenever the alumni visit –either in annual meets or when some of them visit University to teach/lecture/interact, faculty members would interact with them to understand the requirements of the industry and the scope to tackle those through fine-tuning the courses as per needs. PDPU has hosted two International Academic Conferences with Government of Gujarat and Think Tanks from reputed International Universities for discussion on global trends in curriculum formation and its execution. This has provided all stakeholders of the university to understand the global paradigms in curriculum formation.

1.4.3. Specify the mechanism through which affiliated institutions give feedback on curriculum enrichment and the extent to which it is made use of.

Not applicable as PDPU is a non-affiliating University.

1.4.4. What are the quality sustenance and quality enhancement measures undertaken by the university in ensuring the effective development of the curricula?

University follows the guidelines of UGC and AICTE. The University is extremely conscious of its quality sustenance and quality enhancement. The systems and processes of the university are ISO 9001:2008 certified indicating a process of continuous improvement in systems.

The university quality assurance is ensured by multipronged approach which is outlined below:

a. A broad-based Academic Council with prominent outside academics and industry experts as its members ensures industry focused & application oriented curricula, besides their periodic review.

b. Consistent interaction with industry experts.

c. Domain specific professionals who visit the university at regular intervals also bring in quality inputs to curricula.

d. Inputs offered by Industry experts are adequately accommodated in the curricula and syllabi

e. Industry experts form part of our regular faculty as Visiting Faculty.

f. Through Professional Development Allowance scheme, the University facilitates Faculty members to participate in international conferences and also take up memberships of academic and professional bodies. That also ensures quality inputs towards salient aspects of course curricula.

The schools, wherever applicable pay serious and prompt attention to student and alumni feedback and remedial action is taken as the circumstances require. Such policies are also applicable to visiting faculty and apart from academics the conduct of the faculty is also taken into consideration.

University has constituted 'Internal Quality Enhancement Cell' (IQEC)/ 'Internal Quality Assurance Cell' (IQAC), which operates with an objective of quality sensitization and quality enhancement in the curricula design and delivery also. The public-private partnership on which the university operates has made it easy for the university to understand the expectations of the industry and the community.

IQEC/IQAC reports of each school are regularly uploaded on the website of each school. IQEC/IQAC activities are structured through Management Objectives and strategies.

CRITERION II: TEACHING-LEARNING AND EVALUATION

2.1 Student Enrolment and Profile

2.1.1 **How does the university ensure publicity and transparency in the admission process?** Admission announcement by the University is done in leading regional and National newspapers, and on University/School's website. Transparency is ensured through publishing of admission brochure giving details of eligibility criteria, admission criteria, and number of seats, and scholarships that are available. The entire information is also posted on University/school website. The University constitutes an Admission Committee for each school to oversee the process of admissions to various programmes of all schools. Merit list prepared for each program is signed by all members associated with the Admission process and approved by the Admission Committee. In the matter of admissions to professional programmes, PDPU has to follow the State Regulatory Act for admission.

2.1.2 **Explain in detail the process of admission put in place by the university. List the criteria for admission: (e.g.: (i) merit, (ii) merit with entrance test, (iii) merit, entrance test an interview, (iv) common entrance test conducted by state agencies and national agencies (v) other criteria followed by the university (please specify).**
Academic council reviews and finally decides the sanctioned seats, eligibility of students as well as merit criteria. School Admission Committees decide admission procedures to be followed such as written test, interview, etc. and their respective weightage. The admission policy is approved by the Director General of the University, is based on the decision of the academic council.

Admissions to all postgraduate and research programmes and SLS entail eligibility screening (from score of competitive exam), entrance tests and interviews, rather than an exclusive focus on past performance.

Applications are invited from eligible students for the admission to respective academic programmes of the University. The University scrutinizes applications to verify eligibility of the students for the admission process. Then the list of the eligible students in order of

their merit is announced on the website. At the same time, the University also announces the list of candidates to be called for admission process. The applicants are called for interviews (group discussions in some programmes). The final admissions merit list is prepared on the basis of marks obtained in written tests and interview.

For doctoral admissions, eligible students have to appear in the Research Aptitude Test conducted by the University, followed by Personal Interview. Admission is offered on merit based on the candidates performance in written entrance test and personal interview. Limited fellowships are offered to outstanding fulltime PhD students.

Admissions to B.Tech programmes are strictly on basis of the procedures announced and permitted by the state government for technical programmes, scores of stipulated common entrance exams are taken to prepare the merit list, along with merit of the scores attained in the best four subjects in school leaving examination. A separate entrance examination is also conducted for some programmes. The admission lists are kept active till such time that the maximum numbers of seats are filled ensuring the timeline granted by the monitoring body of the government.

i. The Admission to undergraduate programmes is based on merit with entrance test scores conducted by national agencies/universities considered in stipulated pre-announced proportion, and outcome of counseling/interview or both.

ii. The Admission to Post Graduate programmes is based on merit, entrance test conducted by State/National agencies and interview scores.

iii. Admission to Ph.D program is based on written test conducted by the University and interviews by expert panels.

iv. For some programmes weightage is given also to past work experience.

2.1.3 Provide details of admission process in the affiliated colleges and the university's role in monitoring the same.

Not applicable, as PDPU is non-affiliating university.

2.1.4 Does the university have a mechanism to review its admission process and student profile annually? If yes, what is the outcome of such an analysis and how has it contributed to the improvement of the process?

The duly constituted Admission Committee at the respective Schools reviews the admission process and students' profiles annually. In this matter transparency and simplicity is maintained and suggestions are put forward to concerned director and finally considered by the academic council. The ultimate aim is to review it in such a manner that the process is user friendly.

2.1.5 What are the strategies adopted to increase / improve access for students belonging to the following categories:

* **SC/ST:** The SC/ST students are provided with reservation as per statutory norms. The Admissions Committee ensures that SC/ST students have a fair chance of admissions in a non-discriminatory manner acknowledging whatever constraints they may have in their educational/social background and thus factoring that during the admission process

* **OBC:** Admission Committee for Professional Courses (ACPC), Govt. of Gujarat, quota for B.Tech is inclusive of OBC

* **Women:** There are reserved seats for women in certain programmes at the University. Additionally, women candidates are provided scholarships at the Schools as applicable as per predefined norms. To promote, Women Empowerment, PDPU has taken unique initiative of reserving 50% of seats for all programmes offered by School of Liberal Studies. FoET has taken a unique initiative to promote professional and technical education for girls with the provision of "Girls Variable Supernumerary Seats (GVSS)". The GVSS will be created to maintain minimum 10% girls on All India Seats in all engineering disciplines.

* **Differently-abled:** As per statutory requirement in the UG Technology programme, reservation is there for admissions. The University's physical infrastructure has been designed, keeping sensitivity towards differently-able students/employees. Low gradient ramp and lifts are provided for comfortable on campus mobility.

* **Economically weaker sections:** The University provides Merit-cum-means based scholarships to eligible students as per availability of funds with the University.

* **Outstanding achievers in sports and other extracurricular activities**: Admission Committee for Professional Courses (ACPC), Govt. of Gujarat, quota for B.Tech is

inclusive of sports & other extracurricular activities.

2.1.6 Number of students admitted in university departments in the last four academic years:

School of Petroleum Technology

	Year 1		Year 2		Year 3		Year 4	
	2012		2013		2014		2015	
Categories	Male	Female	Male	Female	Male	Female	Male	Female
SC	11	2	7	2	12	1	14	--
ST	10	1	4	1	13	--	8	5
OBC	16	--	--	--	19	--	13	1
General	73	4	106	3	78	4	77	3
Others		--	1	--		1	4	--
Total	**110**	**7**	**118**	**6**	**122**	**6**	**116**	**9**

School of Petroleum Management

	Year 1		Year 2		Year 3		Year 4	
	2012		2013		2014		2015	
Categories	Male	Female	Male	Female	Male	Female	Male	Female
SC	6	1	4	1	3	4	2	--
ST	--	--	3	--	1	1	1	--
OBC	--	--	--	--	19	--	13	1
General	45	10	80	32	42	18	44	12
Others	--	--	--	--	--	--	--	--
Total	**51**	**11**	**87**	**33**	**46**	**23**	**47**	**12**

School of Liberal Studies

	Year 1		Year 2		Year 3		Year 4	
	2012		2013		2014		2015	
Categories	Male	Female	Male	Female	Male	Female	Male	Female
SC	1	3	4	--	1	4	5	2
ST	--	--	--	1	--	1	--	--
OBC	--	--	--	--	--	--	--	--
General	46	59	68	109	54	125	120	153
Others	--	--	--	--	--	--	--	--
Total	**47**	**62**	**72**	**110**	**151**	**158**	**125**	**155**

School of Technology

Categories	Year 1		Year 2		Year 3		Year 4	
	2012		2013		2014		2015	
	Male	Female	Male	Female	Male	Female	Male	Female
SC	24	2	33	4	47	8	43	8
ST	15	3	34	3	32	4	14	1
OBC	40	0	87	5	103	5	67	7
General	206	30	416	80	536	111	1145	355
Others	0	0	0	0	3	0	16	4
Total	**285**	**35**	**570**	**92**	**721**	**128**	**1285**	**375**

2.1.7 **Has the university conducted any analysis of demand ratio for the various programs of the university departments and affiliated colleges? If so, highlight the significant trends explaining the reasons for increase / decrease.**

Demand pattern is being studied. It is observed that in B.Tech programme, first two choices of branches are chosen dramatically. This is due to mentality of students and impression of current placement. However, marginal increase/decrease is observed for other branches. Unique UG programmes offered by constituent schools of the university show a mixed trend, mostly increasing. This is attributed to the acceptance of the unique programmes amongst the eligible/targeted candidates.

Programmes	Demand Ratio
PG (MBA)	
Batch (2008-2010)	6.2:1
Batch (2009-2011)	10.2:1
Batch (2010-2012)	10.5:1
Batch (2011-2013)	8.0:1
Batch (2012-14)	7.4:1
Batch (2013-15)	2.6:1
Batch (2014-16)	4.7:1
Batch (2015-17)	3.6:1
Executive MBA	
Batch 2010	1.7:1
Batch 2011	1.6:1
UG – SoT & SPT (2015-16)	13.75:1
UG – SLS (2015-16)	3:1
PG – M.Tech. SoT & SPT (2015-16)	4.33:1
M.A. – SLS (2015-16)	1.33:1

2.1.8 Were any programs discontinued / staggered by the university in the last four years? If yes, please specify the reasons.

The 15 Months' Executive MBA program at SPM is discontinued by the University for the want of appropriate structural change in eligibility criterion of candidates especially in terms of their industry background and corporate sponsorship. This was based on a report presented to the university by a duly constituted committee.

2.2 Catering to Student Diversity

2.2.1 Does the university organize orientation / induction program for freshers? If yes, give details such as the duration, issues covered, experts involved and mechanism for using the feedback in subsequent years.

The University conducts special orientation programmes for new students every year at respective schools. Formally, orientation programmes are held for a day or three days or ten days, depending on the programme team and requirements. As part of the orientation process, introductions are made and discussions are generated around important issues and concepts. At the orientation, students are familiarized with the following:

- courses and assessment structures

- academic rules and regulations

- academic calendar

- facilities of scholarships and fee waivers

- presence of student cell

- anti-ragging policies

- creation of a gender-sensitive campus

- extra-curricular activities

- university clinic

- placement related activities

The Induction program consists of sessions on communication, soft skills, pedagogy by expert faculty, Library and Information resources by Library staff, Financial and Account matters by accounts staff Computers and Information Technology resources by IT department staff and amenities and general administration by staff of amenities

department. The Registrar of the University offers overall induction training through an informative interactive session.

Internal faculty offer inputs on functional and sectoral aspects of the learning available at the University. Industry experts and professionals are invited to orient students towards the requirements and expectations of the corporate world. Visits to select industry, business and other organizations are arranged for field orientation of all students.

2.2.2 **Does the university have a mechanism through which the "differential requirements of the student population" are analyzed after admission and before the commencement of classes? If so, how are the key issues identified and addressed?**

No, the university or for that matter no school has established such formal mechanism. This is for the simple reason that there is no significant academic soundness across the class. However, whenever some individual students are spotted to be weak in some areas, concerned faculty gives extra attention and takes care of it. The university also has a system of faculty advisor. On joining the university, every student is assigned to a faculty advisor, who addresses the needs of such identified students and monitors their progress, by facilitating remedial classes, counseling for these students.

2.2.3 **Does the university offer bridge / remedial / add-on courses? If yes, how are they structured into the time table? Give details of the courses offered, department-wise/faculty-wise?**

For, UG courses, where one dimensional eligibility of admission is prescribed for all programmes, bridge courses are not necessary. Specific bridge courses are offered for specialized programmes like M.Tech in Petroleum Engineering to orient B.Tech Graduates of other disciplines towards Petroleum Engineering domain.

2.2.4 **Has the university conducted any study on the academic growth of students from disadvantaged sections of society, economically disadvantaged, physically handicapped, slow learners, etc.? If yes, what are the main findings?**

No. It is rather early to conduct such kind of studies.

2.2.5 How does the university identify and respond to the learning needs of advanced learners?

The university is aware of the modality to address the need of advanced learners. Advanced learner is one who has capacity to learn more and faster than the dished out time-table. Either advanced learners should be given opportunity to complete all credits of the entire programme, in shorter duration and enable him to go to the job market earlier, at least by a few months. Academically this is possible; faculty wise feasibility is being studied. Alternatively such learners should be provided value added audit courses to enrich their scope and competence. Both modalities are under consideration.

Advanced learners are identified through their scholastic performance in the continuous evaluation parameters and in class participation quality at each School by the respective faculty members. At the PG level students come with a scholastic background which is already known since the time of admissions. Several mechanisms and activities are in place to support the advanced learning requirements such as:

- Supporting research publications and presentations. Financial support is provided to students for travel, accommodation and incidental expenses for such participation.
- Advanced courses of learning offered by specialized institutions and professional bodies play an important role in making students ready for given job profiles. Identified advanced learners are advised and motivated to undertake such specialized certificate courses and learning programmes. Some advanced learning are provided at school level though organization of domain specific workshops.
- The Curriculum of some Graduate programmes have a built-in mechanism for advanced learners in the form of extra-credited or non-credited audit courses, credited self-study courses and Course on Independent study (CIS). To add to these academic and/or industrial project courses are also offered.

2.3 Teaching-Learning Process

2.3.1 How does the university plan and organise the teaching, learning and evaluation schedules (academic calendar, teaching plan, evaluation blue print, etc.)?

The university authorities with necessary inputs from all schools prepare elaborate academic calendar for all schools and monitors its implementation during the entire semester/ trimester. Every subject coordinator prepares and submits a teaching plan for entire semester. Well defined examination and its evaluation scheme are followed by the university. For elective courses, faculty advisors guide students and in some of the schools, students are allowed to sit in classes for the first week before they decide their electives to help them select their electives judiciously.

The academic calendar provides almost day by day schedule for each school including planned events like conference, seminar, conclaves, memorial lectures, along with dates for midterm and end-term examinations. The session plans for each course planned to be delivered has a schedule of continuous evaluation activities like class tests, quizzes, case analysis, etc.

Component wise evaluation parameters and their weightages are pre-determined and disseminated to students well in advance. The University follows a grade pattern and accordingly grade point averages and conversion formula is well defined and duly documented.

2.3.2 Does the university provide course outlines and course schedules prior to the commencement of the academic session? If yes, how is the effectiveness of the process ensured?

Yes, course outlines and schedules are sent to the students well ahead of commencement of each academic session. Effectiveness of the process is ensured by getting feedback from students. This helps in sticking to a time-frame as already planned in advance. It prepares and facilitates students to better understand the sessions and academic courses. In addition, it also helps students to select electives offered by the University before-hand. Text books, reference books and study materials are also made available to students, which help them to prepare for each class in advance. This leads to a more effective classroom delivery.

2.3.3 Does the university face any challenges in completing the curriculum within the stipulated time frame and calendar? If yes, elaborate on the challenges encountered and the institutional measures to overcome these.

No, the university has not faced any challenges in completing the curriculum in the stipulated time frame and calendar. University covers the entire curriculum within the planned academic time-frame and all classes, examination, project work evaluation are managed within the stipulated time. Any re-scheduling of sessions due to unavoidable circumstances is rigorously followed-up.

2.3.4 How learning is made student-centric? Give a list of participatory learning activities adopted by the faculty that contributes to holistic development and improved student learning, besides facilitating life-long learning and knowledge management.

Each course is designed in a manner that it incorporates not just classroom lectures but also projects, assignments, group learning mechanisms, presentations and peer learning. Students are informed in advance about the syllabus and subject details; in addition students are also encouraged for discussing and practicing through faculty mentoring. Moreover, several levels of interactive sessions like Class room discussion; Presentation by students, Tutorials and Assignments are also held.

Elaborate use is made of audio-visual aids besides encouraging students to make use of the library facilities. In addition, the University gives emphasis on role-plays in class, group discussions, presentations before the faculty members, class debates, enactment of situations (depending on nature of the courses), live performances of students on stage as a part of evaluation method (in relevant courses), live projects, creative group activities, academic videos, relevant film/documentary clippings, workshops by experts, interaction with industry-resource persons related to the subject of learning. Dissertations of the students are periodically reviewed through open house and a committee of faculty guides them for further course of dissertation preparation as applicable.

The schools are experimenting with innovative strategy to inculcate a habit of 'learning to learn' amongst students. In this strategy, the teacher announces in advance, some topics which are to be studied by the students themselves. They may seek assistance from

co-students/seniors at a later date. They may seek clarification/elaboration from a teacher if necessary.

2.3.5 **What is the university's policy on inviting experts / people of eminence to deliver lectures and/or organize seminars for students?**

The policy of the university is to invite experts and people of eminence through the following modes:

- *Distinguished Lecture Series*: Organized at the University level implemented at Schools levels eminent people of distinction in their field are invited to share their life experiences, learning and mantras of success. Elite domain experts are also invited to present their extra-ordinary insights in a particular discipline.

- *Guest Lectures*: Organized at School level and implemented department / area wise, invites senior management, operations, technical, scientific personnel and senior academicians to speak on latest developments, contemporary thought, areas of current research and development and futuristic planning within their domain of expertise. These kinds of interactions happen either as standalone seminar sessions or as keynote addresses along with other major events being organized.

- *Guest Faculty:* Organized at subject area level within a programme curriculum at each school as per need and availability of experts from the industry or professional fraternity, this mechanism provides for value addition within the course of delivery. Established senior faculties from other academic institutions are also invited for the same purpose.

Public Diplomacy Lecture Series is also hosted in collaboration with Ministry of External Affairs (MEA), Govt. of India, wherein every year MEA empanels either ambassador, or eminent persons from consulate to deliver a public lecture in the university.

2.3.6 **Does the university formally encourage blended learning by using e-learning resources?**

Yes. Wi-Fi campus and access to electronic databases encourage students to use 'e-learning' resources. Available e-learning resources are listed, as below:

1. EBSCO: Business Source Premier (e-journals database)

2. INFRALINE: Oil & Gas Sector (Oil & Gas Sector database)

3. CMIE: Industry Analysis Service (Indian Industry database)

4. Capital Market database (Indian Companies database)

5. Indiastat.com: (India's statistical database)

6. JSTOR

Students are also apprised about MOOCS and are advised to use resources like; Merlot, Intute, TWB, Shodhganga and Shodhgangotri.

All e-learning resources can be accessible from anywhere in campus (Wi-Fi activated campus).

PDPU has collaborated with IIM Ahmedabad, IIT Gandhinagar, British Council Library Ahmedabad for knowledge exchange and for providing access to physical and e-resources.

Sr. No.	Database Name	Subject Area
1	ACS	Chemical e journals
2	ASCE	Civil Engineering
3	ASME	Mechanical Engineering
4	IEEE	Electrical +Electronics e-Journals database
5	ASP/IP/AIP	Physics discipline e-Journals
6	GSW	Petroleum engineering
7	One Petro	Petroleum engineering

2.3.7 What are the technologies and facilities such as virtual laboratories, e-learning, open educational resources and mobile education used by the faculty for effective teaching?

Faculties are provided with high speed internet facility in classrooms and at their workstations with various software and multimedia facilities. Select teaching and learning resources are shared on common FTP server accessible by students and faculties.

Faculties use the 'Library & Information Centre' (**LIC**) for accumulation & dissemination of knowledge, information, insights and intellectual contribution in all areas of Management, Technology and Social Sciences. Important industry news, information and statistics are regularly provided to faculty and students through emails by the LIC staff. Additionally video CDs, digitalized documentaries, published reports, student dissertations and project reports are available for reference.

2.3.8 **Is there any designated group among the faculty to monitor the trends and issues regarding developments in Open Source Community and integrate its benefits in the university's educational processes?**

Discussions on open source community and contemporary development start at internal faculty meetings at different schools of PDPU. The best of such services are then communicated to students. Library Committee also updates academic and student community about developments in Open Source community. Individually, faculty members encourage use of e-learning resources and open access sources in their courses or projects assigned to students. Well equipped and trained staff at the IT Cell of the University supports this endeavor.

2.3.9 **What steps has the university taken to orient traditional classrooms into 24×7 learning places?**

Wi-Fi campus and access to electronic databases encourage students to use 'e-learning' resources. All the classrooms have been provided with high speed internet connectivity through Wi-Fi connection and full multimedia facility. Moreover, all relevant teaching, learning and reading materials are shared with students, through FTP, emails and websites. Library is also kept open for consultation till late evening.

Faculties are in touch with students even after class hours and on weekends too. Many activities involving students and faculty are arranged after class hours and even on the weekends. Campus software provides added flexibility to faculty for remaining in contact with students even after study hours. Student clubs are formed for facilitating beyond the classroom learning through special presentations and interactions with experts.

2.3.10 **Is there a provision for the services of counselors / mentors/ advisors for each class or group of students for academic, personal and psycho-social guidance? If yes, give details of the process and the number of students who have benefitted.**

Faculty Advisor:

Yes, the university has a system of faculty advisor. On joining the University, every student is assigned to a faculty advisor. Students are expected to consult the faculty advisor on matters related to their academic performance and the courses they may take

in various semesters. Role of faculty advisor is to extend guidance to students, enabling them to complete their courses of study in a smooth and satisfactory manner. Faculty advisor is the person whom parents/ guardians can contact for performance-related issues of their ward/s.

Apart from individual mentoring that is available by every faculty member (largely pertaining to their course area) the University has in place a 'Training & Placements Cell' that helps students in the process of identification of right prospective profile/company and the efforts needed to attain their respective career objectives.

Under the faculty advisor scheme, each faculty is assigned a group of students. Any student can contact the faculty advisor and discuss his/her problems related to academics, placements or socio-emotional issues.

Specific role of Faculty Advisor includes:

- Guidance about the rules and regulations governing the courses of study.

- Registration of students for courses, within the scope of the regulations.

- Special attention to weak students, including making revised plan of study for weak/bright students based on their academic performance.

- Providing moral support to students in academic, emotional, and social/adjustment issues.

- Organizing Open House for parents or legal guardians to discuss the progress, grievances or issues of students.

- Monitoring the attendance of students from time to time in respective classes. Informing respective faculties and Directors about students with poor attendance.

- Monitor and review academic progress of students on regular basis.

- Encourage the students to participate in workshops, conferences, seminars, expert lectures, and participating in paper/poster presentations.

- Suggest books, journals, articles, websites, videos, or other resources to students.

- Suggest certification courses to students for overall development. Encourage students to take up projects and research studies.

- Encourage students to appear in competitive exams.

- Filing necessary paperwork for students and facilitate meetings with other faculty members.

- Sharing the progress and problems of respective students with concerned faculty members to make them aware of students needs.

- Help students maintain a balance between academic and co-curricular aspects of student life.

- Discussion about student progress with Directors as and when required.

Student Counselor/Psychologist

- To help students cope-up with academic and social pressure and boost their morale.

- To help them socially, if specifically approached.

Corporate Relations Cell

Apart from individual mentoring, the university has a '*Corporate Relations Cell*' that helps students in the process of identification of right prospective profile/company and the efforts needed to attain their respective career objectives.

2.3.11 Were any innovative teaching approaches/methods/practices adopted/put to use by the faculty during the last four years? If yes, did they improve learning? What were the methods used to evaluate the impact of such practices? What are the efforts made by the institution in giving the faculty due recognition for innovation in teaching?

Some of the innovative teaching methods adopted by faculty during the last four years are as follows:

- Using autobiographies as recommended texts
- Using films and simulations to impart learning
- Novel structuring of the courses by incorporating industry related applied notes
- Joint / Team teaching
- Teaching by Industry practitioners
- Combination of field based training and classroom learning
- Simulators for solving numerical examples
- Supplementary Video lectures/Animations
- Field visits complimenting theory lectures
- Quizzes
- Language lab assignments

- Student Seminars
- Laboratory projects
- Video Presentations
- Selected topics left to students for self study

Different faculty members employ a variety of innovative approaches or methods to foster and enhance learning outcomes. While formal evaluation methods for study of impact of such practices are not used, student motivation, feedback, enthusiasm and willful participation are used as indicators of improved learning.

The university is formulating a process for recognizing faculties involved in innovative teaching.

2.3.12 How does the university create a culture of instilling and nurturing creativity and scientific temper among the learners?

The university encourages a research culture on campus. PDPU has a number of research centers through which funded research projects are being carried out on campus. Students participate in these through their Major/Minor projects. In addition students are welcome to work on various equipment's in laboratories, fabricating and testing different set ups.

Students are also encouraged to participate in seminars and conferences. There are various active technical societies and cultural clubs which nurture the creative need of the students.

Additionally, University attempts to create a culture of instilling and nurturing creativity and scientific temper among learners by promoting a cross-disciplinary approach to learning. The university has channels like Office of Research & Sponsored Projects (ORSP) that offer financial backing for the projects and ideas of students that are really worth. These types of programs help in adding new data and knowledge to the existing repository. This also creates a healthy competition among students and also encourages them to strive to be better.

The university has also set up Innovation & Incubation Centre (IIC), with the help of Govt. of Gujarat, for promoting innovation, creativity and entrepreneurship amongst students and community.

The University believes in giving equal importance to three branches of learning – logic, aesthetics and ethics. Thus, while empirical study is encouraged, students are encouraged to look beyond the things visible and develop innovative and creative solutions to emerging challenges.

Students are also encouraged to participate in various competitions, summer activities and industry oriented activities which are external to the school and helps them interact and integrate with the larger community. Students regularly participate at competitive events conducted by other institutions, industrial and business houses and industry organizations.

2.3.13 Does the university consider student projects mandatory in the learning programmes? If yes, for how many programmes have they been (percentage of total) made mandatory?

Almost 100% learning programmes have a component of student projects. Summer Internship Project (6-8 weeks) is essential component of some programmes. Besides, most courses also have guided self-study project component as part of course evaluation. Course faculty has autonomy to decide on this project component (20%-80% or even 100% project course). Thus directly or indirectly all programmes (100%) have student projects mandatory in their learning.

A faculty and student team led by a faculty as Chairperson and supported by Training & Placement cell organizes summer training with the industry. A team of internal faculty and industry professional guide and monitor the student's progress throughout the project period. After completion of the project a panel of faculty members evaluates project presentations by each student.

2.3.14 Does the university have a well qualified pool of human resource to meet the requirements of the curriculum? If there is a shortfall, how is it supplemented?

The University has a large pool of well qualified and highly motivated talent pool of human resource to meet requirements of the curriculum. In case of shortfall, it is supplemented by sourcing faculty from other departments of our University as well as Visiting Faculty.

Human resources (Faculty and staff members) availability and performance are continuously reviewed and expanded by including visiting faculty from outside, and regular new recruitments. Rolling advertisements on website as well as periodic announcements in leading newspapers invites applications from skilled human resources. To meet the shortfall, university conducts periodic recruitment and selection.

2.3.15 How are the faculty enabled to prepare computer-aided teaching/ learning materials? What are the facilities available in the university for such efforts?

Wi-Fi campus and access to electronic databases encourage faculty members to use 'e-learning' resources in their courses. Each classroom has multimedia computer with LCD projectors and faculty members share their resources online with students through internet. Faculties are encouraged to use powerpoint presentation and soft materials for teaching / learning process. Faculties regularly use computer-aided teaching methods. The University provides all relevant facilities to faculty members. Additionally, libraries are well stocked with CDs and electronic resources to facilitate computer aided teaching/learning environment.

2.3.16 Does the university have a mechanism for the evaluation of teachers by the students / alumni? If yes, how is the evaluation feedback used to improve the quality of the teaching-learning process?

The University monitors and evaluates quality of its enrichment programmes through various mechanisms available at the School/University. Students' feedback is taken at the end of each course before end of the term. Alumni also share their feedback periodically and contribute to improvement in curriculum, pedagogy and academic administration. Feedback provided by students is shared with respective faculties. Based on the feedback received the faculties try to bring changes in teaching methodology.

Additionally, third party feedback system by students for faculties is used through computer software. This feedback is shared by higher authorities with faculties to discuss positively and to provide suggestions for improvement if any.

2.4 Teacher Quality

2.4.1 How does the university plan and manage its human resources to meet the changing requirements of the curriculum?

The needs of the changing requirements of the curriculum are met by self-learning by faculty and external training as far as possible.

University undertakes a defined manpower planning exercise. In the Manpower planning phase the list of current positions in the department are analyzed, keeping in mind the openings for replacement positions and new position requirement and one to one interaction held with all the department heads of the academic departments and the In-charge of non-academic departments.

During the one to one interactions with the department heads, the following is discussed:

- Existing Faculty (with their teaching load, area of specialization, subjects, new courses)
- Probable attrition (with the faculty member who might leave)
- No. of faculty members required & their specialization
- New Courses and Student additions

The university focuses on recruiting domain specific faculty from academia and industry and sources them from different pools through advertisement which include newspaper ads, job postings on University website, internal circulation among University employees for referrals, etc. Faculty resources are continuously reviewed and expanded by including visiting faculty from outside.

Additionally, the faculty is provided with regular domain specific trainings and enhances knowledge by involving them in various Faculty Development programmes, conferences, seminars, workshops and industry interactions. Faculty members are entitled to the "Cumulative Professional Development Allowance" (CPDA) at Rs. 3 Lakhs over a period of 3 years, which is utilized towards their professional and academic enrichment through paper presentations in conferences and institutional memberships.

2.4.2 Furnish details of the faculty:

Highest qualification	Professor		Associate Professor		Assistant professor		Lecturers		Other		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
Permanent Teachers											
D.Sc./D.Litt.	--	--	--	--	--	--	--	--	--	--	
Ph.D.	14	--	19	02	38	05	--	--	--	--	**78**
M.Phil.	--	--	--	--	--	--	--	--	--	--	
PG	--	--	--	--	--	--	--	--	--	--	
Temporary Teachers											
Ph.D.	--	--	--	--	--	--	--	--	--	--	
M.Phil.	--	--	--	--	--	--	--	--	--	--	**64**
PG	--	--	--	--	--	--	46	12	06	--	
Part-time teachers											
School of Petroleum Technology											
Ph.D.	--	--	--	--	--	--	--	--	--	01	
M.Phil.	--	--	--	--	--	--	--	--	--	--	**3**
PG	--	--	--	--	--	--	--	--	--	02	
School of Technology											
Ph.D.	--	--	--	--	--	--	--	--	--	--	
M.Phil.	--	--	--	--	--	--	--	--	--	--	**7**
PG	--	--	--	--	05	01	--	--	--	01	
School of Petroleum Management											
Ph.D.	03	01	02	02	--	--	--	--	--	--	
M.Phil.	--	--	--	--	--	--	--	--	--	--	**26**
PG	--	--	01	--	03	--	--	--	13	01	
School of Liberal Studies											
Ph.D.	04	02	01	01	07	04	--	--	--	--	
M.Phil.	--	--	--	--	01	--	--	--	--	--	**40**
PG	--	--	--	--	--	--	--	--	10	10	

2.4.3 Does the university encourage diversity in its faculty recruitment? Provide the following details (department / school-wise).

The recruitment process is pan India. University is in the process of identifying faculties from universities abroad to enrich our curriculum, labs and research facilities. University encourages the diversity in its faculty recruitment.

Department / School	% of faculty from the same university	% of faculty from other universities within the State	% of faculty from universities outside the State	% of faculty from other countries
SPM	None	25%	67%	8%

SPT	13.3%	20.0%	53.3%	13.3%
SLS	NIL	50%	50%	NIL
SOT	1%	60%	36%	3%

2.4.4 How does the university ensure that qualified faculty are appointed for new programmes/emerging areas of study (Bio-technology, Bio-informatics, Material Science, Nanotechnology, Comparative Media Studies, Diaspora Studies, Forensic Computing, Educational Leadership, etc.)? How many faculty members were appointed to teach new programmes during the last four years?

The University is on a constant lookout for specialized faculty required for different academic positions in various schools. On compilation of manpower requirement of each department the list of open positions are approved, and advertised for seeking profiles of suitable candidates. The medium used for such advertisement includes newspaper ads, job postings on University website etc. A proper proforma is uploaded on the University website in which the candidates have to furnish complete details regarding their academic background, achievements, publications, conferences, employment background etc. From the pool of CVs that is generated, they are then screened as per the IIT/IIM recruitment guidelines and short listing criteria. On short listing, the candidates are then contacted telephonically and through email to understand their inclination in the open position as identified and to attend an interview. A copy of their latest resume is also sought at this time. With the lining up of candidates, process of selection begins. A synopsis of the candidates is sent to the heads of departments and school Directors and a selection panel for interview is formed.

Such panel is called a Selection Committee in the University and generally comprises of Director General, Management Representative, Dean of the Faculty, Director of the School, academic or non-academic Heads of Departments (as per relevant position) and external subject matter experts.

An invite is sent across to the Selection committee members seeking their participation of the finalized interview dates. On finalization of the date and location of each Selection Committee, the candidates already shortlisted are informed and interaction takes place. A detailed synopsis of the candidates and their CVs are circulated among the Selection Committee Members. The candidates appearing at the interview are screened/interviewed

and selected based on their domain specific knowledge areas, soft skill parameters, past experience and interpersonal and leadership abilities. All such interview details are listed and documented in Selection Committee proceedings. The interview includes presentations by the faculty to a group of students and faculty before the formal interview.

Additionally, the University has created a Chair Professorship with industry support and in addition to that it has also been able to attract senior specialized faculty with considerable industry experience and that too without compromising on the academic qualifications/eligibility.

Following new programmes have been started by the university in the last four years, for which a number of new faculties have been appointed:

Sr. No.	New Programme	Faculties Inducted
1	M.Tech Programmes (Thermal Engg., Environmental Engg. & Studies, Infrastructure Engg. & Management, Power Systems)	10
2	MBA (General Management)	01

For the existing programmes, 85 number of new faculties have been inducted in the last four years.

2.4.5 How many Emeritus / Adjunct Faculty / Visiting Professors are on the rolls of the university?

	Emeritus	Adjunct	Visiting
SPT		03	02
SoT	01	01	02
SPM	01		15
SLS		01	40

2.4.6 What policies/systems are in place to academically recharge and rejuvenate teachers (e.g. providing research grants, study leave, nomination to national/international conferences/ seminars, in-service training, organizing national/international conferences etc.)?

The university has implemented the Sixth Pay Commission Recommendations and follows IIT norms. The University follows the policy of providing the CPDA

(Cumulative Professional Development Allowance) so as to enable the faculty members to undertake various research/conference participation/professional membership activities. On an average each faculty is provided CPDA ranging from Rs. 50, 000 to Rs. 1 lakh. Teachers are also encouraged to represent the University at National and International forums. The Office of Research and Sponsored Projects provides support to faculty individually and in teams to source research funding from different funding agencies, government departments and international research funding organization. One can enroll for membership of professional bodies.

- *Professional Leave*: A maximum of 15 working days leave is admissible as professional leave in a scale year for the purpose of attending Seminar/ Symposium/ Workshop, participating in academic meetings of bodies like Board of Studies & Faculty of Other Universities/ Institutes

- *Sabbatical Leave*
  ~ Sabbatical Leave is admissible to confirmed teachers of the university after completion of six years of continuous service in the university
  ~ To conduct research or advanced studies
  ~ To write text books, standard works and other literature
  ~ To visit in industrial concerns, business houses and technical departments to gain practical experience in their respective fields
  ~ To visit or work in a university, industry or research laboratory in India or abroad
  ~ Any other purposes providing opportunity for the professional development of faculty as approved by the competent authority
  ~ The period of Sabbatical Leave shall be six months at a time inclusive of vacations.

2.4.7 How many faculty received awards / recognitions for excellence in teaching at the state, national and international level during the last four years?

The Business School at the University has been honoured for *'Best Academic Input (Syllabus) in Petroleum Management'*, by the *'21ˢᵗ Business School Affaire BSA' & 'Devang Mehta Business School Award 2014'* Mumbai. The award is in recognition of leadership, development, innovation and industry interface of Business School. This

award has been received for the last 4 consecutive years.

Prof. Ashish Sarkar was awarded the '*Best Professor Award in Petroleum Engineering'*, awarded by *Devang Mehta Foundation* in 2013.

2.4.8 How many faculty underwent staff development programs during the last four years (add any other program if necessary)?

Academic Staff Development Programmes	*Number of faculty*
Refresher courses	23
HRD programmes	01
Orientation programmes	6
Staff training conducted by the university	4
Staff training conducted by other institutions	4
Summer / Winter schools, workshops, etc.	7
International Exposure Program	13

2.4.9 What percentage of the faculty has been (i) invited as Resource Persons in Workshops/Seminars/Conferences organized by external professional agencies? (ii) Participated in external Workshops/Seminars/Conferences recognized by National/International Professional Bodies? (iii) presented papers in Workshops/Seminars/Conferences concluded or recognized by professional agencies? (iv) Teaching experience in other universities/national institutions and other institutions? (v) Industrial engagement? (vi) International experience in teaching?

Percentage of the faculty members:

  (i). *Invited as Resource Persons in Workshops/Seminars/Conferences organized by external professional agencies***:** 72.53 %

 (ii). *Participated in external Workshops/Seminars/Conferences recognized by National/International Professional Bodies***:** 70%

(iii). *Presented papers in Workshops/Seminars/Conferences concluded or recognized by professional agencies***:** 34.32%

 (iv). *Teaching experience in other universities/national institutions and other institutions***:** 34.35%

  (v). *Industrial engagement***:** 23.14%

(vi). *International experience in teaching***:** 2.04%

2.4.10 How often does the university organize academic development programmes (*e.g.*: curriculum development, teaching-learning methods, examination reforms, content/knowledge management, etc.) for its faculty aimed at enriching the teaching-learning process?

As per the UGC Guidelines, the academic development programmes are organized at regular intervals. Consultative meeting with experts in the domain and practitioners to deliberate on academic programmes as well as on specific courses have been organized on several occasions.

Academic development programmes are an integral part of the academic administration. Faculty seminars on recent research pursuits, developmental initiatives, curriculum enhancements, are undertaken to maintain the contemporary relevance and content richness of the teaching-learning process.

2.4.11 Does the university have a mechanism to encourage

* **Mobility of faculty between universities for teaching**

  The university has a structured mechanism for allowing faculty members to visit other institutes/universities/research organizations for delivering lectures/trainings etc. based on the invitations received by the faculty members, they apply for permission and leave to the concerned higher authority. Faculty members are issued an official order to visit such institutes.

* **Faculty exchange programmes with national and international bodies**

  PDPU has collaborations with many National and International universities/institutes for knowledge sharing and faculty exchange. PDPU faculties have visited the following universities: Aston University, Birmingham UK; University of Kwazulu Natal, South Africa. Faculties from Texas A&M, University of Oklahoma, Fairfield University (USA), Edith Cowan University (Australia) have been engaged in teaching courses at PDPU.

* **If yes, how have these schemes helped in enriching the quality of the faculty?**

Teachers who have participated in external teaching assignments at national level or overseas academic institutions have gained in terms of broader perspectives, enhanced content and increased confidence. PDPU faculties have visited various national and international institutes and have set-up laboratories and centers of excellence, namely, Solar Research & Development Centre, Drilling & Stimulation Lab, and Centre of Excellence for Geothermal Energy. The University has signed number of MoUs with National and International Universities which has provision of faculty exchange.

2.5 <u>Evaluation Process and Reforms</u>

2.5.1 **How does the university ensure that all the stakeholders are aware of the evaluation processes that are in place?**

Student Academic Policy and Academic Calendar highlighting the evaluation process and other relevant information are published at the beginning of the academic year. The Student Academic Policy is made available to every student at the time of registration. It is also available on PDPU student portal. Any modifications in the evaluation parameters, mode of evaluation etc are informed to the students by School/University authorities as and when applicable.

The evaluation process is available in advance to all the students and faculty members in the form of 'Student Handbook' at the beginning of the academic year. Apart from this each faculty member provides specific information about their course evaluation process as a part of the course outlines to the students.

The course evaluation process is very transparent and every student is given an opportunity to go through evaluated answer sheets.

The recruiters are explained the evaluation process during pre-placement meetings. Their inputs and concerns are addressed to.

The parents are encouraged to understand the transparency of the system and involve themselves in tracking the academic performance of their wards.

2.5.2 **What are the important examination reforms initiated by the university and to what extent have they been implemented in the university departments and affiliated colleges? Cite a few examples which have positively impacted the examination management system.**

To assess the academic performance of students, a continuous evaluation system is followed. At the end of each semester, each student is awarded a letter grade in each courses by the concerned instructor, based on his/her performance in mid-semester examination, end-semester examination, tests, assignments, tutorials, laboratory work, seminars, projects, etc, and also on regularity of attendance in classes. The teacher announces the mode of evaluation and distribution of marks at the beginning of the course. It is obligatory to maintain laboratory journal as prescribed by the course instructor as applicable. End-semester practical examinations for laboratory courses are normally held at the end of the term before the final theory examination.

For all examinations the evaluated answer books are shown to the students, by the concerned faculty, within the prescribed time limit/as per the Academic Calendar. The transparency is ensured by showing the mid-semester and internal assessment scripts to students.

Some of the examination reforms include:

- ~ Open Book/Open Resources Examination
- ~ Inclusion of experiential components like 'Field Projects', 'Industry Visits' and 'Assignments' in overall grading
- ~ In specific subjects quizzes, seminars, group presentations are considered for acquiring credits
- ~ Remedial Classes are being conducted to offset the performance
- ~ University question papers are reviewed by a committee and subsequently put in board of studies for ratification

2.5.3 **What is the average time taken by the university for declaration of examination results? In case of delay, what measures have been taken to address them? Indicate the mode / media adopted by the university for the publication of examination results (*e.g.* website, SMS, email, etc.).**

Normally, examination results are announced within 30 days of the exams. In case of a delay, reasons for the delay are identified and corrective action is immediately undertaken. Results are sent through email to the students and shared with the students by the university.

The monitoring and communication of progress and performance of students takes place on a term-wise basis. All the students are individually communicated about their assessment outcomes. The faculty members are available to share the detailed components of evaluation.

2.5.4 How does the university ensure transparency in the evaluation process? What are the rigorous features introduced by the university to ensure confidentiality?

Each course faculty submits a standard course plan with component-wise assessment details before the announcement of the respective terms. Depending upon the course and its nature each faculty member has the discretion of assigning due weightages for different criteria like independent thinking, presentation skills, conceptual learning, innovations, group dynamics, etc. Progressive / continuous evaluation is in practice and after every evaluation students are shown their performance and errors. Students are invited to bring to notice any discrepancy in the evaluation process and/or outcome. After declaration of the grades, the students are allowed to go through the answer sheets. To maintain confidentiality faculties are advised and guided for secure designing and printing of question papers.

The Examination Regulations have been further operationalised in a Standard Operating Manual which clearly spells out various processes and role of each functionary in the evaluation process. The teacher will allow the students to see the evaluated answer scripts pertaining to them on the date/s specified in the Academic Calendar. Evaluated answer scripts of very examination will be preserved by the teacher for a minimum period of one year. It is the responsibility of a student to remain present on the dates specified in the Academic Calendar.

2.5.5 Does the university have an integrated examination platform for the following processes?

* **Pre-examination processes – Time table generation, OMR, student list generation, invigilators, squads, attendance sheet, online payment gateway, etc.**
    ~ Time table is generated by examination cell and displayed on notice board prior to commencement of examination
    ~ No OMR based examination
    ~ Student list is generated and updated periodically by university and communicated to the students from time to time.
    ~ Attendance sheet is generated by the respective faculty and communicated to the respective school administrative office, which compiles the records and communicates it to the examination cell for all courses.
    ~ Examination cell issues allotment of invigilation duty, squad and senior supervisor duty to faculty members and staff
    ~ Examination fees is collected during the registration process

* **Examination process – Examination material management, logistics, etc.**
    ~ Examination is monitored & controlled through main control room
    ~ Examination material and logistics are procured well before commencement of examination as per requirement

* **Post-examination process – Attendance capture, OMR-based exam result, auto processing, generic result processing, certification, etc.**
    ~ Attendance sheet of students appearing in examination is recorded by invigilators during examination and handed over to examination cell
    ~ Collecting and maintaining evaluated answer scripts
    ~ Marks for each subject are given by respective faculty members and submitted to examination cell
    ~ Customized software is used for generation of result, attendance sheet and grade sheets by examination section
    ~ Result announcement by university through emails and grade sheets

2.5.6 Has the university introduced any reforms in its Ph.D. evaluation process? Following reforms initiated for Ph.D. course work examination:

- University has introduced external Doctoral Committee (DC) members for periodical review of progress.
- University has adopted Skype Meetings during DC meetings to enhance the possibility of participation by external members.
- Evaluation of thesis is mandatory by Indian and foreign examiners.
- Self study courses are permitted during academic course work.

2.5.7 Has the university created any provision for including the name of the college in the degree certificate?

Not applicable.

2.5.8 What is the mechanism for redressal of grievances with reference to examinations?

Declaration and rectification of results is being done in the following manner:

- The results tabulated and moderated shall be put up to the Director General, for approval after which the results shall be published.
- A student who has a grievance about his/her result shall approach the Dean Students Activities and Leaderships (SAL) and make his representation. Dean SAL on being convinced about the discrepancy shall forward the representation to the committee appointed by the Director General.
- A committee appointed by Director General shall have the power to quash or rectify the result of a student (even after it has been published) if
  a) it is found that he/she was ineligible to appear at the Examination; or
  b) he/she used unfair means in the Examination or was found guilty of misconduct; or
  c) a mistake is found in his/her result.
- A student shall be entitled to have his/her answer books rechecked on payment of prescribed fee for each paper subject to the following condition:
  a) The application for rechecking is received by the Controller of Examinations or his /her nominee within 30 (thirty) days of the date of publication of result.

b) The Controller of Examinations shall get rechecking done to ascertain whether the marks awarded to various answers have been correctly added and whether the Examiner has evaluated answers to all the questions written by the Examinee.

c) If any mistake is discovered as a result of re-checking as above, the committee appointed by Director General shall rectify the result.

2.5.9 What efforts have been made by the university to streamline the operations at the Office of the Controller of Examinations? Mention any significant efforts which have improved the process and functioning of the examination division/section.

- Many steps have been initiated by the university to streamline the operations of controller of examination in order to streamline the procedures including redefining the grades and making 40 marks as minimum passing marks.

- Examination manual is prepared by the university to implement and improve the function of examination cell.

- Question papers are printed confidentially within the university premise.

2.6. <u>Student Performance and Learning Outcomes</u>

2.6.1 Has the university articulated its Graduate Attributes? If so, how does it facilitate and monitor its implementation and outcome?

Some of the attributes that PDPU aspires to see in the graduating students are:

1. Ability to read and write analytically.
2. A sense of inquiry: ability to ask questions, problematising, synthesizing and articulating
3. Have the confidence to share their views and express themselves
4. Ability to make sense of and critically evaluate practices, policies and theories and apply their learning to real life situations
5. Ability to analyze, interpret and draw conclusions from data
6. A critical sensitivity to life experiences, with self awareness and reflexivity of both self and society.

The teaching methods and course curricula have been designed and formulated with the objective of developing these attributes amongst the student community. There is evaluation of such development from time to time through regular faculty meetings and consultative programmes, which is reflected in the modifications that have been introduced in the course content and teaching methods over the years. Feedback from alumni is also considered in modifying and streamlining the course curriculum.

2.6.2 Does the university have clearly stated learning outcomes for its academic programs? If yes, give details on how the students and staff are made aware of these?

- The university has clearly stated the Programme Educational Objectives (PEOs), Programme Learning Outcomes (PLOs) and Graduate Attributes (GAs) for different programmes.
- Later, course learning outcomes for each course are developed.
- The faculty members are made aware of the Outcome Based Education (OBE) philosophy and practices through various workshops conducted by university.
- The students are informed about the same during the orientation programme and also by the faculty members in the classroom.

2.6.3 How are the university's teaching, learning and assessment strategies structured to facilitate the achievement of the intended learning outcomes?

- The university has articulated PEOs, PLOs and GAs, for all the programmes. They are mapped to the different courses. It is ensured that all courses of a programme holistically cover all PLOs.
- The Course Learning Objectives (CLOs) determine course content and assessment strategies.
- As per the CLO matrix learning outcome is assessed.
- The above measures ensure the implementation of outcome based education. Thus the teaching, learning and assessment strategies are structured in such as way so that, they facilitate the achievement of the intended learning outcomes.

2.6.4 How does the university collect and analyze data on student learning outcomes and use it to overcome the barriers to learning?

Data about outcomes of the learning by the students are collected regularly and on continuous basis. Not only physical presence of the students are counted but also their performance in mid-semester exam, in internal evaluation (assignments, projects, presentations etc.), and their performance in end-semester exam are entered and analyzed through software i.e. '*Grade Application*'. Faculty members play advisory roles to discuss short-falls in student's performance, if any, by discussing with the students.

2.6.5 What are the new technologies deployed by the university in enhancing student learning and evaluation and how does it seek to meet fresh/ future challenges?

The monitoring and ensuring of the achievements of learning outcomes takes place by constantly engaging with the stakeholder industries for which PDPU prepares its graduates. Wherever course correction is required it is immediately undertaken. Electronic databases and learning resources are provided. Simulation based learning and advance and computational methods are under consideration.

The university has ensured all class rooms are equipped with modern technologies of a LCD projector and all faculty and students carry either a laptop or a notebook. The campus is Wi-Fi. Further, a Wi-Fi campus gives them access to a world of information available on the internet through videos, articles, e-journals, NPTEL lectures/videos.

Use of Information Technology is highly encouraged among the faculty members to strengthen and support learning process among the students. One of such is wide use of presentation equipments in the class rooms. The Wi-Fi campus enables the students to communicate with the faculty members about their queries/questions/doubts and suggestions. The university mail server is a facilitating platform for such communication. Moreover, for internal as well as external evaluation process, students are informed about evaluation pattern and the results are also declared via such platforms.

CRITERION III: RESEARCH, CONSULTANCY AND EXTENSION

3.1 Promotion of Research

3.1.1 Does the university have a Research Committee to monitor and address issues related to research? If yes, what is its composition? Mention a few recommendations which have been implemented and their impact.

Research Advisory Board (RAB):

The University level Research Advisory Board (RAB) consisting of senior academicians and industry professionals advises the University, faculty and staff in regards of futuristic research and innovation. The RAB meets at regular intervals, reviews ongoing research projects, progress made and advises on enhancing the research and innovation quotient at the University.

The university has constituted a committee titled Office of Research & Sponsored Programmes (ORSP) to monitor and address operational issues related to research. The ORSP is the Executive body operating under the RAB. The ORSP role is described below:

~ ORSP provides support for the free and responsible conduct of investigation, scholarly and creative activities at Pandit Deendayal Petroleum University, Gandhinagar.

~ ORSP also offers support from the initial stages of proposal development to grants management, publication and the transfer of technology.

~ It provides internally funded grants, pre-award and post-award support for externally funded grants and offer education and support information on grant compliance and the responsible conduct of research.

~ ORSP advises and assists the faculty in obtaining and administering externally funded sponsored projects and research grants and contracts, and administers faculty and student grant programmes funded by the University.

~ The office serves as a center for information regarding research and sponsored

~ The office administers and provides assistance in the preparation and submission of proposals, and management of grants and contracts following an award.

~ The ORSP is also responsible for University policies and procedures in relation to research and sponsored programmes and should be used as a source of information.

~ The Office of Research and Sponsored Programmes exists to stimulate, facilitate, and coordinate research efforts and sponsored project activity.

Composition of RAB:

The ORSP is managed by a Research Advisory Board which consists of Director General of the university as the Chairman, ORSP Coordinator as Secretary, External Members from industries, academia, scientific bodies, and other invited members. The composition of the present RAB is as follows:

Sr. No.	Name	Designation	Affiliation
1.	Prof. Dr. H.B Raghavendra	Chairman	Pandit Deendayal Petroleum University
2.	Dr. A. V. Chainulu	Member	Department of Scientific & Industrial Research
3.	Shri R.K. Vij	Member	ONGC
4.	Dr. Chandra Rai	Member	Mewbourne School of Petroleum & Geological Engineering The University of Oklahoma
5.	Dr. Vijay K. Madisetti	Member	School of Electrical & Computer Engineering Georgia Tech
6.	Prof N.R. Dave	Invited Member	Pandit Deendayal Petroleum University
7.	Prof. VC Shah	Invited Member	Pandit Deendayal Petroleum University
8.	Dr. B. G. Patel	Member	Charotar University of Science & Technology (CHARUSAT)
9.	Dr. Akshai Agarwal	Member	Gujarat Technological University
10.	Dr. Bharat H. Desai	Member	Jawaharlal Nehru Chair in International Environment Law, JNU
11.	Sh. Kumarpal	Member	An eminent Litterateur

	Desai		
12.	Dr. T Harinarayana	Member	GERMI
13.	Dr. Avinash Chandra	Member	Petrobiz Consultant (P) Ltd
14.	Dr. D.M. Kale	Member	ONGC Energy Centre
15.	Dr. Indrajit Mukhopadhyay	Secretary	Pandit Deendayal Petroleum University

Recommendations of RAB which have been implemented and their impact:

Recommendation: In previous meetings, Research Advisory Board has suggested for chalking out the research capabilities in each discipline and developing research competence in collaborative work with students and the community. Suggestion has also been made by RAB to keep a balance between both 'Pure Research' and 'Applied Research'.

The ORSP Charter Document was proposed in the 6th Research Advisory Board Meeting.

Implementation:

- ORSP Charter was implemented after the necessary modification and updates as suggested by RAB members.

- PDPU is offering cross disciplinary courses to students for their holistic growth & development. For e.g. courses related to Communication, Organizational Psychology and Gandhian Thoughts to Technology students; otherwise studied by students of Humanities domain.

- Student Research Projects Policy has been implemented by university on the advice of RAB.

- Recognition for faculties contributing to research through citation and research grant.

Doctoral Committee (DC)

Student Research Activities are monitored through formal review committee known as Doctoral Committee for each research student. Following is the composition of the DC:

The School Director under whom the area of the research falls	Chairman of the DC
The Dean of the Faculty under whom the area of the research falls	Member of the DC

A Faculty Member from another School of PDPU, nominated by the Director General	Member of the DC
The Supervisor/s	Member of the DC
The Head of Department/Area Chairperson under whom the area of the research falls	Member of the DC
An external research expert[#] nominated by the Director General	Member of the DC

[#] For every doctoral student the Director General of the University will nominate any one from the three external experts proposed by the Chairman- Doctoral Committee, or any other external expert; relevant to the student's field of research as a member on the Doctoral Committee (DC).

3.1.2 What is the policy of the university to promote research in its affiliated / constituent colleges?

University policy discussed in 3.1.1 is applicable to its constituent schools.

3.1.3 What are the proactive mechanisms adopted by the university to facilitate the smooth implementation of research schemes/ projects?

The following proactive mechanisms have been adopted by the university to facilitate the smooth implementation of research schemes/ projects:

- Constitution of ORSP to handle the mechanism related to research
- Provision for funds to individual faculty members carrying out research under the scheme of CPDA
- Providing seed money for approved student research projects
- University funding for projects proposed by faculty and duly approved
- Simplification of procedures related to sanctions / purchases to be made by the investigators
- Timely auditing
- Submission of utilization certificate to the funding authorities

3.1.4 How is interdisciplinary research promoted?

The presence of Centers of Excellence like Solar Research & Development Centre,

Centre for Biofuels & Bioenergy Studies, Centre of Excellence for Geothermal Energy, draw faculties from different schools and departments. This is an evidence of the presence of Interdisciplinary research.

Further, interdisciplinary research of the university is being promoted through Joint research between faculties of different functional areas or Joint research between faculty of different schools or through collaboration with national/international institutes / industries. The following are some of the sample examples of such collaborations:

- The Solar Research & Development Centre - SRDC undertakes fundamental research in cutting edge Solar Engineering Technology right from materials of construction for solar cells to design & development of efficient solar panels, design and installation of solar plants and so on. This research is largely cross and inter-disciplinary. Path-breaking research has been conducted at the SRDC.

- In collaboration with the Institute of Energy Economics Japan; School of Petroleum Management conducted research on "Energy Savings in India's Transportation Sector". This project was funded by Ministry of Economy, Trade & Industry, Government of Japan.

- PDPU completed a project "Scoping and Need Analysis Study for Community Development Initiatives in Charanka Village, Patan District", awarded by GETCO, Gujarat, July 2011.

- Department of Psychology, School of Liberal Studies had a collaborative research project with the School of Psychology and Social Science at Edith Cowan University (ECU) on 'Towards Women's Economic Empowerment in India: A Psycho-Social Intervention'.

3.1.5 Give details of workshops/ training programmes/ sensitization programmes conducted by the university to promote a research culture on campus.

Indicative details of workshops/ training programmes/ sensitization programmes conducted by the university to promote a research culture on campus are as follows:

School of Liberal Studies:

- Research workshop of seven days at Jawaharlal Nehru University (2011)
- National Seminar on Interdisciplinary Approaches and Liberal Studies (2012)

- National Symposium in collaboration with Delhi Sahitya Akademi on 'Moving from Films to Literature: Journey of Indian Cinema'. (2012)

- National Seminar on Interdisciplinary Research at SLS, PDPU, (2013).

- PDPU Research Poster Competition (2013)

- Chartered Accountancy Workshop (2014)

- Second National Seminar on Interdisciplinary Studies (2014)

- Workshop on E Commerce. (2014)

- Public Policy Think Tank Workshop. (2014)

- Mass Communication Workshop on Developmental Communication (2014)

- Mass Communication Workshop on Film Appreciation (2014)

- 1st Psychology Symposium (2014)

School of Petroleum Management:

- Faculty Seminar to share the research findings and future research scope (Monthly)

- Training programmes on SPSS as statistical tool used in research (Yearly)

- Seminar on use of Methamatica Software for research (Yearly)

- Training programme on the use of online resource such as EBSCO, Prowess in designing and conducting research (Yearly)

- Pandit Deendayal Memorial Lecture (Yearly)

School of Petroleum Technology:

- Field Workshop on Jaisalmer Basin to understand its Hydrocarbon Potential and Linkages with Pakistan (2010)

- Honorary Lecture South & East Asia with 'Shell' on "Geophysical Issues and Challenges in Southeast Asia with Emphasis on Malay Basin". (2010)

- PETRAL Workshop (2010)

- Society of Petroleum Engineers SUBREGIONAL MEET – Student Paper Contest (2010)

- First lecture of Professor Kartic Khilar Memorial Lecture Series by Professor H. Scott Fogler, Professor of Chemical Engineering, University of Michigan (2010)

- Conference on Shale Gas: A Futuristic Fuel in collaboration with Oklahoma University (2011)

- Second Professor Kartic Khilar Memorial Lecture Series by Dr. Dilip Kale, Director General, ONGC Energy Centre (2011)

- India-US Bilateral Shale Gas Conference: A Global Energy Alternative (2012)

- Rotary Drilling Well control Training program (2012)

- Third Lecture of Professor Kartic Khilar Memorial Lecture Series by Prof. Arun Nigavekar, Sr. Advisor and Trustee Science and Technology Park-Pune (2012)

- 5th Annual Convention of Petrotech Chapters (2013)

- Geothermal Energy Initiative and Development Seminar (2013)

- Advancement of Petroleum Product Testing Workshop with Anton Paar (2013)

- 2nd HR conclave on Sustainable Growth in Oil and Gas Industry (2013)

- Fourth Professor Kartic Khilar Memorial Lecture Series by Dr. Avinash Chandra, Former Director General, DGH (2013)

- Field Excursion Workshop on Jaisalmer Basin to understand its Geological Field Excursion & Field work in Jaisalmer Basin, Rajasthan (2014)

- 1st "Distinguished Speakers Lecture Series" by Mr. Amit Khera, Partner at Mc. Kinsey, New Delhi, India (2014)

- Petroleum Conclave – Recent Trends in Upstream and Downstream (2014)

- 2nd "Distinguished Speakers Lecture Series" by Mrs. Kiran Majumdar Shaw, CMD, Biocon Ltd and Mr. AmitavaSaha, Head –HR, Biocon, Ltd, Bengaluru (2014)

- Log Interpretation Workshop with IRS, Ahmedabad (2014)

- Energy Workshop (2014)

- Petroleum Downstream Conclave (2014)

- Enerasia: CEO Roundtable (2014)

- Enerasia: HR Roundtable (2014)

- Enerasia: Shell-PDPU stall in Enerasia (2014)

- International Conference on Geothermal Energy: Exploration & Exploitation (2015)

- E-Conclave: The Paper Presentation Competition (2015)

- Workshop on Introduction to HTRI (2015)

- Workshop on Refraction Seismic: Applications in Petroleum Exploration (2015)

School of Technology:

Department of Civil Engineering

- Emerging trends in concrete water proofing (2012)

- Bridge design, fabrication and testing (2013)

- Engineering Applications of Geoinformatics (2013)

- Hydrological data management in Gujarat: Present state and trends (2013)

- River Restoring in India (2013)

- Auto CAD 2D and 3D modeling (2013)

- Energy saving through effective use of green building materials and technology (2013)

- Application of GIS in civil engineering (2013)

- Application of critical chain project management for infrastructure project (2014)

- Latest Trends on Innovations in Construction (2014)

- Workshop on "Computer Aided Thermal System Design" (2013)

Department of Chemical Engineering

- Seminar on Awareness on Biodiesel production (2013)

- Symposium on Advancements in Designs and Trends in Chemical Engineering (2014)

- International Conference on Chemical Industries (2014)

- Chemical: Seminar on Piping Engg: Fundamental and Application (2014)

- Workshop on "Computational Fluid Dynamics: Fundamentals and Engineering Applications" (2014)

Department of Electrical Engineering

- Induction Program for Electrical Sub Inspector at PDPU (2013)

- Management training Programme, jointly organized by PDPU and CEI- Government of Gujarat at Mahesana (2013)

- Scilab workshop at PDPU and supported by IIT Bombay, funded by National Mission on Education through ICT, MHRD, Government of India (2013)

- Two days workshop on Linear algebra, Data Acquisition and Computer based Control using a graphical programming Language – LabVIEW, in collaboration with IEEE Gujarat Section at PDPU (2012)

- Workshop on Latex by IEEE student branch, PDPU in (2015)

Department of Industrial Engineering

- Total Quality Management (2014)

- Importance of Technical and Leadership skills for students (2014)

- Quality Management System (Module C) (2014)

- Flawless process adapted by the popular Mumbai Dabbawallas in delivering more than 2,00,000 Tiffin to different places on a daily basis (2014)

- Quality management (2015)

- Continuous Improvement Techniques (2015)

- Minitab workshop (2015)

- Statistical Process Control (2015)

- 5S Understanding and Implementation (2015)

Department of Mathematics and Computer Science

- National Seminar on Applications of Mathematics in Engineering (2014)

- Elementary Techniques using MATLAB (2014)

Department of Mechanical Engineering

- Two day workshop on CREO software, in 2014 under MECHINERZO club of the department.

- One day workshop in Industrial applications of evaporative cooling, in 2015 under MECHINERZO club of the department.

- Two Day workshop Pressure Vessel design as per ASME” in 2015 under ASME chapter of the department.

- One day workshop on Energy Conservation Awareness in 2015 under ISHRE chapter of the department.

- One day workshop on Research Opportunities and Wind resource assessment in 2015, under MECHINERZO club of the department.

- Two Day workshop Finite Element Analysis in 2015, under MECHINERZO club of the department.

- One day workshop on: Computer Aided Thermal System Analysis in 2015, under MECHINERZO club of the department.

- One day workshop opportunities and trends in applied energy" in 2015, under MECHINERZO club of the department.

- One day workshop Fundamentals of Vehicle Dynamics in 2015

Department of Solar Energy

- International Congress in Renewable Energy, 2012

- Workshop on Smart Grid Development, 2012

- ADB-Japan New and Renewable Energy Workshop: Smart Community Technologies, 2012

3.1.6 How does the university facilitate researchers of eminence to visit the campus as adjunct professors? What is the impact of such efforts on the research activities of the university?

Being a research driven university, the university has been engaged in a variety of research promotion activities requiring the involvement of eminent researchers both national and international. The Schools and the University continuously invite such researchers from India & abroad to visit the campus and arrange their interactions with the teachers and the students. The University has entered into formal understanding with a few eminent Universities abroad for research collaboration.

To promote research culture, PDPU has appointed few renowned professors in different area s from India and abroad, to foster collaborative research enviromnment. To name a few, Prof. Subhash Shah, University of Oklahoma; Prof. Geeta Rajan, Fairfield University – USA; Prof. D M Pestonjee, IIM Ahmedabad; Prof. Pradeep Mallik, Times of India; Prof C Gopalkrishnan Iyer, B K School of Management; Prof. C V S Rao, IPR; have been invited by PDPU as adjunct/eminent professors and have helped in development of labs, teaching and collaborative research projects.

3.1.7 What percentage of the total budget is earmarked for research? Give details of heads of expenditure, financial allocation and actual utilization.

PDPU's research budget includes funding for both conducting research as well as funding for promoting research. For conducting research, the involvement of the university can be categorized into three categories. The first category includes research undertaken as a part of Doctoral and Masters degree programme. The second category is the research undertaken by Individual or small group of faculty members and the last category has been the large research projects. In terms of funding, the first two categories of research are largely funded by the university where as the last category, that is, large research projects are mostly funded by external agencies. Further, PDPU also promotes research by funding the respective researchers to improve their research aptitude by encouraging them to participate in research workshops, seminars, conferences both nationally and internationally.

3.1.8 In its budget, does the university earmark funds for promoting research in its affiliated colleges? If yes, provide details.

Not Applicable

3.1.9 Does the university encourage research by awarding Post Doctoral Fellowships/Research Associate ships? If yes, provide details like number of students registered, funding by the university and other sources.

The University has a clear goal to be known as a research lead university and is committed to overcome any bottlenecks or challenges that may be confronted considering its relative short history. PDPU has earmarked funds under the following heads for promoting research at its constituent schools:

- Scholarships for M.Tech and PhD students in the Faculty of Engineering and Technology for candidates qualifying GATE
- Scholarships for PhD students in the Faculty of Liberal Studies and Faculty of Management qualified through suitable eligibility criteria.
- Under Graduate and Post Graduate students are offered scholarships for undertaking research projects in their areas of study.

- The ORSP facilitates the research activities at PDPU

The university has been appointing Research associates for staffing various research projects. A subset of these positions has been converted to post doctoral fellowships.

All eligible students who have qualified national level tests are awarded fellolwship/teaching assistance ship. Till date, 26 student projects have been awarded financial assistance in the tune of Rs. 50,000 to Rs. 2.50 Lacs for conducting fundamental and applied research. Fund utilized in the year 2014-15 for student research projects is Rs 25 Lacs. Fund allocated in the year 2015-16 for student research projects is Rs 60 Lacs.

3.1.10 **What percentage of faculties has utilized the sabbatical leave for pursuit of higher research in premier institutions within the country and abroad? How does the university monitor the output of these scholars?**

PDPU leave rules permit the confirmed teachers of the university to take Sabbatical Leave after completion of six years of continuous service in the university. Considering PDPU is 7 years young, it is expected that faculty utilize the same in coming years. However, many of the faculty members have been sent abroad for visiting faculty positions and Post doctoral studies as per PDPU norms.

3.1.11 **Provide details of national and international conferences organized by the university highlighting the names of eminent scientists/scholars who participated in these events.**

Conferences organized by PDPU:

Name of the Event	Year	Eminent scientists/scholars / participants
International Conference on Geothermal Energy	2015	Mr. Will Osborn, Geothermal Resource Group, Inc., , United States of America Mr. George Lockett, Independent Geothermal Energy Consultant, UK Mr. Puneet Kishore, General Manager (P), Head- ONGC Energy Centre Dr. P. B. Sarolkar, Dy Director General (Retd), Geological Survey of India
CEO Roundtable EnerAsia	2014	Shaleen Sharma, President and Managing, Director, BG India Ajit Kapadia, Chairman, Quanta Process Solutions Pvt. Ltd. Amar Gupta Chief Executive Officer, Quippo Oil And Gas S Vijay Iyer, Director, Sustainable Energy and Extractive

		Industries Department, The World Bank
		Ajay Khandelwal, President Petroleum E&P, Reliance Industries Limited
		Yash Malik, ED, Ahmedabad Asset, ONGC
HR Roundtable	2014	Deepak Garnaik, VP- HR & CC, Mahanagar Gas
		Mr. Bala Sundaram, Head HR, BG India
		Mr. Sanjeev Pillai, Chief Manager Talent Management, BPCL
Petroleum Downstream Conclave	2014	Shri Sapan Ray, Sr. Executive Vice President, Reliance Industries Ltd. Shri Vijay Menon, Sr. Vice President, Reliance Industries Ltd. Shri Satish Pillai, Joint General Manager, Hydrocarbon Mid & Downstream, Larsen & Toubro Ltd. Shri Dipen Chauhan, Head – Commercial & Marketing, GSPC Gas Company Limited Shri G.C. Shah, General Manager – Operations, Gujarat Narmada Valley Fertilizers & Chemicals Limited Shri Himanshu Sagar, Principal Engineer – Process, Mott MacDonald
Bridging Research and Industry Conclave (Bric)	2014	Prof. Indrajit Mukhopadhyay Mr. Kumar Abhishek Mr. Prashant Mishra Mr. Kandarp Mehta
ICEI 2014 (International Conference on Energy and Infrastructure); Jan. 11-12, 2014	2014	Prof. Latha Ramchand, Dean, and Professor, Finance, C.T. Bauer College of Business, University of Houston Prof. Timothy C. Coburn, Ph.D. Director, Master of Energy Business,Professor of Energy and Operations Management, Collins College of Business, The University of Tulsa Dr. Kirit S. Parikh, Chairman, IRADe & Chairman, Expert Group for Low carbon Strategy for Inclusive Growth, Planning Commission of India Shri D J Pandian, IAS, Additional Chief Secretary, Energy and Petrochemicals Department, Gujarat Govt. Dr. Anurag K. Agarwal, Professor, Indian Institute of Management Ahmedabad, Gujarat Shri B.S. Negi, Former Member, PNGRB, Govt. of India Dr. T. Harinarayana, Director ,GERMI-RIIC, Gandhinagar, Gujarat, India Shri Vasant Agarwal, Managing Director, ECOMAX Shri Kishore Nair, President, Welspun Energy Ltd & President of Solar Power Developers Association (SPDA) Shri Rajsekhar Budhavarapu, Chief Technology Officer - Renewable Investments, IL&FS Energy Development Company Ltd (IEDCL)

		Shri Shaleen Sharma, President and Managing Director BG India Shri Arun Kumar, GM (Geophysics) Head, Center of Delivery for Shale Gas, ONGC, Baroda Shri Divyesh Desai, Regional Marketing Manager Hazira LNG ,Shell
Oil & Gas Conclave, Sep 8-9, 2014	2014	Mr. Anwar Husen, Head of Petroleum Engineering, Cairn India Mr. Shashank Jha, Sales Director India, GE Oil & Gas Mr. Kaushik Deb, Economist, British Petroleum Mr. Man Mohan Ahuja, President (Technical), Petronet LNG Ms. Indira Suresh,Global practice Head - Oil &Gas Solutions and Sales Enablement, Energy and Utilities Business Unit, Tech Mahindra Mr. Hemant Kumar, Practice Head, Upstream Oil & Gas, Wipro Mr. M D Agrawal , Senior Consultant, Oil & Gas Global Practice, TCS Mr. Raghuram Avadhanam, SBU Head Asset Management, L&T Technology Services Mr. Nitin Sharma, Senior Consultant-Business Consulting, Management Consulting Services, Energy & Utilities, Infosys Dr. D M Kale, Former DG, ONGC Energy Centre Mr. Jagdeep Chhaya , Head Pipeline & Land Acquisition, Cairn India Mr. Bharat Goswami, Sr. VP HR, GSPC Mr. Himanshu Amaliyar, Senior HR oordinator,Weatherford India Mr. P Elango, Energy Expert, Former CEO – Cairn India Mr. C D Joshi, MD, VGL Mr. Ravi Agarwal, MD, RSPCL GAIL Mr. B B Mandan, MD, SGL Mr. S Tambraparni, Joint President-Operations, Adani Gas Mr. G K Sharma, GM, MGL Mr. Rakesh Jain, Associate Director, Feedback Infra Mr. Ganesh Ramamurthy, Head – Audit (Refining & Marketing) Reliance Industries Mr. Prashant Maniar, Founder, Encito Advisors Mr. Vivek Bhatia, Energy Advisory Consultant, PwC Mr. Yash Malik, Executive Director, ONGC Ahmedabad Asset Mr. Vijay Ranjan , Head-Aviation Marketing, BPCL Mr. Ashish Dimri, Head-LNG distribution, INOXCVA- Inox Mr. Santosh Verma, Promoter & Director, My Eco Energy

		Mr. Viren Joshi, AVP & Product Head (Petcoke), Reliance Industries
'SAMAVESH' 10th Oct., 2014	2014	Mr. Prashant Sharma, President HR, Cadila Health Care Mr. Babu Thomas, Lead Partner, & Head HR , GVK EMRI Mr. Madhav Redy, Founder & Managing Director, RedMad Learning Mr. Ketan T Bhatt,Founder & Principal Partner, Alkemist HR Enablers Mr. Yogesh Pahuja, Chief Happiness Ambassador,The Human Matrix Mr. Subhanish Malhotra, Chief Manager HR, Arvind Mills
Business Management Symposium Nov 7-8, 2014	2014	Mr Subir Hazra Associate Vice President, Head of Strategic Planning, Delhi International Airport Limited at GMR Group Mr Prashant Mandke Vice President & Head, Anugrah Madison Mr MS Ashok COO, Accentiv', Edenred Mr Ahmed Naqvi CEO & Co-Founder, Gozoop Mr Shekhar Singh Head – Corporate Communication, Infibeam Mr Vijay Sharma Head – Operations, Hindustan Coca-Cola Beverages Pvt. Ltd. (HCCBPL) Mr Krishna Veer Singh Head of Operational Excellence, Operations, Ericsson Mr Rajesh Pednekar Supply Chain Excellence Expert Mr Ashish Mediratta Head – Vessel Performance, Maersk Line India Pvt. Ltd. Mr Vinod Wadhvani Director-Investment Banking M&A, Ambit Corporate Finance Mr Mehul Pandya Executive VP, CARE Ratings Mr Tanmay Kedia Managing Partner, V Capital Services Mr Hemal Desai Senior VP, Yes Bank Mr Vishal Gada Partner, KPMG Mr Sunil Kanojia Group CEO, Sintex India Mr Rashmin Shah CEO, Zydus BSV Pharma Mr Arijit Ray Former CEO, Dentsu Mr A B Raju CEO, Biz Trans Consulting Mr Kaiser Masood Director, LifeWorks Unlimited
A One Day Seminar on Issues & Challenges in Geothermal Energy 26th July, 2013	2013	Dr. B.K. Behera Dr. Mahesh Thakur
HR conclave	2013	J G Chaturvedi, ED- Ahmedabad Asset, ONGC, N K Bharali
3rd Oil & Gas	2013	Mr. Sashi Mukundan, India Head, BP India

Conclave, 20-21 Sep. 2013; SPM, PDPU		Mr. S K Tripathy, Head (OALP) & DGM (Geology), DGH Dr. D.M Kale ,Independent Director, ONGC TERI Biotech Ltd. Mr. Sunil Bharati, Head Corporate Communication, Cairn India Mr. Shridhar Tambraparni, Joint President-CGD, Adani Gas Mr. Amin Petiwala ,VP (Finance & Accounting), GSPC LNG Mr. Gyanendra Sharma ,General Manager, Mahanagar Gas Ltd. Mr.Prabhat Singh ,Director Marketing, GAIL Mr. Kumar Rudra Project Director, Oil & Gas and Special Projects, Larsen & Toubro ltd. Mr. Anil Joshi , Senior Vice President, GSPC LNG
3rd Infrastructure Conclave 4th Oct. 2013; SPM, PDPU	2013	Chief Guest and Keynote Speaker: Mr. Arun Kumar Jagatramka, Chairman & MD, Gujarat NRE Coke Ltd. Distinguished Speaker and Panellists: Mr. J.G. Chaturvedi, ED- Ahmedabad Asset, ONGC Mr. Shyama Sunder, Zonal General Manager-Marketing, GAIL India Ltd Mr. Anurag Deepak, ED-Pipelines, Bharat Petroleum Corporation Ltd. Mr. Rakesh Kumar Vij, General Manager-Sub Surface & Reservoir, ONGC Mr. Divyesh Desai, Regional Marketing Manager, SHELL Hazira LNG Ltd. Mr. Kalpesh Vithlani, General Manager Projects, Gujarat Maritime Board Mr. Kamal Dorabawila, Principal Investment Officer, IFC, World Bank Group, Sri Lanka Mr. Pankaj Sindwani, Head-Cleantech Finance, TATA Capital Mr. Manish Seth, GM (Finance), GSPL Mr. Anoop Sharma, DGM (Infrastructure Core Group), IDBI Bank Dr. D.M. Pestonjee, GSPL Chair Professor, School of Petroleum Management Mr. Rohintan Talati, Asst. General Manager-HR, Linde Engineering India Pvt. Ltd. Mr. Mohammad Athar, Manager- Capital Projects & Infrastructure, PriceWaterhouse Coopers
Business Management Symposium 2013, 6 December SPM	2013	Prof. G Raghuram - Dean(Faculty), IIM-Ahmedabad Mr Niteen Bhagwat - Executive Director & CEO, Asterii Analytics Mr Kaiser Masood - Principal Consultant, Infosys

PDPU		Mr Sanjay Chakraborty - Associate Vice President, Triton Communications Ms Parul Mehta - Co-founder & Site Head, Motif Inc. Mr C M Mathew - Managing Director, Task Initiatives Private Limited Mr Arindam Sen - Manager-Retail Credit Risk Management, HSBC Global Services Mr Pradeep Mallik - Deputy Resident Editor, Ahmedabad Mirror Mr Sandeep Agrawal – CEO, Credencys Solutions Inc. Mr Sachanand Taurani - Manager-Merchant Acquiring & Card Sales, IDBI Mr Rajesh Mishra - Manager-HR, L&T Mr Mignesh Parekh - Founder & Chairman, The Kamma Incorporation
ICEI 2012 (International Conference on Energy and Infrastructure); Jan. 3-4, 2012	2012	Mr. Nitin Shukla, Managing Director and Chief Executive Officer of Hazira LNG and Port Companies Mr. Mehul Pandya, Sr. Vice President with CARE Ratings Mr. B.S.Negi, Former Member, PNGRB Dr. Anurag K. Agarwal, Professor, Indian Institute of Management, Ahmedabad, Gujarat
2nd Oil & Gas Conclave, 7-8, Sep. 2012; SPM, PDPU	2012	Mr. L. Mansingh, Foremer Chairman, PNGRB Mr. T. P. Rao, Head (NELP & NDR), Directorate General of Hydrocarbons (DGH), Mr. Sanjay Sah, Associate Director, KPMG, Mr. Debashis Roy Chowdhary, Chief Area Manager-LPG, Indian Oil Corporation Limited (IOCL) Mr. Vivek Singh, Senior Officer, Gujarat State Petronet Limited (GSPL) Mr. D. M. Katre, Site President – Operations, Reliance Industries Limited, Mr. N Bose Babu, Head, Project, Gujarat State Petronet Limited (GSPL) Mr. Anil Joshi, Sr. VP - Projects, GSPC LNG Mr. Sumit Singhvi, Assistant Vice President, SBICaps Mr. Ranajit Banerjee, Chief Consulting Officer, Pandit Deendayal Petroleum University Ms. Elizabeth Praveen, Head-HR, L&T Chiyoda Limited, Mr. Subhajit Sarkar, Consulting Manager, WIPRO Mr. A. R. Patel, Group General Manager, ONGC - Ahmedabad Asset Mr. S. Thangapandian, CEO-Marketing, Essar Oil Ltd., Mr. Nabin Panda, VP-Marketing, Reliance Industries Limited

		(RIL) Mr. Sabyasachi Kumar, General Manager, Marketing, Reliance Industries Limited (RIL) Mr. Shridhar Tambrapani, Joint President - CGD, Adani Gas, Mr. M. Ravichandran, MD, Indraprastha Gas Limited (IGL), Mr. V.C. Chittoda, MD, Mahanagar Gas Limited, Mr. S. K. Kudaisya, MD, Sabarmati Gas Limited and Mr. B. S. Negi, former PNGRB Member (Infrastructure Mr. D J Pandian, Principal Secretary, Energy & Petrochemicals, Gujarat Govt.
Solar Conclave, 12th Oct. 2012; SPM, PDPU	2012	Dr. Ketan Shukla,IFS Mr. Chandan Guha,CEO,Mahindra Solar Mr. Ranajit Banerjee, Director, Consulting-PDPU Mr. D. J. Pandian, Principal Secretary, Energy & Petrochemical Dept., Gujarat Govt.
2nd Infrastructure Conclave 2012; SPM, PDPU	2012	Mr. K. V. Natarajan, Senior Port Consultant,Reliance Ports and Terminals,Navi Mumbai Mr. Suren Vakil, MD, BMT Consultants (I) Pvt. Ltd. Mr. K. K. Sinha, CEO- Essar Ports Ltd. Mr. Ramakant Jha, Director, GIFT, Gandhinagar
Renewable Energy Conclave, 9 Sep. 2011	2011	Mr. H. D. Khunteta, Chairman & Managing Director, Rural Electrification Corporation Ltd. Mr.Pashupathy Gopalan, Country Head, Sun Edison Mr.Alok Das, Head-Business Development, Suzlon Mr. KN Ramesh, GM Business Development, Lanco Solar Mr. N Ranganath, Executive Director, EI Technologies Mr.Vinay Shetty, GM, GMR Energy Mr.Aditya Handa,CMD, Abellon Energy Mr.Mahendra Patel,CMD, Mamata Group Mr. Arvind Patel, MD, Sahajanand Laser Technology Shri P.K. Mishra (I.A.S. Retd.) Chairman, GERC Mr. D. J. Pandian, Principal Secretary, Energy & Petrochemical Dept., Gujarat Govt.
1st Infrastructure Conclave, 4th Nov. 2011; SPM, PDPU	2011	Prof. Shivanand Swamy, Professor and Director, School of Planning, CEPT University , Ahmedabad Mr. S. N. Patel,J oint Development Commissioner, Kandla SEZ Ms. Jyotsna Bhatia, Manager-Privatisation, Gujarat Maritime Board Mr. Kailash Bahuguna,COO, Zydus Infastructure Pvt. Ltd.
Oil & Gas India Roundtable, 14th	2011	Mr.Vivek Kulkarni, IAS-Retd, Chairman, Brickwork Shri. Nitin Zamre, MD, ICF International

Oct. 2011	Mr.Surendra Pal, GM-Marketing, Shell Hazira
	Mr.Sanjay Sah, Associate Director, KPMG
	Mr. Vishvanathan Narayanan, Sr Manager, PWC
	Mr.Nikhil Moghe, Manager, AF-Mercados EMI
	Mr Keith G Huggins, Director-Engineering, McDermott Engineering Services Pvt Ltd
	Mr.Harak Banthia, CFO, HMEL
	Mr.Vijay Malik, Sr VP, RIL
	Mr.S C Gupta, CEO-Offshore Division, ABG Shipyard
	Mr.K Ravichandram, Sr VP & Group Head, Corporate Ratings, ICRA
	Mr. Parthasarthi Chatterjee, L&T ENC
	Mr.N S Tanwar, GM Reservoir, DGH

3.2 Resource Mobilization for Research

3.2.1 **What are the financial provisions made in the university budget for supporting students' research projects?**

The University financially supports students' participation in Conferences & Case writing competitions. This support is available for participation at both National as well as International forum. About 50-70% of financial support (Travel and, registration charges) is given to students for presenting papers at national and international conferences.

Depending on the proposal the budget can vary from Rs. 5,000/- to Rs. 2, 50,000/- per project.

The allocated budget for student research for the 2015-16 is 60 lacs.

3.2.2 **Has the university taken any special efforts to encourage its faculty to file for patents? If so, how many have been registered and accepted?**

University is in the process of establishing Intellectual Property Rights (IPR) Cell as several research projects are being completed and outcomes are emerging.

The following Patent Applications filed by Dr Vishvesh J Badheka, School of Technology are:

a. Patent application of welding torch designed for Narrow Gap Gas Metal Arc Welding has been filed at Indian Patent Office, New Delhi. Application number 629/Del/2007 dated 22/03/2007.

b. Patent application of "Narrow Gap Gas Metal Arc Welding Torch Oscillation Device" has been filed at Indian Patent Office, New Delhi. Application no. 2797/Del/2008- 11/12/2008

c. Petroleum Engineering students have filed a patent. Deep Joshi, Bhagya Bhardwaj and Harshil Saradva,2013, Pneumatically operated mechanical point the bit rotary steerable system, Indian Patent application No. 3733/MUM/2013. (Provisionally accepted)

3.2.3   Provide the following details of ongoing research projects of faculty:

School of Petroleum Management:

Sr. No.	Name of Faculties (Investigator)	Project	Funding Agency	Amount Sanctioned (Rs.)
1	Dr. D M Pestonjee & Dr. Satish Pandey	Stress & Work: Perspectives on Understanding and Managing Stress	SPM, PDPU	200000/-
2	Dr. Tanushri Banerjee	ERP Implementation at GSECL: Technical Innovation and Business Impact	SPM, PDPU	15000/-

School of Petroleum Technology:

Sr. No.	Name of Faculties (Investigator)	Project	Funding Agency	Amount Sanctioned (Rs.)
1	Dr. Bhawanisingh G. Desai	Ichnofabric analysis, Event Stratigraphy and Depositional Environment of the Cretaceous sediments of Western India	DST	27,00,000
2	Dr. Anirbid Sircar, Ms. Shreya Sahajpal, Mr. Manan Shah	Geothermal Energy Exploration & Exploitation, Gujarat, India	GOG	2,00,00,000
3	Dr. Bhawanisingh G. Desai	Middle Jurassic-Cretaceous Belemnite fauna at Southern and Northern Tethyan margin: Biogeographic patterns,	DST-RFBR International	24,00,000 (Indian side)

		stratigraphic distribution and Key correlative levels.	Bilateral Program	

School of Technology:

Sr. No.	Name of Faculties (Investigator)	Project	Funding Agency	Amount Sanctioned (Rs.)
1	Dr. Manoj Kumar	Fabrication & Characterization of TiO2 Nano-rod Based Dye Sensitized Solar Cells (DSSC)	DRDO	1,874,000
2	Dr. Manoj Pandey	Synthesis of Sumanene and Corannulene derivatives and its application in various fields of chemistry	DST	1,808,000
3	Dr. Indrajit Mukhopadhyay	Studies on the Electrodeposition of Si & Ge at room temperature using less viscous ionic liquid	DST	3,760,000
4	Dr. Anirban Das	Chemical and Isotopic Investigations Of Fluoride Rich Groundwater in Gujarat and in Rajasthan	DST	2,020,000
5	Dr. Abhijit Ray	Development of CZTS Solar Cells & Modules on Glass and Metallic Substrates by Non-Vacuum Processes	MNRE	19,356,000
6	Dr. Rajib Bandyopadhyay	Development of nanosized catalysts for the application in FCC & Hydroprocessing	RIL	2,580,000
7	Mr. Kush Mehta Dr Vishvesh J.Badheka	Investigations of tool design on dissimilar Cu-Al materials by energy efficient FSW technology	SRP-ORSP PDPU	Rs. 1,00,000
8	Mr. Jay Vora Dr Vishvesh J.Badheka	Dissimilar material joining of SS316LN (UNS S31653) and XM-19 (UNS S20910) Stainless steel joints	Board of Research In Fusion Science & Technology (BRFST)	Rs. 14,00,000
9	Mr. Jay Vora Dr. Abhishek Kumar	Optimization of Electrical Discharge Machining (EDM) drilling parameters using Neural-Genetic approach for Techno-	SRP-ORSP* PDPU	70,000

		Commercial Evaluation		
10	Dr. Jatin Patel	Development of Small scale Solar Vapour Absorption Refrigeration system and analysing its feasibility for commercial use	SRP-ORSP* PDPU	180,000
11	Dr. Surendra Singh Kachhwaha	Experimental study of Organic Rankine Cycle with scroll Expander	SRP-ORSP* PDPU	100,000
12	Dr. Jatin Patel	Design & Development of Medium Scale Solar forced Convention Dryer System and analysing its feasibility for commercial use.	SRP-ORSP* PDPU	100,000
13	Dr. Vimal Savsani	Design and Development of Compressed Air Engine as an alternative to Fossil Fuel Engine.	SRP-ORSP* PDPU	46,000
14	Mr. Bhargav Gadhvi	Estimating the profiles of speed bump and potholes through experimental Quarter Car setup	SRP-ORSP* PDPU	75,000
15	Dr. Anurag Mudgal	Design and fabrication of vapour absorption refrigeration (VAR) system operating with thermo-gravity pumping mechanisim utilizing low grade thermal energy	SRP-ORSP* PDPU	100,000
16	Dr. Vimal Savsani	Design and development of Uni-wheel Vehicle.	SRP-ORSP* PDPU	50,000
17	Dr. Vimal Savsani Mr. Bhargav Gadhavi	Experimental Analysis of parallel electric hybrid power train with electronic clutch for gasoline engine	SRP-ORSP* PDPU	95,500

School of Liberal Studies

Sr. No.	Name of Faculties (Investigator)	Project	Funding Agency	Amount Sanctioned
1	Prof Nigam Dave, Ms. Neeta Khurana, Dr. Ritu Sharma	Impact India 2012: Elevating the value of women & Girls – Pilot Study	World Bank	US $ 1500
2	Dr Ritu Sharma (Project Head), Dr Neeta Sinha, Ms. Neeta Khurana, Ms. Supriya Pal, Prof D.	Women's Economic Empowerment in Asia: Psychosocial and Anthropological factors	Edith Cowan University, Australia	$6,360.00 (AUD)

	M. Pestonjee (Mentor for Review)			
3	Ms. Neeta Khurana, Dr. Ritu Sharma	Slum Rehabilitation housing impact assessment-Ahmedabad-2015	B Safal Pvt Ltd	3,00,000 INR

3.2.4 **Does the university have any projects sponsored by the industry / corporate houses? If yes, give details such as the name of the project, funding agency and grants received**

The projects undertaken in the university, sponsored by the industry / corporate houses (school wise) are as follows:

School of Petroleum Management:

(i).   Name of the Project: Strategic Business Review of GSECL

Funding Agency: Gujarat State Electricity Corporation Ltd

Grants Received: Rs. 4 lakhs

(ii).   Name of the Project: ICT Need Assessment Survey and Analysis for 2 of GSECL remote Power Plants villages along the lines of PUNSARI, the Model village of Gujarat

Funding Agency: Gujarat State Electricity Corporation Ltd

Grants Received: Expenses borne by GSECL

School of Petroleum Technology:

(i).   Name of Project: Permeability and Conductivity Analysis for Tight Gas Sandstones

Funding Agency: Gujarat State Petroleum Corporation (GSPC)/Gujarat Energy Research and Management Institute GERMI

Grants Received: Rs. 2.5 Crore

SPT has also completed few projects in form of consultancy from industries and corporate houses as given below:

Amount (Rs)	Scheme	Sponsoring Agency	Faculties Involved
25,00,000	Young Hydrocarbon Professionals	Larsen & Toubro Ltd.	Dr. Bhawanisingh Desai, Dr. Anirbid Sircar & Dr. G P

			Karmakar
45,00,000	Prefeasibility study of 1 MW Geothermal Energy	Gujarat Power Corporation Ltd. (GPCL)	Dr. Bijay Behera
2,50,000	Shale gas Property Evaluation of Crew Energy , Canada	Gujarat State Fertilizer Corporation (GSFC)	Dr. Anirbid Sircar
7,50,000	Evaluation of five onshore marginal fields, Godavari onshore, India	KEI-Ross, Rajahmundry	Dr. Anirbid Sircar & Mr. Anshul Gupta

School of Liberal Studies:

(i). Name of the Project: Scoping and Need Analysis Study for Community Development Initiatives in Charanka Village, Patan District

Funding Agency: GETCO, Gujarat

Grants Received: Rs. 2.70 Lacs

(ii). Name of the Project: Slum Rehabilitation Housing Impact Assessment-Ahmedabad-2015

Funding Agency: B Safal Pvt Ltd

Grants Received: Rs. 3,00,000

School of Technology:

Department of Chemical Engineering:

(i). Name of the Project: R&D, Sponsored Research, and Technology Transfer in the field of Chemical Engineering

Funding Agency: Gujarat Alkalies and Chemicals Limited, Baroda

Grants Received: Rs. 1.25 Crore

Department of Science:

(i). Name of the Project: Development of nanosized catalysts for the application in FCC and hydro processing

Funding Agency: Reliance Industries Ltd

Grants Received: Rs. 25.8 Lakhs

3.2.5 How many departments of the university have been recognized for their research activities by national / international agencies (UGC-SAP, CAS; Department with

Potential for Excellence; DST-FIST; DBT, ICSSR, ICHR, ICPR, etc.) and what is the quantum of assistance received? Mention any two significant outcomes or breakthroughs achieved by this recognition.

Government of India, Ministry of Science and Technology, Department of Scientific and Industrial Research has accord recognition to Pandit Deendayal Petroleum University (PDPU), Gandhinagar as Scientific and Industrial Research Organization (SIRO). On receiving this recognition PDPU is entitled to all such administrative support from the Ministry of Science and Technology (DSIR) as may be required on all issues to promote or encourage scientific research activities. Also the University will be entitled to avail the custom/excise duty exemption on the import of equipments, instruments, spares thereof, consumables etc. DSIR, a Government of India body that undertakes promotion of research and transfer of technology to India, carries out thorough evaluation of the R&D unit and ensures compliance with all the Government of India regulations before awarding renewals. The recognition and duty waiver is awarded every three years.

3.2.6   List details of

a.   Research projects completed and grants received during the last four years (funded by National/International agencies).

Details of Research projects completed and grants received during the last four years (schoolwise) are as follows:

School of Petroleum Technology

Sr. No.	Principal Investigator	Title of the Projects	Project Sanctioned By	Duration	Amount Sanctioned (Rs.)
1	Dr. Bhawanisingh Desai/ Dr. Anirbid Sircar	Permeability Characterization and Modeling of Tight Gas Sandstone Reservoirs	GSPC	1.5 Years	2,25,00,000

2	Dr. Bhawanisingh Desai	Ichnofabric Mapping of the Mundhan and Guneri section with special Reference to (Umian-Mundhanian Kutch Stages), Kachchh,Gujarat	DST	3 Years	14,41,600
3	Dr. Bhawanisingh Desai	Ichnology of the Jurrasic rocks of the Jara dome, Western Mainland, Kachchh, India	DST	3+1 Years	12,07,000
4	Dr. Bijay Behera	Creation of Corporate Database Management System	DoP	1 Yrs	1,00,00,000/-
5	Dr. Anirbid Sircar, Dr. Chandra Rai	Shale Gas Conference project	IUSSTF	1 Yrs	12,09,000/-

School of Liberal Studies

- Prof. Santosh Kumar completed a project "Scoping and Need Analysis Study for Community Development Initiatives in Charanka Village, Patan District", awarded by GETCO, Gujarat, July 2011.

- Dr. Himani Baxi completed a sponsored project of State Finance Commission to study the fiscal performance of the state of Gujarat with respect to the 3rd State Finance Commission.

School of Technology

Sr. No	Sponsoring Agency	Title of Project	Amount of grant	Period	Co-investigator (If any)
1	Board For Research in Fusion Science & Technology (BRFST),National Fusion Program of Institute for Plasma Research, Department of Atomic Energy (DAE), Gandhinagar	Weldability aspects of Low Activation Ferritic-Martensitic Steel Welded by Activated Flux Tungsten Inert Gas Welding	Rs 36,26,500	1St Dec 2008 to 31st May 2011	Indira Gandhi Centre for Atomic Research, Department of Atomic Energy, Kalpakkam
2	Fast Track Scheme for Young Scientist,	Gas Metal Arc Welding with Metal	Rs 15,18,000	1st Feb 2008 to	----

	Department of science & Technology, (DST), New Delhi	Core Arc Wire		31st Jan 2010	
3	Indian Space Research Organization, Department of Space, Government of India, Bangalore	Friction Stir Welding of Al Alloys	Rs 13,96,000	21st June 2010 to 20th May 2012	In collaboration with Space Application Centre, Ahmedabad
4	Board For Research in Fusion Science & Technology (BRFST), National Fusion Program of Institute for Plasma Research, Department of Atomic Energy (DAE), Gandhinagar	Friction Stir Welding of Stainless Steel to Stainless steel and SS to Copper	Rs 30,15,000	Duration- 3 Years starting date -27th Sept 2010	Project is collaboration with Institute for Plasma Research, Gandhinagar

b. Inter-institutional collaborative projects and grants received:

(i). All India Collaboration

- Dr. Vishwesh Badheka of School of Technology is in collaborative research with faculties of IIT Gandhinagar wherein mutual facilities are used and research in the field of 'Welding' is carried out.

- Dr. Vishwesh Badheka of School of Technology is in collaborative research with faculties of Institute of Plasma Research, Gandhinagar wherein mutual facilities are used and research in the field of 'Welding' is carried out.

(ii). International

- SPM, PDPU and Institute of Energy Economics, Japan (IEEJ) designed a collaborative Study to 'Promote Energy Savings in India's Transportation Sector' M.o.A was signed between PDPU and IEEJ in September 2014. Prof. Hemant Trivedi and Prof. Pramod Paliwal represent SPM, PDPU Research Team. Total estimated Cost of project: 18 lakhs approximate. This study is funded through IEEJ by METI, Japan.

- Dr Rupakjyoti Borah from SLS was a Visiting Research Fellow at the Japan Institute of International Affairs, Tokyo, Japan between Dec 2011- March 2012.

- Dr Rupakjyoti Borah from SLS was an Australia-India Council Australian Studies

Senior Fellow at Monash University, Melbourne, the Australian National University, Canberra and the University of New South Wales, Sydney between May 2013-July 2013.

- Dr. Bhawanisingh Desai and Dr. Anirbid Sircar from SPT have completed a project on 'Permeability Characterization and Modeling of Tight Gas Sandstone Reservoirs' in collaboration with Georgia Tech University. Grant of Rs. 2,25,00,000 was received from GSPC.

3.3 Research Facilities

3.3.1 What efforts have been made by the university to improve its infrastructure requirements to facilitate research? What strategies have been evolved to meet the needs of researchers in emerging disciplines?

Efforts:

- PDPU possesses world class infrastructure which is supportive to research and extension.
- The campus is located in a green and tranquil area on the outskirts of the capital of Gujarat.
- The campus has excellent residential facility for researchers and seamless Wi-Fi connectivity.
- The University has three computer labs with latest hardware & software configuration.
- There are three Library & Information Centers with spacious reading area.
- Reprographic facility is available on campus with Photocopy machines/ scanners/ printers in each building and also centrally at Amenities Center of the University.
- PDPU also has excellent Science and Technology Laboratories for inter-disciplinary research work.
- The university has its own 1 MW Solar Power Station. To encourage the pursuit of research in performing arts, PDPU and School of Liberal Studies have planned to establish 'Music Academy'.

- There is a spacious 'Performing Arts Room' located in School of Liberal Studies building.
- The university encourages the faculty members to apply for projects for funding to Govt. and Non-Govt. agencies.
- Research centers, new research laboratories have dedicated infrastructure for research and development activities.
- The university has been accorded regognition as Scientific and Industrial Research Organization (SIRO) by the Dept. of Science & Industrial Research (DSIR). This has helped the university to avail tax benefit for procuring high end equipments.
- Remote log-in facilities are available to researchers to use library resources.
- University has a robust Research Information Management System (RIMS) portal.

  Strategies:

- Organizing faculty seminars periodically
- Inviting sector specific industry professionals for guest lecturer
- Financial incentives to the faculty members
- Up gradation of laboratories
- Setting up of new laboratories
- Encouraging faculty members to carry out collaborative research

3.3.2 Does the university have an Information Resource Centre to cater to the needs of researchers? If yes, provide details of the facility.

Yes. PDPU has a Library and Information Resource Center that are catering to the needs of researchers by providing them with a variety of information and services that are useful for conducting research and literature review.

Currently there are three Library and Information Centers at PDPU. They cater to Faculty of Management, Faculty of Technology and Faculty of Liberal Studies. Each Library and Information Resource Center is automated with Alice for Windows software (AfW). The software facilitates automated circulation of books and speedy access to bibliography, location and availability information in the library.

The researchers are intimated about the new arrival of books and periodicals through emails or by displaying that information on notice boards. Reading lists and bibliography

compilations are provided to the researchers on request. The librarians provide orientation towards the better utilization of Library Resource Centre.

The details of the information centre and library are given in section 4.2 of this document.

3.3.3 Does the university have a University Science Instrumentation Centre (USIC)? If yes, have the facilities been made available to research scholars? What is the funding allotted to USIC?

Not Applicable

3.3.4 Does the university provide residential facilities (with computer and internet facilities) for research scholars, post-doctoral fellows, research associates, summer fellows of various academies and visiting scientists (national/international)?

The university has excellent residential facilities with seamless internet connectivity. The university provides hostel facility to research scholars, post-doctoral fellows, and research associates on request. Summer fellows of various academies and visiting scientists are provided accommodation in international and national hostels.

3.3.5 Does the university have a specialized research centre/ workstation on-campus and off-campus to address the special challenges of research programmes?

Yes, the university has specialized research centre. To name a few:

- Solar Research & Development Centre (SRDC) recognized by Govt. of Gujarat and Ministry of New and Renewable Energy (MNRE)
- Centre of Excellence for Geothermal Energy recognized by Govt. of Gujarat, Ministry of New and Renewable Energy (MNRE) and ONGC Energy Centre
- Centre for Biofuels and Bioenergy Studies recognized by Gujarat Energy Development Agency (GEDA)

University has on-campus workstations to address the special challenges of research.

3.3.6 Does the university have centers of national and international recognition/repute? Give a brief description of how these facilities are made use of by researchers from

other laboratories.

Centers of national and international recognition/repute

Yes, the university has centers of national and international recognition/repute. To name a few:

- Siemens Centre of Excellence in Automotive recognized by Govt. of Gujarat and Govt. of India.
- Solar Research & Development Centre (SRDC) recognized by Govt. of Gujarat and Ministry of New and Renewable Energy (MNRE).
- Centre of Excellence for Geothermal Energy (CEGE) recognized by Govt. of Gujarat, Ministry of New and Renewable Energy (MNRE) and ONGC Energy Centre.

Brief description of how these facilities are made use of by researchers

- Siemens Centre of Excellence in Automotive is being utilized by students and faculties of other universities to gain training in handling Computer Numerical Control (CNC), CAD/CAM, Robotics, PLC, and Computer Integrated Manufacturing.
- Centre of Excellence for Geothermal Energy (CEGE) is providing facilities to ONGC Energy Centre, Institute of Seismological Research (ISR) for conducting research. CEGE is also instrumental in formulating the National Policy on Geothermal Energy in collaboration with MNRE.

3.4 Research Publications and Awards

3.4.1 Does the university publish any research journal(s)? If yes, indicate the composition of the editorial board, editorial policies and state whether it/they is/are listed in any international database.

No

3.4.2 Give details of publications by the faculty:

Please refer Annexure 3.4.2

3.4.3 Give details of

* **faculty serving on the editorial boards of national and international journals**

* **faculty serving as members of steering committees of international conferences recognized by reputed organizations / societies**

Please refer Annexure 3.4.3

3.4.4 Provide details of research awards received by the faculty and students

Please refer Annexure 3.4.4

3.4.5 Indicate the average number of successful M.Phil. and Ph.D. scholars guided per faculty during the last four years

School of Petroleum Management

Sr. No.	Number of M.Phil/PhD Scholar Guided	Name of Faculty
1	1 PhD Guided	Dr. Ashutosh Muduli
2	1 PhD Scholars	Dr. Hemant C Trivedi

School of Liberal Studies

Sr. No.	Number of M.Phil/PhD Scholar Guided	Name of Faculty
1	2 M.Phil Guided	Prof. Nigam Dave

School of Technology

Sr. No.	Number of M.Phil/PhD Scholar Guided	Name of Faculty
1	2 Ph.D Guided	Dr. Indrajit Mukhopadhyay
2	1 Ph.D Guided	Dr. Abhijit Ray
3	2 Ph.D Guided	Dr. Manoj Kumar
4	1 Ph.D Guided	Dr. Omkar Jani
5	1 Ph.D Guided	Dr. V K Srivastava
6	1 Ph.D Guided	Dr. Vivek Pandya
7	2 Ph.D Guided	Prof. Surendra S Kachhwaha

School of Petroleum Technology

Sr. No.	Number of M.Phil/PhD Scholar Guided	Name of Faculty
1	2 Ph.D Guided	Dr. Anirbid Sircar

3.4.6 Does the university participate in *Shodhganga* by depositing the Ph.D. theses with INFLIBNET for electronic dissemination through open access?

Yes, the university participates in *Shodhganga* by depositing the Ph.D. theses with INFLIBNET for electronic dissemination through open access.

Two Ph.D. theses have been uploaded in *Shodhganga* by SPT, others schools are in the process of uploading the same.

3.4.7 What is the official policy of the university to check malpractices and plagiarism in research? Mention the number of plagiarism cases reported and action taken.

The University policy on Plagiarism includes the following aspects:

We expect students to demonstrate high level of understanding about plagiarism and avoid being party to plagiarism.

- Stealing of words and ideas of someone else, without any acknowledgment is an example of plagiarism. In any take-home assignment and project as well as in any open book examination one must not plagiarise.

- The concerned faculty may impose severe penalty if any student has indulged into plagiarism activity.

- If the plagiarism case is referred to the School Academic Committee for appropriate action then the action may vary from zero in the component to expulsion from the programme. The decision of School Academic Committee will be final and binding to all.

- However, a student may file a mercy petition to Director, who will decide on case to case basis whether to grant mercy or not.

Moreover the University also uses online Plagiarism Scanners like:

~ smallseotools.com/plagiarism-checker/
~ www.dustball.com/cs/plagiarism.checker/
~ plagiarisma.net/
~ plagiarism-detect.com/

So far no case of any unethical activity in research is found. All research students also take a mandatory course on 'Research Methodology' where Academic and Research Ethics are explained.

3.4.8 Does the university promote interdisciplinary research? If yes, how many interdepartmental / interdisciplinary research projects have been undertaken and mention the number of departments involved in such endeavors?

Several research initiatives by faculties of different schools at the University have been undertaken. Students are encouraged to take up interdisciplinary research dissertations and joint supervision by interdisciplinary faculty is ensured.

~ *Research on Geothermal Energy – Exploration & Exploitation:* PDPU faculties are carrying out extensive research in the area of geothermal energy, where researchers from various disciplines such as earth science, petroleum engineering, chemical engineering, mechanical engineering, and electrical engineering are contributing

~ *Research on Understanding the Kinetics of Biodiesel extracted from fish waste:* PDPU faculties are carrying out research in the area of biodiesel production and is also in the process of setting up a Biofuels lab where petroleum engineers and chemical engineers will be working in collaboration. One faculty from Petroleum Engineering is pursuing Ph.D. on Biofuels registered under petroleum engineering and chemical engineering.

~ *Research in Biodiesel Production:* Three Chemical Engineering faculties have registered for PhD in the area of biodiesel under Prof. Surendra S Kachhwaha

3.4.9 Has the university instituted any research awards? If yes, list the awards.

No. The university has not instituted any research awards

3.4.10 What are the incentives given to the faculty for receiving state, national and international recognition for research contributions?

Currently the university does not have specific incentive policy towards this.

3.5 Consultancy

3.5.1 What is the official policy of the university for structured consultancy? List a few important consultancies undertaken by the university during the last four years.

The official policy of the university for structured consultancy is given in Annexure 3.5.1

Some important consultancies undertaken by the university during the last four years are given below:

School of Petroleum Technology

Year	Amount (Rs)	Scheme	Beneficiary
2011-12	25,00,000	Young Hydrocarbon Professionals	Larsen & Toubro Ltd.
2012-13	45,00,000	Prefeasibility study of 1 MW Geothermal Energy	Gujarat Power Corporation Ltd. (GPCL)
2013-14	2,50,000	Shale gas Property Evaluation of Crew Energy , Canada	Gujarat State Fertilizer Corporation (GSFC)
2014-15	7,50,000	Evaluation of five onshore marginal fields, Godavari onshore, India	KEI-Ross, Rajahmundry

School of Petroleum Management

Year	Amount	Scheme	Beneficiary
2013-14	Rs 4,00,000	Strategic Review of Gujarat State Electricity Corporation Ltd. (GSECL)	Gujarat State Electricity Corporation Ltd. (GSECL)
2014-15	$31,990	Workshop on 'Promoting Energy Savings in India's Transportation Sector'	IEEJ – Institute of Energy Economics, Tokyo, Japan
2015-16	Rs 15,000	ERP Implementation at GSECL- Technical Innovation and Business Impact	Gujarat State Electricity Corporation Ltd. (GSECL)
2015-16	Expenses Paid	ICT Need Assessment Survey and Analysis for 2 of GSECL remote Power Plants villages along the lines of	GSECL

School of Liberal Studies

Year	Amount (Rs)	Scheme	Beneficiary
2015-16	3,00,000	Slum Rehabilitation housing impact assessment-Ahmedabad-2015	B Safal Pvt Ltd

School of Technology

Year	Amount (Rs)	Scheme	Beneficiary
2013-14	17,67,330	The feasibility Study for Establishment of waste management and water recycling system for Industrial Parks in Maharashtra, India	Japan Research Institute (JRI)

3.5.2 **Does the university have a university-industry cell? If yes, what is its scope and range of activities?**

At the University level as well as at the school level, Corporate Relations & Placements Cell is established whose activities include engaging with the industry in the following areas:

1. Summer & Final Placements
2. Facilitating faculty engagement with the industry on organizing conclaves, conferences, conducting extension lectures and supporting students' activities.
3. Industrial visits arrangement
4. Promoting research and case study development

Responding to the clarion call by the Honorable Prime Minister of India, PDPU has set up an Innovation and Incubation Centre (IIC) for promoting new ideas and encouraging start-ups. The centre also encourages and promotes innovation, creativity and entrepreneurship amongst students and community. The centre has been instrumental in establishing an industry-academia relationship, by connecting budding entrepreneurs with industry experts for guidance.

Apart from the above, special sessions and workshops are organized where professionals are invited to train the students for the development of soft and professional skills.

3.5.3 **What is the mode of publicizing the expertise of the university for consultancy services? Which are the departments from whom consultancy has been sought?**

PDPU regularly undertakes consultancy from various industries across the world. The publicity is done through PDPU website, brochures and personal invitation and contacts. All the schools have been invited in the past, for providing consultancy for industries and institutes across the world.

3.5.4   How does the university utilize the expertise of its faculty with regard to consultancy services?

The faculties of the university have a wide range of expertise, covering several areas such as, engineering, management, liberal studies and science. The university uses their expertise based on the requirement of the consultancy assignment, past consultancy engagement, domain knowledge and consultancy skills.

3.5.5   List the broad areas of consultancy services provided by the university and the revenue generated during the last four years.

Consultancy at PDPU can be categorized as:

- Organizing training programmes and workshops
- Problem solving
- Testing projects
- Analytical consultancy
- Management Development Programmes
- Executive Development Programmes
- Desktop Research

Broad areas of consultancy services provided by the university and the revenue generated during the last four years are as follows:

School of Petroleum Technology

Year	Scheme	Beneficiary
2011-12	Young Hydrocarbon Professionals	Larsen & Toubro Ltd.
2012-13	Prefeasibility study of 1 MW Geothermal Energy	Gujarat Power Corporation Ltd. (GPCL)
2013-14	Shale gas Property Evaluation of Crew Energy , Canada	Gujarat State Fertilizer Corporation (GSFC)
2014-15	Evaluation of five onshore marginal fields, Godavari onshore, India	KEI-Ross, Rajahmundry
2012-13	Advisory on procurement strategies for gas from North America and other sources	GSPC LNG Ltd
2013-14	Advisory on procurement strategies for gas from North America and other sources	GSPC LNG Ltd

School of Petroleum Management

Year	*Scheme*	*Beneficiary*
2013-14	Strategic Review of Gujarat State Electricity Corporation Ltd. (GSECL)	Gujarat State Electricity Corporation Ltd. (GSECL)
2012-13	Analysis of capacity utilization factors for wind farms in Gujarat for regulatory tariff determination process	Gujarat Urja Vikas Nigam Ltd.
2012-13	Analysis of tariffs for UMPPs based on imported coal	Gujarat Urja Vikas Nigam Ltd. (GUVNL)
2012-13	Advisory on procurement strategies for gas from North America and other sources	GSPC LNG Ltd
2013-14	Advisory on procurement strategies for gas from North America and other sources	GSPC LNG Ltd
2014-15	Workshop on 'Promoting Energy Savings in India's Transportation Sector'	IEEJ – Institute of Energy Economics, Tokyo, Japan
2015-16	ERP Implementation at GSECL- Technical Innovation and Business Impact	Gujarat State Electricity Corporation Ltd. (GSECL)
2015-16	ICT Need Assessment Survey and Analysis for 2 of GSECL remote Power Plants villages along the lines of	GSECL

School of Liberal Studies

Year	*Scheme*	*Beneficiary*
2015-16	Slum Rehabilitation housing impact assessment-Ahmedabad-2015	B Safal Pvt Ltd

School of Technology

Year	*Scheme*	*Beneficiary*
2013-14	The feasibility Study for Establishment of waste management and water recycling system for Industrial Parks in Maharashtra, India	Japan Research Institute (JRI)
2012-14	Advising in Implementation of Ammonia Project and Acquisition of Gas Producing Assets in Canada	Gujarat State Fertilizers & Chemicals Ltd (GSFC)
2013-14	International Seminar on Offshore Wind Power Potential of Gujarat	Gujarat Power Corporation Ltd. (GPCL)
2013-14	The feasibility Study for Establishment of waste management and water recycling system for Industrial Parks in Maharashtra, India	Japan Research Institute (JRI)

2013-14	International Seminar on Offshore Wind Power Potential of Gujarat	Gujarat Power Corporation Ltd. (GPCL)
2014-15	Workshop on 'Promoting Energy Savings in India's Transportation Sector'	IEEJ – Institute of Energy Economics, Tokyo, Japan

The resource generated in areas of consultancy is

2014-15: *Rs. 75, 60, 641*

2013-14: *Rs. 81, 64, 585*

2012-13: *Rs. 33, 58, 188*

2011-12: *Rs. 14, 89, 072*

3.6 Extension Activities and Institutional Social Responsibility (ISR)

3.6.1 How does the university sensitize its faculty and students on its Institutional Social Responsibilities? List the social outreach programmes which have created an impact on students' campus experience during the last four years.

- 'Pandit Deendayal Petroleum University' has undertaken 'Community Development Initiative (CDI)' with an objective to be part of the growth of the surrounding villages and to sensitize and motivate students to be a part of societal progress along with their own development. At large, various activities under CDI provide opportunities to students to take leadership and to create an environment of co-operation, compassion and integrity on the campus. It is a platform for students to bring new ideas to social change and implement those ideas using their technical and creative skills. The University broadly takes the benefit of the CDI.

- University follows curriculum that supports community connect orienting students to social obligations. Various schools have credited programme namely Civic and Social Service Internship, Rural Internship and Urban Renewal Mission Internship.

- Nation Service Scheme (NSS) and NCC activities.

- Participation of students in promoting various community schemes like – cleanliness campaign and teaching to under privileged students.

3.6.2 How does the university promote university-neighborhood network and student

engagement, contributing to the holistic development of students and sustained community development?

- The University students through the programme 'Community Development Initiative – CDI' get engaged in the outreach programmes. Apart from this they also get involved in the CDI through organizations like CII-Yi. Students organize Blood Donation Camp every year in collaboration with various Blood banks.

- PDPU students have also supported government schemes of slum rehabilitation through surveys and analysis.

3.6.3 **How does the university promote the participation of the students and faculty in extension activities including participation in NSS, NCC, YRC and other National/ International programmes?**

The University promotes the participation of the students and faculty members in extension activities through the following mechanisms –

- Mandatory course in the curriculum.

- Institute level extension activities.

- NSS.

- NCC.

- Extension Activities by Students Associations.

3.6.4 **Give details of social surveys, research or extension work, if any, undertaken by the university to ensure social justice and empower the underprivileged and the most vulnerable sections of society?**

PDPU students have also supported government schemes of slum rehabilitation, CSSI, Rural Internship and Urban Renewal Mission as a part of social survey research and extension work.

3.6.5 **Does the university have a mechanism to track the students' involvement in various social movements / activities which promote citizenship roles?**

There are no formal mechanisms to track student involvement in various school movements which promote citizenship role. There is a coordinator (student's welfare). In

each school who tracks students participation in different extension and citizen role. Various clubs and students associations also encouraged students to engage in extension activities and perform citizen roles.

3.6.6 Bearing in mind the objectives and expected outcomes of the extension activities organized by the university, how did they complement students' academic learning experience? Specify the values inculcated and skills learnt.

University students have been organizing Blood Donation Camp with the support of a local blood bank. Since last four years university has received special trophies for donating more than 200 units of blood. To promote health and fitness awareness, students organize 'Energy Run' every year. Apart from these students have been engaging with the poor strata of the villagers in the vicinity and have been helping them by means of support for their children's education, clean drinking water etc. The students have learnt the virtues of compassion and empathy through such engagements.

Different schools have also been organizing community development programme through participation in rural educational activities. These programme helped the students in inculcating the value of social sensitization. They also helped in developing the planning and organizing skills of the students.

3.6.7 How does the university ensure the involvement of the community in its outreach activities and contribute to community development? Give details of the initiatives of the university which have encouraged community participation in its activities.

Organized human sensitization activities for the students in the following form:

- Participated in teaching the school children at the neighborhood
- Organized visits to various NGOs to sensitize the students

3.6.8 Give details of awards received by the institution for extension activities and/contributions to social/community development during the last four years.

University has not received any formal awards, so far.

3.7 <u>Collaboration</u>

3.7.1 **How has the university's collaboration with other agencies impacted the visibility, identity and diversity of activities on campus? To what extent has the university benefitted academically and financially because of collaborations?**

The University's collaboration with various international universities and agencies have resulted in collaborative activities, expert lectures, visits of international students, interaction between faculty and greater awareness among students for international mobilities. Because of international collaborations, the university has been able to host international round tables for the exchange between local and global industries and business establishments. Following collaborations have materialized for the positive gain for all stakeholders:

- University of Houston, USA
- University of Oklahoma, USA
- University of Tulsa, USA
- Texas A&M, USA
- Georgia Tech. University, USA
- AJC, USA
- University of Saskatchewan, Canada
- University of Western Ontario, Canada
- Regina University, Canada
- University of Manitoba, Canada
- University of Alberta, Canada
- Memorial University, Canada
- University of Trinidad and Tobago
- University of Wollongong, Australia
- Edith Cowan University, Australia

The University also has specialized collaborations with international business agencies like – US India Business Council (USIBC), Indo-Canada Business Chamber (ICBC) and

Australia India Business Council (AIBC), Asian Development Bank (ADB), Siemens Automotive Limited, Suzlan India, Shell Hazira and Institute of Energy Economics Japan (IEEJ)

The University is also having fruitful collaboration with industries to benefit post graduate student internships, research activities and creating lab facilities. The indicative list is as follows –

- GSPC Group of Companies
- Reliance Industries Limited
- Torrent Power
- Adani Group
- Gujarat Govt. Public Sector Companies

3.7.2 Mention specific examples of how these linkages promote-

* **Curriculum Development**

- The Association with the Industries has resulted in creating state of the Art laboratories through the funding and R&D Inputs.

- The curriculum development process is benefited by participation of industry experts. To name a few:
  - Gujarat Gas has helped in developing the course on City Gas Distribution
  - L&T has helped in developing the course on Design of HC Process Equipments
  - RIL has helped in formulating the course on Petroleum Downstream
  - Petroskills under the guidance of Shell, conducts one week courses on Offshore Drilling & Reservoir Modeling and Simulation every year
  - Power system laboratory experiments are designed by ABB Limited along with university faculties making it at par with national and international institutions.

- PDPU and Sacred Heart University US, have jointly designed a curriculum of mass communication.

* **Internship**

  PDPU students undergo six to eight weeks of Industrial Training and Corporate Internship during the Summer Vacations as a partial requirement for the award of the degree. This training is carried out either in Industries, R&D organization, corporate house, NGOs and other institutions of higher learning.

  * *Petroleum Upstream***:** GSPC, ONGC, Selan, Sintex, MI Swaco, Jubilant Enpro, Petronas, Transocean and other leading industries.

  * *Petroleum Downstream***:** Shell, GSPC LNG, Gujarat Gas, RIL, Essar, IOCL, GSFC, GNFC and other leading industries.

  * *School of Technology*: L&T Power, GIFT City, GSFC, GACL, E&I Technology, Nestle India, ECC, ABB, IFFCO, Torrent Power, Thermal Power Stations, IGKAR, IPR.

  * *School of Liberal Studies*: Internship at Tilburg University, Netherlands, US Consulate Sponsored Internships, US Community Colleges, Center for Civil Society.

  * *School of Petroleum Management*: ONGC, BPCL, GACL, L&T, Jubilant, GSPC, Shell, IOCL, Several banks, Financial institutions, Consultancy firms and FMCG companies.

* **On the Job Training**

  * Shell Hazira LNG helped in field visits and understanding the entire LNG value chain.

  * Gujarat Gas Ltd. gives hands-on experience to PDPU students during training.

  * L&T Power gives six weeks training to PDPU students.

  * Siemens India and Design Tech. Technologies offer certificate courses in skilled development in specific areas of: Computer Aided Design (CAD), Computer Aided Engineering (CAE), Computer Aided Manufacturing (CAM), Distributed Manufacturing (DM), Programmable Logic Modules (PLM), Process Instrumentation and Automation.

  * Adecco offered on the job training for PDPU students, Vodafone, RadioMirchi, Times of India, O&M have also offered on the job training.

* **Faculty Exchange and Development**

- Collaboration with Texas A&M, USA faculty exchange and collaborative training programme in Nuclear Security.
- Edith Cowan University Australia and PDPU faculty exchange in Psychology Department.
- Faculty from University of Oklahoma, USA has helped in development of Drilling and Stimulation Lab.
- Redesigning of course structure with the help of University of Oklahoma, USA and University of Tulsa, USA.

* **Research**
  - PDPU faculties and students conduct collaborative research with faculties/researchers from other leading institutes and companies like GSPC, ONGC, Shell etc.
  - Candidates from ONGC and GSPC have enrolled for Ph.D. program at PDPU and have been awarded doctorate/to be awarded.
  - ONGC, Shell, GSPC have helped in student research projects as well. These companies have also donated spare equipments for demonstration in labs. Data set are sometimes provided to faculties and students for educational purpose
  - Collaborative research project between PDPU and Edith Cowan University, Australia and Georgia Tech University, USA, Nagoya Institute of Technology, Kyoto University, Japan.
  - Active collaboration with national and international organization has resulted in execution of funded research projects and up gradation of research centers.

* **Publication**
  - Joint publications have been done with officers from companies like GSPC and ONGC.

* **Consultancy**
- PDPU Faculties do consultancy and clients include KEI-Ross, L&T, GSPC, GSFC, GSECL, GETCO, GERMI, GUVNL, GPCB, Roads and Building Dept, Govt. of Gujarat etc.
- The consultancy projects and client include Safal Constructions and Govt. of Gujarat

on slum rehabilitation.

∗ **Extension**

- PDPU organizes various national and international conferences, workshops, conclaves and seminars with leading industries and institutes.

- PDPU conducted the biggest U to U meeting of Gujarat based universities with international universities in January, 2013, extending PDPU international contacts to other universities for their collaborations.

- PDPU also has been hosting International Conference of Academic Institute (ICAI) as a part of Vibrant Gujarat.

∗ **Student Placement**

- PDPU recognizes the importance of corporate and industry relationship. A separate cell for maintaining corporate relationship has been established. The cell continuously connects industries to provide students placement, training and internship opportunities.

- PDPU students are inducted as GETs in various companies such as ONGC, GSPC, Shell, Gujarat Gas, GSPC LNG, Essar, Toyo, TCS, Ratnam Energy, Reliance, GSFC, GNFC, Kirloskar Brothers, MICO, Infosys, Tata Chemicals, Hindustan Coca Cola Beverages Private Ltd, Bray Controls, Concepts Business Solutions etc.

- PDPU students are also placed in companies like O&M, Dainik Bhaskar, Times of India, Adeeco, Leading national, multinational and public banks and financial institution, research and consulting organizations.

- PDPU students have also secured international admissions at prestigious universities like: Stanford University, Columbia University, Boston University, Purdue University, University of Oklahoma, University of Houston, Georgia Tech University, University of Southern California and North Eastern University Graduate School with fellowships.

- PDPU Students has also secured Common Wealth Scholarship to study at Birmingham University.

- Gujarat being the land of entrepreneurs, lot of students has ventured into start-ups & consultancies and has expanded family businesses. The IIC at PDPU supports such innovative and entrepreneurial ventures.

3.7.3 **Has the university signed any MoUs with institutions of national/international importance/other universities/ industries/corporate houses etc.? If yes, how have they enhanced the research and development activities of the university?**

The University's collaboration with various international universities and agencies have resulted in collaborative activities, expert lectures, visits of international students, interaction between faculty and greater awareness among students for international mobilities. Because of international collaborations, the university has been able to host international round tables for the exchange between local and global industries and business establishments. Following collaborations have materialized for the positive gain for all stakeholders:

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- AJC, USA
- University of Saskatchewan, Canada
- University of Western Ontario, Canada
- Regina University, Canada
- University of Manitoba, Canada
- University of Alberta, Canada
- Memorial University, Canada
- University of Trinidad and Tobago
- University of Wollongong, Australia
- Edith Cowan University, Australia

The University also has specialized collaborations with international business agencies like – US India Business Council (USIBC), Indo-Canada Business Chamber (ICBC) and Australia India Business Council (AIBC), Asian Development Bank (ADB), Siemens Automotive Limited, Suzlan India, Shell Hazira and Institute of Energy Economics Japan (IEEJ)

The University is also having fruitful collaboration with industries to benefit post graduate student internships, research activities and creating lab facilities. The indicative list is as follows –

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- Reliance Industries Limited
- Torrent Power
- Adani Group
- Gujarat Govt. Public Sector Companies

Collaborations have ensured faculty from these universities visit PDPU and interact with students and also faculty from PDPU visit these universities and do research activities. This has also helped PDPU extend its International Intellectual Capital to local industry and businesses.

3.7.4 Have the university-industry interactions resulted in the establishment / creation of highly specialized laboratories / facilities?

Yes. At PDPU several laboratories have been set-up through University-Industry interactions. To name a few:

- **Mechanical Engineering**

  Welding Research Lab- received funds of Rs 1 Cr from various funding agencies like DST, ISRO, DAE, BRFST for R & D projects in the area of Friction Stir Welding, Metal Cored Arc Welding, ATIG welding and Friction Stir Welding of Dissimilar metals.

- **Chemical Engineering:**

  Reaction Engineering Laboratory is established by Gujarat Alkalies and Chemicals Limited (GACL).

- **Civil Engineering**

  Several Civil Engineering laboratories like: Fluid Mechanics, Material Testing and Soil Mechanics are funded by L&T ECC Ltd.

- **Electrical Engineering**

  Several Electrical Engineering laboratories like: Modeling and simulation Power

System Protection, High Voltage Engineering, Microprocessor & Microcontroller, Process Dynamics & Control, and Modeling & Simulations are funded by GETCO and GSECL.

- **Solar Energy Department**

  Energy Systems and Technology laboratories focused on Solar Energy are partially funded by GEDA and MNRE.

- **Petroleum Engineering**

  Some of the Petroleum Engg Laboratories like: Drilling Fluid lab, Process Dynamic and Control Lab are funded by Gumpro Drilling and ONGC.

CRITERION IV: INFRASTRUCTURE AND LEARNING RESOURCES

4.1 Physical Facilities

4.1.1 How does the university plan and ensure adequate availability of physical infrastructure and ensure its optimal utilization?

Extensive planning for physical infrastructure is made by the facilities and administration department in phased manner. Strategic plan of the university takes into consideration the new academic programmes to be started in a specific time period and infrastructure requirements. Elaborate presentation is then made to the Board of Governors for approval and construction is then carried out as per the university policy thus, leading to the creation of well furnished class-rooms, laboratories, library, faculty & staff offices for optimum academic utilization. It has modern and well equipped centrally air conditioned Library, Board Rooms, Science & Technology laboratories, Administrative Offices, Computer Laboratories, Engineering Labs, Lecture Theatres, Auditorium, Meeting Rooms, Medical Facilities, Visitors Lounge and Cafeteria. In addition, the University has adequate Parking Place, Transport Facilities, Banking Facilities, Ambulance Facility and Sports facilities.

The Academic calendars and the master time table of the university ensure that available infrastructure is utilized judiciously. Even during vacations, the university ensures the utilization of infrastructure by hosting under privileged students of surrounding villages under community development initiatives.

4.1.2 Does the university have a policy for the creation and enhancement of infrastructure in order to promote a good teaching-learning environment? If yes, mention a few recent initiatives.

Yes. Extensive planning for physical infrastructure is made by the facilities and administration department in phased manner. Strategic plan of the university takes into consideration the new academic programmes to be started in a specific time period and

infrastructure requirements. Elaborate presentation is then made to the Board of Governors for approval and construction is then carried out as per the university policy.

The strategic plan prepared by the PDPU management lays down the future perspective for creation & enhancement of Infrastructure to promote good teaching-learning environment. Accordingly, the PDPU Campus has been recently augmented with the creation of additional infrastructural facilities viz. New Academic Blocks, Research Labs, Tutorial rooms, New Multistorey Hostel Blocks, Separate Discussion Rooms in Library, Advanced Technology Labs, Food Court, Health Center, Recreation Facilities, etc. The University has excellent class rooms with audio & video projection facility.

Recent Initiatives:

- Construction of Multistorey Hostel Blocks
- Construction of Hostels for international students and faculty.
- Planning of State of the Art Sports Complex.
- Planning of State of the Art Central Library.

4.1.3 How does the university create a conducive physical ambience for the faculty in terms of adequate research laboratories computing facilities and allied services?

University has an excellent physical ambience for the faculty to support high quality teaching, learning and research activities. Each faculty member is provided with latest computing systems at their work stations directly connected with Central Servers internet and digital resources in the libraries and on the internet. In addition to well equipped laboratories and library resources, PDPU have 250 Mbps dedicated Local Area Network (LAN). Within eight years of its existence PDPU has created several research laboratories like: Drilling and Stimulation Lab., Ichnofabric Lab., Automotive laboratories (CNC, PLC, CIN, AGV, Industrial Robots, Automatic Storage and Retrieval systems, Vision Inspection System for Quality Control, CIM Controllers and Software, Rapid Prototyping Machines), Performing Arts Lab., Psychology Lab., Energy Systems & Technology – Solar (Device Characterization and Device Fabrication Lab.).

4.1.4 Has the university provided all departments with facilities like office room, common room and separate rest rooms for women students and staff?

Yes. Faculty and staff have been pr++++++ovided with office space. PDPU has faculty and staff lounges, common room. Separate rest rooms for women students and staffs are provided inside the campus. All facilities required for hygiene is maintained.

4.1.5 How does the university ensure that the infrastructure facilities are disabled-friendly?

The campus is designed taking into consideration supportive environment for physically challenged people. Slopes are created for smooth commute through wheelchairs, each building has an elevator. Disabled friendly wash rooms are also created. Ramps are also provided in all buildings.

For example – There has been an instance of a student who was suffering from post traumatic instability of the right thumb and provisions were made for him to take exams with computer.

4.1.6 How does the university cater to the requirements of residential students?

- PDPU currently has a total of 1172 boys and girls at its hostel located in the campus, with WiFi connectivity. Residential hostel students have access to gym, health centre, indoor games, outdoor games, stationary shop, shopping area & food court within the campus. All essential items are available including medical stores.
- A dedicated 24x7 Ambulance is stationed in hostel for emergency.
- There is a branch of nationalized bank and ATM on campus.
- Supervisors and hostel wardens maintain the record keeping of hostel and act as a bridge of information to parents.

4.1.7 Does the university offer medical facilities for its students and teaching and non-teaching staff living on campus?

PDPU has three doctors (2 male and 1 female), who visits the campus everyday from 12:00 to 17:00 hours for students, faculty and staff. There is a medical store on campus. All students are insured for medical treatment at Apollo and Hi-Tech Hospital at

Ahmedabad and Gandhinagar. Teaching and Non-teaching staffs are covered under family medi-claim policy from ICICI-Lombard. For regular faculty members, medical bills to the tune of Rs. 30,000 per annum are reimbursed as per the policy.

4.1.8 What special facilities are available on campus to promote students' interest in sports and cultural events/activities?

- PDPU has sports facility for Volley Ball, Foot Ball, Lawn Tennis, Table Tennis, Basket Ball, Cricket etc. Best Quality Materials / Equipments are provided by University for each discipline in Sports and Extracurricular activity.

- PDPU has gymnasium inside the campus.

- PDPU conducts its annual sports festivals called 'Petro Cup' and 'Energy Cup' in January every year. This inter-college sports event attracts many sports people to the campus.

- The campus has Performing Arts Room for theatre activities. It has one full wall with mirror on it to help students learn dance. There is a music club and theatre club. University celebrates its Techno-Cultural Festival 'Flare' in February which attracts many talented youth to the campus. Spacious Auditorium and Open Air Theatres provide logistic support for cultural activities. The university also organizes cultural and academic competitive events for PG students.

- PDPU has a special provision of 5 Marks for admissions for exceptional sports talent in select programme.

- PDPU conducts the biggest open quiz in Gujarat under its students' club, 'Mind Ripple'.

PDPU also has planned the creation of State of the Art Sports Complex to augment all round development of the students.

4.2 <u>Library as a Learning Resource</u>

4.2.1 Does the library have an Advisory Committee? Specify the composition of the committee. What significant initiatives have been taken by the committee to render the library student/user friendly?

Yes. At PDPU each faculty has a Library Committee under the chairmanship of one senior faculty member and one faculty member from each area as members of the committee. The Committee takes decision for developments of the library mainly collection, new procurement and renewals of all library resources.

The Library Committee deliberates on the input from students and faculty needs and proposes resource enhancements to the library resources student/user friendly. At one of the libraries the adjoining computer lab is now internally connected so that users can utilize digital resources more conveniently. The Libraries are fully automated with the software OPAC and Alice for Windows making them user friendly.

Significant Initiatives taken by Library Committee:

- Library books loan limit is increased for UG and PG students.
- Topical displays.
- Conduct of Library Orientation during Faculty and Student Induction/Orientation Programmes.
- Conduct of Information Literacy Programmes.

4.2.2 Provide details of the following:

∗ **Total area of the library (in Sq.mts.):**

SPM Library	*FOET Library*	*SLS Library*
273 sq.mts	390.08 sq.mts	256 sq. mts.

∗ **Total Seating Capacity:**

SPM Library	*FOET Library*	*SLS Library*
60	120	81

∗ **Working hours:**

| *SPM Library*	*FOET Library*	*SLS Library*
Monday to Friday 9.00 am to 2.00 am Saturday & Sunday 9:30 am to 8:00 pm	Monday to Friday 9.00am to 8.00pm Saturday 9.00am to 5.00pm	Monday to Sunday 9:00 am to 10:00 pm

∗ **Layout of the library (individual reading carrels, lounge area for browsing and relaxed reading, IT zone for accessing e-resources)**

SPM Library:
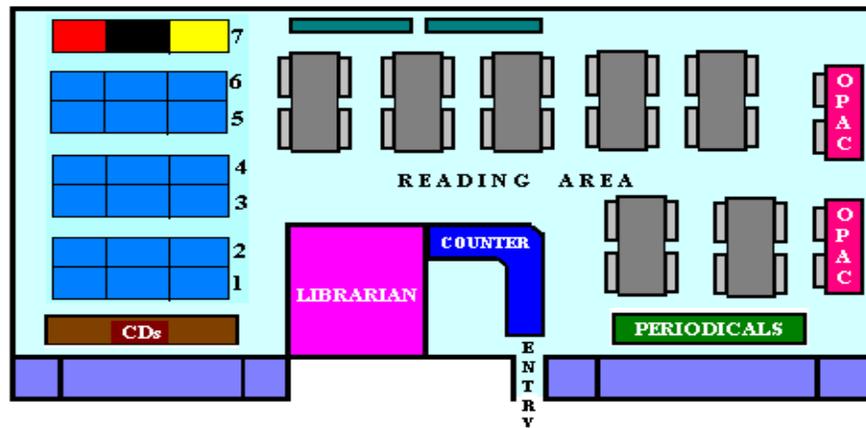
FOET Library:
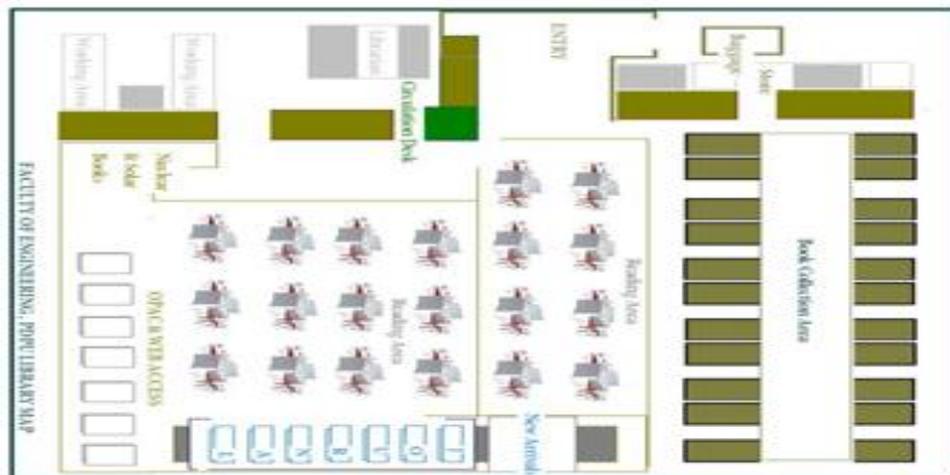
SLS Library:
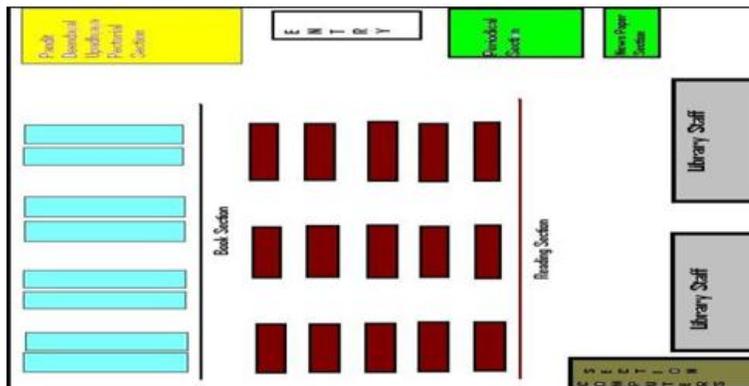
* **Clear and prominent display of floor plan; adequate sign boards; fire alarm; access to differently-abled users and mode of access to collection**

  SPM Library:

  Library is on the ground floor and centrally located at the school with open access to collection of Books and Periodicals. Small signboards are indicating various sections of the library. One fire extinguisher (6.0 kgs) is kept just outside the library entrance.

  FOET Library:

  Library is situated on the second floor at B- block of PDPU, Small signboards indicating names of sections, one fire extinguisher of 6.0 Kgs and open access to collection of books.

  SLS Library:

  Library is situated on the second floor at D-Block of PDPU, Small signboards indicating names of sections, one fire extinguisher of 6.0 Kgs and open access to collection of books.

4.2.3 Give details of the library holdings:

a) **Print (books, back volumes and theses)**

Resources	*SPM Library*	*FOET Library*	*SLS Library*
Books	11,500	23465	7900
Journals	78	55	30
General Periodicals	13	17	14
News papers	13	14	14

b) **Average number of books added during last three years**

Resources	SPM Library	FOET Library	SLS Library
2014-15	798	1374	609
2013-14	869	3497	832
2012-13	786	2674	480
Average	**818**	**2515**	**640**

c) **Non Print (Microfiche, AV)CDs and DVD :**

SPM Library	FOET Library	SLS Library
840	1347	286

d) **Electronic (e-books, e-journals):**

	SPM Library	FOET Library	SLS Library
E-Books	-	47	-
E-Journals	2200	3784	2500

e) **Special collections:**

- PDPU has been named after a prolific scholar and a social worker "Pandit Deendayal Upadhyay Jee". PDPU archive section has a valuable collection of Panditji's photographs, books, lectures etc.

- Pandit Deendayal Upadhyaya Collection and Energy & Infrastructure Management Case Studies

f) **Book Bank:**

Book bank facility is available in PDPU.

g) **Question Banks:**

SPM Library	FOET Library	SLS Library
Question banks are available with respective faculties		

4.2.4 What tools does the library deploy to provide access to the collection?

All libraries have been automated using Alice for Windows (AFW) an International user friendly library package. The software facilitates all LMS including Management, Acquisition, serial control and automated circulation (issue return) of books. OPAC

facility provides speedy access to bibliographic, location and availability information of the books in the library.

The RFID base Library security system at SPM and FOET has been partially completed and soon shall be taken into use.

Library homepage: http://www.pdpu.ac.in/libraries.html

4.2.5 To what extent is ICT deployed in the library? Give details with regard to:

∗ **Library Automation:** (All Libraries)

The library has been automated using Alice for Windows *(AfW)* – an international user- friendly library package. The software facilitates all LMS including Management, Acquisition, Serial Control and automated circulation (issue-return) of books. OPAC facility provides speedy access to bibliographic, location and availability information of the books in the library. We are partially completed RFID based library security system in SPM & FOET Library.

∗ **Total Number of Computers for public access:**

SPM Library	*FOET Library*	*SLS Library*
2	6	5

∗ **Total Number of printers for public access:**

Printers are provided in library for public access.

∗ **Internet band width speed:**

250 mbps internet speed with 1GB band width speed is provided for entire university.

∗ **Institutional Repository:**

PDPU has developed 'Institutional Repository (Software D-Space)' for faculty publication, students project etc. Thesis, Dissertation, Faculty publications, Institute publication are archived in D-Space. It can be accessed through library intranet services.

∗ **Content Management System for e-learning:**

Content Management System for e-learning is planned

∗ **Participation in resource sharing networks/consortia (like INFLIBNET):**

University is member of INFLIBNET. The university has got active collaboration with IIM Ahmedabad and British Council Library also.

4.2.6 Provide details (per month) with regard to:

∗ **Average number of walk-ins (last 3 months):**

Average number of walk-ins in all the three libraries collectively is 10722

∗ **Average number of books issued/returned (last 3 months):**

Average number of books issued/returned (last three month): 2715/ 2148

∗ **Ratio of library books to students enrolled:**

SPM Library	FOET Library	SLS Library
67:1	9:1	11:1

∗ **Average number of books added during last four years:**

Year	SPM Library	FOET Library	SLS Library
2011-12	1120	3481	619
2012-13	786	1907	480
2013-14	869	2692	832
2014-15	798	2515	609
Average number of books	**893**	**2648**	**635**

∗ **Average number of login to OPAC (last 3 months):**

The Average number of login to OPAC is around 8902.

∗ **Average number of login to e-resources (last 3 months):**

The actual number of login to e-resources is not measurable as the login and downloading facility is not restrictive and unlimited download is available.

∗ **Average number of e-resources downloaded / printed:**

The Average number of e-resources downloaded/printed is around 6857.

The number of e-resources downloaded is measured approximately as downloading facility is not restrictive and unlimited download is available.

∗ **Number of IT (Information Technology) literacy trainings organized:**

The Number of IT (Information Technology) literacy trainings organized is 23

4.2.7 Give details of specialized services provided by the library with regard to:

* **Manuscripts:** Library does not have manuscripts collection as it is relatively young.

* **Reference:** Library has total 4197 reference titles.

* **Reprography:** Reprographic services are available in all academic blocks and central student stores.

* **Inter Library Loan Service:** The University has Inter Library Loan Service arrangement with the IIM Ahmedabad, British Council and IIT Gandhinagar Libraries.

* **Information Development and Notification:**

    - Information related to new arrivals and new implementations are sent through emails to all the users and also displayed on the library notice board.

    - Providing current content alerts of periodicals using RSS feeds/Google Apps.

* **OPACs:** OPAC facility provides speedy access to bibliographic, location and availability information of the books in the library. The catalogue is available on the Internet for inquiring about books.

* **Internet Access:** Internet access is given to all terminals available in the library. Faculty and students are having their own laptops/desktop with Internet connectivity.

* **Downloads:** Free access and unlimited down loads of E-Journals & E-books within the campus networks.

* **Printouts:** Printers are provided in library public access system is planned.

* **Reading List/Bibliographic Compilation:** Regular update of the Bibliographic details and list of new arrivals (books) are posted at library home page.

* **In-house/Remote access to e-resources:** e-resources are accessible from anywhere in campus. All login related details are given at library home page.

* **User Orientation:** Beginning of every academic year PDPU conduct 'Library Orientation' for newly admitted students.

* **Assistance in Searching Database:** The Library staff trains all users about library services and its resources. As required, they also arrange special training for database or e-resources by executives from respective service providers.

* **INFLIBNET/IUC Facilities:** The University is member of INFLIBNET Network and Institution of Engineers (India).

4.2.8 Provide details of the annual library budget and the amount spent for purchasing new books and journals.

SPM Library:

A. Book and Journal

Year	Books		Journals (Print)	
	Allocation (Rs.)	*Expenditure (Rs.)*	*Allocation (Rs.)*	*Expenditure (Rs.)*
2011-12	10,00,000.00	9,74,427.00	4,80,000.00	4,79,021.00
2012-13	6,75,000.00	6,54,288.00	4,50,000.00	4,56,325.00
2013-14	9,50,000.00	8,04,172.00	3,00,000.00	2,73,449.00
2014-15	9,50,000.00	6,99,089.00	5,00,000.00	4,36,069.00
TOTAL	**35,75,000.00**	**31,31,976.00**	**17,30,000.00**	**16,44,864.00**

B. E-journals and Databases

Year	e-Journals Database		General Databases	
	Allocation (Rs.)	*Expenditure (Rs.)*	*Allocation (Rs.)*	*Expenditure (Rs.)*
2011-12	7,25,000.00	7,13,694.00	10,25,000.00	10,23,133.00
2012-13	6,10,000.00	6,04,054.00	8,20,000.00	8,10,453.00
2013-14	7,50,000.00	7,17,914.00	10,50,000.00	9,97,756.00
2014-15	7,50,000.00	7,29,340.00	11,50,000.00	9,84,834.00
TOTAL	**28,35,000.00**	**27,65,002.00**	**40,45,000.00**	**38,16,176.00**

FOET Library:

A. Book and Journal

Year	Books		Journals	
	Allocation (Rs.)	*Expenditure (Rs.)*	*Allocation (Rs.)*	*Expenditure (Rs.)*
2011-12	32,00,000	26,89,238	5,30,000	4,88,478
2012-13	33,50,000	13,39,707	5,15,000	4,38,413
2013-14	30,40,000	21,99,705	5,40,000	4,79,414
2014-15	29,00,000	23,89,392	5,50,000	4,77,701
TOTAL	**1,24,90,000**	**86,18,042**	**21,35,000**	**18,84,006**

B.   e-journals and Databases

Year	e-Journals Database		General Databases	
	Allocation (Rs.)	Expenditure (Rs.)	Allocation (Rs.)	Expenditure (Rs.)
2011-12	41,00,000	37,44,286	1,00,000	88,740
2012-13	26,75,000	25,64,986	1,25,000	1,02,981
2013-14	34,75,000	20,59,273	1,25,000	1,11,019
2014-15	43,50,000	27,09,622	1,50,000	1,21,600
TOTAL	**1,46,00,000**	**1,10,78,167**	**5,00,000**	**4,24,340**

SLS Library:

A. Book and Journal:

Year	Books		Journals	
	Allocation (Rs.)	Expenditure (Rs.)	Allocation (Rs.)	Expenditure (Rs.)
2011-12	5,00,000.00	4,99,920.00	4,00,000.00	3,99,298.00
2012-13	7,00,000.00	5,11,194.00	3,50,000.00	3,25,087.00
2013-14	7,00,000.00	6,99,252.00	3,75,,000.00	3,73,015.00
2014-15	7,00,000.00	4,20,559.00	5,00,000.00	4,75,943.00
TOTAL	**26,00,000.00**	**21,30,925.00**	**16,25,000.00**	**15,73,343.00**

B. e-journals and Databases

Year	Allocation (Rs.)	Expenditure (Rs.)
2011-12	4,00,000.00	93,130.00
2012-13	3,50,000.00	57,000.00
2013-14	3,75,000.00	72,240.00
2014-15	2,00,000.00	1,22,431.00
TOTAL	**13,25,000.00**	**3,44,801.00**

4.2.9 What initiatives has the university taken to make the library a 'happening place' on campus?

The entire collection at SPM and FOET library is automated and is made available to our users within our campus networks and online catalogues are available on internet, too. Library hours are made flexible to users to provide maximum usage, mainly during exam time, placement period, summer training period etc. Regular Orientation Programmes for new user and various academic programmes are being conducted.

SLS library have created "Pandit Deendayal Upadhaya jee" pictorial section to make library lucrative for users. Pandit Deendayal Petroleum University has been named after a prolific scholar and a social worker Pandit Deendayal Upadhyay. To pass on Panditji's message and to enable young leaders of tomorrow to understand the purpose of life, PDPU on his birth anniversary launched a special pictorial section featuring the works of Pandit Deendayal at School of Liberal Studies Library. The pictorial section has a valuable collection of Panditji's photographs, books, lectures etc.

4.2.10 What are the strategies used by the library to collect feedback from its users? How is the feedback analyzed and used for the improvement of the library services?

Feedback is received informally / verbally. After analyzing, remedial action is undertaken whenever applicable. The respective library committees discuss the feedback and decide on corrective actions for the improvement of library services.

4.2.11 List the efforts made towards the infrastructural development of the library in the last four years.

- Procurement of various types of furniture like book racks, magazine display stand, tables & chairs etc in all libraries.
- Staff working area for acquisition and processing of books (SPM & FOET Libraries)
- In SLS Library "Pandit Deendayal Upadhayay Jee" pictorial section is created. To make it lucrative some rare pictures of Panditjee is placed with his famous quotes and books written by him.
- The Office of ORSP has prepared an online database for all the publications of all faculty members. Each faculty periodically has to update his/her detailed information of publications on Research Information Management System (RIMS).

4.3 <u>IT Infrastructure</u>

4.3.1 Does the university have a comprehensive IT policy with regard to:

- *IT Service Management*

Yes. The University has an approved IT policy for development, installations and the use of IT infrastructure.

- *Information Security*

  Yes. The University has an approved IT policy for management of information security internally as well as externally.

- *Network Security*

  Yes. The University has an approved IT policy for management of Network Security.

- *Risk Management*

  Yes. The University has an approved IT policy for risk management.

- *Software Asset Management*

  Yes. The University has an approved IT policy for the management of Software assets.

- *Open Source Resources*

  Yes. The University has an approved IT policy for access and utilization of Open source resources.

- *Green Computing*

  Yes. The University has an approved IT policy for promoting Green Computing.

University network user community needs to observe certain precautions while getting their computers or peripherals installed so that he/she may face minimum inconvenience due to interruption of services and hardware failures. Teaching staff of the University is issued laptop in order to facilitate their work, while non-teaching staff of the University is issued desktop computers. In cases where there is a need to issue laptops and/or additional computers and other hardware to non-teaching staff, this is done with the approval of appropriate authorities.

IT policy of PDPU is to make secure all the information of faculty, staff, students and officials and to prevent the loss of information that is critical to the operation of the University. In order to secure the network, the IT service division has been taking appropriate steps by installing firewalls, access control, virus checks and content filtering software at the gateway. While implementing IT policy, every effort is made to maintain a careful balance between security and the ability of users to conduct rightful functions.

The policy document is given in Annexure 4.3.1.

4.3.2 **Give details of the university's computing facilities i.e., hardware and software.**

The detail of the University's computing facilities are as follows:

* **Number of systems with individual configurations**

Configuration	Computers (Qty.)
Pentium Processor, 1GB RAM, 80GB HDD	90
Core 2 Duo, 1GB RAM, 120GB HDD	30
Core 2 Duo, 1GB RAM, 160GB HDD	200
Core 2 Duo, 2GB RAM, 120GB HDD	113
Core 2 Duo, 2GB RAM, 250GB HDD	50
Core 2 Duo, 4GB RAM, 250GB HDD	10
Core 2 Duo, 2GB RAM, 320GB HDD	25
Core 2 Duo, 4GB RAM, 500GB HDD	15
Core i3, 4GB RAM, 320GB HDD	60
Core i3, 4GB RAM, 500GB HDD	112
Core i5, 4GB RAM, 500GB HDD	104
Core i5, 8GB RAM, 500GB HDD	15
Core i5, 8GB RAM, 1TB HDD	02
Core i3, 4GB RAM, 500GB HDD	30
Total	**856**

* **Computer-student ratio**

Approximately 1:5

* **Dedicated computing facilities**

Faculty are assigned individual laptop/desktop computers. Computer laboratories are available for students. Details are given as follows:

Location	No. of computers
Block – A (Lab)	60
Block – C (Lab 1)	60
Block – C (Lab 2)	60
Block – C (Lab 3)	60
Block – E	90

Other computing facilities are available to students in classrooms, libraries and various other course specific laboratories.

∗ **LAN facility**

The University utilizes Gigabyte LAN technology with a fibre-optic backbone. All laboratories and offices are equipped with LAN connections. Additionally, the entire campus is covered using Wi-Fi connectivity so that LAN and internet connectivity is accessible throughout the entire campus. All hostel rooms also have LAN connections and the hostels are also connected to the campus fibre-optic network.

∗ **Proprietary software**

The University has obtained licenses for the following proprietary software:

Software	Licence
MatlabR2008A	100
Ansys12.1	50
Solidworks 2012	100
Labview11	50
Mipower	10
Siemens UG NX 8.5	15
Bentley STAAD ProV8	10
Creo 2.0	50
Autocad2011	10
AspenOne V-8	150
Value Navigator	65
Work Pro	5
ArcGIS (ArcView)	31
Interface Builder	01
DecisionTools suite 6.2 (@Risk)	02
Oracle Crystall Ball	05
Tally ERP 9 (Multiuser)	01
Psim	05
MiniTab	25
PSCAD X4	25
Arena	01
Primavera contractor	08
Gaussian 09	01
SCADA	01

Additionally, the University has entered into a Campus Agreement for Microsoft products.

∗ **Number of nodes with internet facility**

All computers at the University are equipped with internet facility (826 computers and 1,120 ports for academic blocks + (1,184+ 1340) ports for hostels). Additionally, the entire campus is covered using Wi-Fi connectivity so that internet connectivity is available throughout the entire campus.

4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT infrastructure and associated facilities?

In line with the concept of Green Computing, the University plans to deploy virtualization technology for servers in the data center. This will enable the saving of power as well as a reduction in the air-conditioning load as physical servers are converted to virtual servers.

Additionally, the University intends to procure a lecture recording system which will allow students to stream recorded lectures from a server and/or view from a remote location.

4.3.4 Give details on access to on-line teaching and learning resources and other knowledge and information database/packages provided to the staff and students for quality teaching, learning and research.

The University subscribes to a number of online databases and journal collections.

Electronic (e-books, e-journals)

	SPM Library	FOET Library	SLS Library
E-Books	-	47	-
E-Journals	2200	404	2500

Participation in resource sharing networks/consortia (like INFLIBNET):

The following resources are provided to students and staff of the library for enhancing quality of teaching learning process.

Infrastructure

PDPU libraries are provided with 18 terminals dedicated to library and e-resources across the university with internet speed of 250 Mbps (1:1). This terminal offer access to the following services and resources.

OPACs	OPAC facility provides speedy access to bibliographic, location and availability information of the books in the library. The catalogue is available on the Internet for inquiring about books
Internet Access	Internet access is given to all terminals available in the library. Faculty and students are having their own laptops/desktop with Internet connectivity.
Down Loads	Free access and unlimited down loads of E-Journals & E-books within the campus networks.
Reading List / Bibliographic compilation	Regularly updated the Bibliographic details of list of new arrivals (books) at library home page
In-house / Remote access to e-resources	e-resources can be accessible from anywhere in campus. All login related details are given at library home page Library homepage: http://www.pdpu.ac.in/libraries.html

4.3.5 **What are the new technologies deployed by the university in enhancing student learning and evaluation during the last four years and how do they meet new / future challenges?**

The University has a Personal Response System (PRS) which enables the instructor to take immediate feedback from students in the classroom electronically. Classrooms are equipped with state of the art audio visual equipment like LCD projectors, amplifiers, etc. Classrooms with a capacity of 120 students also have a digital interactive whiteboard system.

The University is in the process of deploying a Learning Management System called Moodle which facilitates the learning process. The system has features like online quizzes, forums, online lessons, etc. Additionally, the University is in the process of deploying an application called Big Blue Button. Big Blue Button is an open source web conferencing system for on-line learning. BigBlueButton enables you to share documents (PDF and any office document), webcams, chat, audio and desktop. It can also record sessions for later playback.

Recently, the University utilized this system for interaction with Prof. Arvind Kudchadker who delivered lectures on excellence in academics from California, USA, to faculty under the aegis of the Center for Academic Excellence and Leadership established

at PDPU. Faculty were able to interact live (audio and video) with the presenter. Recordings of this interaction are available on the server and can be streamed to people who would like to view them.

4.3.6 What are the IT facilities available to individual teachers for effective teaching and quality research?

Faculties are assigned individual laptop/desktop computer with the required software which they can use in and outside the class for teaching as well as research purposes. Internet access is also given to faculty so that they may access information outside the University. Electronic journals and databases are accessible to faculty.

4.3.7 Give details of ICT-enabled classrooms/learning spaces available within the university? How are they utilized for enhancing the quality of teaching and learning?

All classrooms are equipped with:

- Desktop computer
- Projector
- Screen
- Audio amplifier
- Microphone
- Speakers
- Switcher
- Larger classrooms also equipped with electronic boards and LED/LCD displays in addition to other A/V facilities

The configuration of the systems in the various classrooms is decided on the basis of the use of the classrooms in terms of the nature of classroom conduct necessitating specific hardware software resources.

4.3.8 How are the faculty assisted in preparing computer- aided teaching-learning materials? What are the facilities available in the university for such initiatives?

Faculty prepares their own teaching and learning materials. The University provides all the necessary hardware and software resources to each faculty for this purpose.

Additional software, specific to various disciplines, is incorporated by faculty into their teaching materials. In each node being internet connected faculty access online journals, databases and other learning resources for this purpose.

4.3.9 How are the computers and their accessories maintained?

The University has a centralized IT function which is responsible for the issue and maintenance of IT and audio-visual equipment. Additionally, maintenance contracts and/or extended warranties are also in place. Maintenance services are provided throughout the day to all the faculty, staff and students.

4.3.10 Does the university avail of the National Knowledge Network connectivity? If so, what are the services availed of?

Yes. The University is connected to the National Knowledge Network (NKN) offering 1Gbps connectivity through the NKN.

4.3.11 Does the university avail of web resources such as Wikipedia, dictionary and other education enhancing resources? What are its policies in this regard?

The University provides internet access through which web resources such as Wikipedia, etc. are available to the university community. Additionally, the University subscribes to electronic journals and databases which are accessible to the University community from their computer.

4.3.12 Provide details on the provision made in the annual budget for the update, deployment and maintenance of computers in the university.

Description	Budgeted Amount for 2015-16 (Rs.)
FMS - Aster(1)	4,97,664
FMS - GIPL (4)	28,63,865
Computer/Printer Peripherals/maintenance	3,00,000
Cartridge (New + Refilling)	3,00,000
Software (Application S/W)	21,00,000
Servers Warranty Charges	3,50,000

Website & Domain	3,50,000
Networks equipments Warranty Charge	50,00,000
CCTV equipments Warranty Charge	16,50,000
UPS Warranty Charge	3,50,000
AV maintenance	5,00,000
Blaznet B/w	4,00,000
BSNL B/w	Paid
Datacentre maintenance – SPT-2	5,00,000
IT Pro Training	1,50,000
Fiber and Radio connectivity	1,00,000
Total	**1,54,11,529**

4.3.13 What plans have been envisioned for the gradual transfer of teaching and learning from closed university information network to open environment?

The University has implemented its IT hardware infrastructure as well as software platform such that the learning management system can be used to deliver course content to participants outside the campus also. It is possible to utilize this infrastructure and conduct teaching and learning activities using a model that is similar to MOOCs. Faculty may also choose to share their material via electronic means with students as per needs

4.4 Maintenance of Campus Facilities

4.4.1 Does the university have an estate office / designated officer for overseeing the maintenance of buildings, class-rooms and laboratories? If yes, mention a few campus specific initiatives undertaken to improve the physical ambience.

Yes, PDPU has an Estate office and a designated officer to oversee the maintenance of buildings, class-rooms and laboratories. Initiatives undertaken to improve the physical ambience are:

- External Signage of all the buildings.
- Beautification of buildings with murals.
- Proper car parking areas & seating areas for students.
- Well maintained class rooms.
- Planting of trees & shrubs and manicured lawns.
- Emergency Maintenance Vehicles

4.4.2 **How are the infrastructure facilities, services and equipments maintained? Give details.**

The housekeeping & security services have been outsourced and are supervised by Estate and Administration Department of PDPU. O&M of Electrical Sub- Station, AMC & lifts are out sourced and supervised by Technical Services. Maintenance of infrastructure & equipment is under technical services.

CRITERION V: STUDENT SUPPORT AND PROGRESSION

5.1 Student Mentoring and Support

5.1.1 Does the university have a system for student support and mentoring? If yes, what are its structural and functional characteristics?

Yes, we do have the Office of Student Activities and Leadership (SAL) at PDPU which help students to develop themselves as good citizens, professionals and Leaders for tomorrow. The office works with a motto of student's involvement in Extra Curricular and Co-curricular activities. These activities give students a lot of benefits both personally and professionally. Some of the value additions are improved time management skills, higher leadership skill sets, networking, organizing skills and many more. These activities are a great way to test theoretical skill set, expose one's ability to take real life issues and express one's ability to handle, react, and evaluate various situations. After the completion of the program, the students develop leadership qualities, understand the importance of team work and have the confidence to explore the new opportunities available in life to follow.

Major Highlights of the Office of SAL at PDPU:

- More than 100 Student Events in an Academic Year.
- More than 35 Student Clubs to make every Student engaged.
- International Standard Sports Facilities.
- Wellness Centre – GYM Facilities.
- Well Equipped Music Room to perform.
- Huge International and National Network – work with more than 15 Student Chapters of Professional bodies.
- Extensive ranges of Workshops in Robotics, Electronics, Technical Software, Dance, Photography, Videography and various other fields are organized.
- Chance to Serve the Nation through the Community Development Initiative (CDI), Blood Donation Camps, etc.

The Students organizations in PDPU are majorly classified as a

- Social and Cultural
- Science and Technical
- Sports

University has a system of student mentoring through faculty advisors. The objective of mentoring process is to identify students with learning disabilities, slow learning capabilities and sharing the progress and problems of respective students with concerned faculty members to make them aware of students needs.

On joining the University, every student is assigned to a faculty advisor. Students are expected to consult the faculty advisor on matters related to their academic performance and the courses they may take in various semesters. Role of faculty advisor is to extend guidance to students, enabling them to complete their courses of study in a smooth and satisfactory manner. Faculty advisor is the person whom parents/ guardians can contact for performance-related issues of their ward/s.

Apart from individual mentoring that is available by every faculty member (largely pertaining to their course area) the University has in place a 'Training & Placements Cell' that helps students in the process of identification of right prospective profile/company and the efforts needed to attain their respective career objectives.

Under the faculty advisor scheme, each faculty is assigned a group of students. Any student can contact the faculty advisor and discuss his/her problems related to academics, placements or socio-emotional issues.

Specific role of Faculty Advisor includes:

- Guidance about the rules and regulations governing the courses of study.
- Registration of students for courses, within the scope of the regulations.
- Special attention to weak students, including making revised plan of study for weak/bright students based on their academic performance.
- Providing moral support to students in academic, emotional, and social/adjustment issues.
- Organizing Open House for parents or legal guardians to discuss the progress, grievances or issues of students.
- Monitoring the attendance of students from time to time in respective classes.

Informing respective faculties and Directors about students with poor attendance.

- Monitor and review academic progress of students on regular basis.

- Encourage the students to participate in workshops, conferences, seminars, expert lectures, and participating in paper/poster presentations.

- Suggest books, journals, articles, websites, videos, or other resources to students.

- Suggest certification courses to students for overall development. Encourage students to take up projects and research studies.

- Encourage students to appear in competitive exams.

- Filing necessary paperwork for students and facilitate meetings with other faculty members.

- Help students maintain a balance between academic and co-curricular aspects of student life.

- Discussion about student progress with Directors as and when required.

5.1.2 Apart from classroom interaction, what are the provisions available for academic mentoring?

Having identified students with slow learning capabilities and other limitations, academic mentorship is provided in various forms such as:

~ Remedial classes are planned to enhance their subject knowledge and to complement classroom teaching.

~ Tutorials sessions are planned in order to enhance problem solving capabilities.

~ Training is imparted in various areas. All students take up internships in the developmental sector or with the government with the help of faculty member.

~ Students go on industry visits and also take up long term (6-8 weeks) internships for hands-on experience in their areas of interest and specialization.

~ Soft skill training is provided through rigorous sessions in body language, verbal communication, CV Writing, and facing group discussion and interview panels.

~ Various training programmes are arranged throughout the academic cycle by the respective Department as well as Special Interest Groups (Student Clubs), for theme specific training and up gradation of knowledge. Some examples are robotics workshop, Android programming workshop, drilling workshop etc.

~ Competitions are organized for raising the level of academic competitiveness amongst students. Examples are model making competition, robot wars competition, poster making competition, paper presentation competition etc.

~ Students are encouraged and funded to participate in national and international academic competitions organized by associations / institutions such as BAJA (automobile), IEEE (Engineering), Cairn India (ACE) etc.

5.1.3 Does the university have any personal enhancement and Development schemes such as career counseling, soft skill Development, career-path-identification, and orientation to well-being for its students? Give details of such schemes.

- PDPU has a '*Corporate Relations Cell*' that helps students in the process of identification of right prospective profile/company and the efforts needed to attain their respective career objectives.

- The Training and Placement Cell (T&P Cell) collaborates with prominent organizations in setting up of internship and training program of students.

- HR Conclaves and Roundtables are organized by university to make students understand the requirement of industries and its placement processes. At such conclaves, industry HR representatives and functional experts provide guidance to the students to prepare themselves for industry and business career.

- Regular interactions with the Alumni are organized for the current students through different platform including talks, discussions, mentoring during internships and groups and Skype interactions.

- Office of International Relations of PDPU organizes students' interaction with International university representatives in the campus to guide students regarding further study options.

- Industry interactions during seminars/forums/ round tables provide students new perspectives on competencies required for careers.

- For selected programmes, the university offers one week 'Know Your Major Workshop' at the start of fifth Semester to guide students regarding careers resulting from various Majors.

- University has also constituted 'Study Abroad' email group where information is disseminated from time to time.

- Through the distinguished lecture series, the university provides opportunities to students for personal enhancement by inviting people of eminence and distinguished achievements to interact with the students.

- Industry experts, entrepreneurs and business leaders are invited to share their knowledge, experience and expertise with students under guest lecture series.

- Distinguished faculty members and Academic stalwarts are recruited to build robust academic fraternity at PDPU.

5.1.4 Does the university provide assistance to students for obtaining educational loans from banks and other financial institutions?

Yes, PDPU has arrangement with SBI (State Bank of India) and OBC (Oriental Bank of Commerce). University provides and helps the students with all kinds of paper work needed for the loan. PDPU also invite other banks for the same.

5.1.5 Does the university publish its updated prospectus and handbook annually? If yes, what are the main issues / activities / information included / provided to students through these documents? Is there a provision for online access?

Yes, University publishes its handbook for various programmes.

- The details about the programmes offered by the university.

- Eligibility, duration and admission procedure of each programme.

- Do's and Don'ts and antiragging policy in the university.

- Academic calendar of the programme.

- Course curriculum, rules and regulations, examination schedules, grading pattern.

- Fee Structure for each programme.

- Infrastructure and placement details

- Contact details of important functionaries like: administration, student development, hostel, dean and academics.

- Details of 'Women Development Cell' and 'Student Grievances and Redressal Cell'

5.1.6 Specify the type and number of university scholarships / freeships given to the students during the last four years. Was financial aid given to them on time? Give details (in a tabular form) for the following categories: UG/PG/M.Phil/Ph.D./ Diploma/others (please specify).

Enlightened and forward looking society, honors scholars who build up norms of civilized society and also every carry over, legacy of proud heritage. What is true for society is perhaps more relevant to an educational institution like a university. It has the mandate to motivate, look after and inspire potential scholars by providing due recognition and enabling them to pursue knowledge creation and acquisition of erudition of a very high order in once chosen field.

PG Programme

Year	Name of the Scholarship	Level of the programme	No. of Beneficiary / Provision	Amount for Scholarship Provision (Rs.)
2015-16	Research Fellowship	PhD	22	6600000
2014-15	Research Fellowship	PhD	11	3300000
2013-14	Research Fellowship	PhD	11	3300000
2012-13	Research Fellowship	PhD	11	3300000

Year	Name of the Scholarship	Level of the programme	No. of Scholarship Provision	Amount for Scholarship Provision (Rs.)
2015-16	GATE fellowship	PG	100	14,880,000
2014-15	GATE fellowship	PG	180	26,784,000
2013-14	GATE fellowship	PG	120	10,800,000
2012-13	GATE fellowship	PG	15	1,350,000

UG Programme

Year	Name of the Scholarship	Level of the programme	No. of Scholarship Provision	Amount for Scholarship Provision (Rs.)
2015-16	President Fellowship	UG (1ST Year)	2	222500
2014-15	President Fellowship	UG (1ST Year)	5	577500
2013-14	President Fellowship	UG (1ST Year)	11	555000
2012-13	President Fellowship	UG (1ST Year)	Not Released	Not Released

Year	Name of the Scholarship	Level of the programme	No. of Scholarship Provision	Amount for Scholarship Provision (Rs.)
2015-16	Merit Scholarship	UG	Not Released	Not Released
2014-15	Merit Scholarship	UG	Not Released	Not Released
2013-14	Merit Scholarship	UG	12	1380000
2012-13	Merit Scholarship	UG	12	1380000

Year	Name of the Scholarship	Level of the programme	No. of Scholarship Provision	Amount for Scholarship Provision (Rs.)
2015-16	Merit-cum-Means Scholarship	UG	Not Released	Not Released
2014-15	Merit-cum-Means Scholarship	UG	Not Released	Not Released
2013-14	Merit-cum-Means Scholarship	UG	3	135000
2012-13	Merit-cum-Means Scholarship	UG	3	135000

5.1.7 **What percentage of students receive financial assistance from State government, central government and other national agencies (Kishore Vaigyanik Protsahan Yojana (KVPY), SN Bose Fellow, etc.)?**

Year	Name of the Scholarship	Level of the programme	No. of Students benefited	Amount for Scholarship (Rs.)
2015-16	1.DST-INSPIRE Fellowship	PG	02	4,48,800
	2. Maulana Azad National Fellowship for Minority Student	PhD	01	3,90,000
2014-15	1. DST-INSPIRE Fellowship	PG	02	4,48,800
	1. Maulana Azad National Fellowship for Minority Student	PhD	01	3,90,000
2015-16	1. Post Matric Scholarship (SC/ST/OBC)	UG	Not Released	Not Released

	2. CM Scholarship		Not Released	Not Released
	3. Freeship Card Scholarship		Not Released	Not Released
2014-15	1. Post Matric Scholarship (SC/ST/OBC)	UG	28	3251200
	2. CM Scholarship		80	4000000
	3. Freeship Card Scholarship		04	300000

5.1.8 Does the university have an International Student Cell to attract foreign students and cater to their needs?

Yes, PDPU has a functional body in the name of OIR (Office of International relations) which takes care of the international student exchange. PDPU is tied-up with AIESEC, which is collaborated with many foreign universities, and this helps to carry out the student exchange programmes. For foreign students, university has an international student hostel. PDPU also offer a secure campus with CCTV cameras and full-time security staff facilities. Specific programme wise collaborative exchanges, study abroad and twinning programmes are planned as per the stipulation of regulatory bodies. PDPU is also part of DASA Programme. University is making effort to attract foreign students through agencies of Govt. of India like Education Consultants India Limited (EDCIL).

5.1.9 Does the university provide assistance to students for obtaining educational loans from banks and other financial institutions?

Yes, University has arrangements with SBI (State Bank of India) and OBC (Oriental Bank of Commerce). PDPU provide and help the students with all kinds of paper work needed for the loan. University also invites other banks for the same.

5.1.10 What types of support services are available for:

∗ **Overseas students**

For overseas students we have a functional body named OIR office of international relations which takes care of all the foreign students. For SAARC country students, university is subsidizing the fees and other charges to the extent of the Indian students. International student hostel is also available at PDPU.

∗ **Physically challenged / differently-abled students**

For physically challenged students, all the buildings used for teaching are accessible on all floors to wheelchair. Students should contact the Facilities and Administration department, if they require mobility assistance around the Campus. PDPU has special provision in the libraries for study material in brail for visually challenged students.

∗ **SC/ST, OBC and economically weaker sections**

Book bank facility is extended for SC/ST/OBC students at PDPU. PDPU follows reservation policy approved by Government, for admission of students in its select programmes. For SC/ST, OBC and economically weaker students, PDPU facilitates scholarships.

∗ **Students participating in various competitions/conferences in India and abroad**

For participating in various events, PDPU has an office, which takes care of all the events. Office of Students Activity and Leadership (OSAL) is the working body in the university, which helps students to get involved in extra-curricular activities. It is supported by various student clubs such as Robotics, VGA, SPPG, Photography Club, Debate Club, Theatre club etc. PDPU also gives a relaxation of up to 10% in attendance for such students participating in competitions and conferences. Students are also encouraged to participate in sports events such as Khel Mahakumbh or AIU Sports events. PDPU policy to promote student participation in national and international events provides for financial assistance for travel and registration costs.

∗ **Health centre, health insurance etc.**

For health care, PDPU has a doctor available on campus during the college hours. PDPU also has a facility for "doctor on call". Gynecologist and Psychiatrist visit once a week. PDPU has tied up with the local hospitals for cashless treatment of student. PDPU also has a chemist shop on campus. 24×7 ambulance facility is also available at the hostels of the university. All students are covered under Mediclaim insurance.

∗ **Skill development (spoken English, computer literacy, etc.)**

PDPU has established centers of excellence and training like Siemens-Centre of Automotives. The Siemens-Centre of Excellence has been established at PDPU to cater the need of skilled man power in the automotive industry. Siemens India and Design Tech. offer certification courses in skilled development in specific areas of:

Computer Aided Design (CAD), Computer Aided Engineering (CAE), Computer Aided Manufacturing (CAM), Distributed Manufacturing (DM), Programmable Logic Modules (PLM), Process Instrumentation and Automation.

Centre for Continuing Education (CCE) has been established at PDPU which prepares students for Civil Services, GRE, TOEFL, GATE and other competitive exams. The Corporate Relations Cell at PDPU also conducts various soft-skills programmes. Three computer labs with latest updated software and books are made available for enhanced computer literacy.

∗ **Performance enhancement for slow learners**

University has a system of student mentoring through faculty advisors. The objective of mentoring process is to identify students with learning disabilities, slow learning capabilities and sharing the progress and problems of respective students with concerned faculty members to make them aware of students needs. Having identified students with slow learning capabilities and other limitations, academic mentorship is provided in various forms such as:

~ Remedial classes are planned to enhance their subject knowledge and to complement classroom teaching.

~ Tutorials sessions are planned in order to enhance problem solving capabilities.

~ Training is imparted in various areas. All students take up internships in the developmental sector or with the government with the help of faculty member.

~ Students go on industry visits and also take up long term (6-8 weeks) internships for hands-on experience in their areas of interest and specialization.

~ Soft skill training is provided through rigorous sessions in body language, verbal communication, CV Writing, and facing group discussion and interview panels.

~ Various training programmes are arranged throughout the academic cycle by the respective Department as well as Special Interest Groups (Student Clubs), for theme specific training and up gradation of knowledge. Some examples are robotics workshop, Android programming workshop, drilling workshop etc.

~ Competitions are organized for raising the level of academic competitiveness amongst students. Examples are model making competition, robot wars competition, poster making competition, paper presentation competition etc.

~ Students are encouraged and funded to participate in national and international academic competitions organized by associations / institutions such as BAJA (automobile), IEEE (Engineering), Cairn India (ACE) etc.

∗ **Exposure of students to other institutions of higher learning / corporate / business houses, etc.**

PDPU students undergo training in corporate houses and academic institutes as a part of their course curriculum. At the end of second year in UG programmes, student has a compulsory course on Industrial Orientation and at the end of third year on Industrial Training. Students spend six weeks in the industry where they collect data for their project work scheduled in the fourth year for partial fulfillment of degree. Select programmes also have compulsory internships with Govt. Institutions like: URMI with Ahmedabad Municipal Corporation. PG students of select programmes undergo six to eight week industrial training over and above regular visits to industry and business houses. They also undertake industry projects and contribute to day to day activities of corporate houses/institutions through earn while you learn mechanism.

∗ **Publication of student magazines**

Yes. PDPU has in-house magazines for each school such as: SPT Mirror, SoT Mirror, SPM Mirror, SLS Mirror and Ecology a publication of SLS.

5.1.11 Does the university provide guidance and/or conduct coaching classes for students appearing for Civil Services, Defense Services, NET/SET and any other competitive examinations? If yes, what is the outcome?

Yes, PDPU has in-house coaching facilities for IAS exams. University provides a full-fledged assistance and guidance till the candidate is selected. For NET/SET, university offer general training and guidance for the entrance exam. To cater to the skill development of external stakeholders Center of Continuing Education has been established on campus, which runs evening and weekend classes for foreign language and Civil Services Training. The Civil Services Training activities started in 2013 and 41 students were registered of which 15 students appeared for UPSC exam in 2014. In 2015, 197 students registered and 70 appeared for the exam for which result is awaited.

5.1.12 Mention the policies of the university for enhancing student participation in sports and extracurricular activities through strategies / schemes such as

∗ **additional academic support and academic flexibility in examinations**

∗ **special dietary requirements, sports uniform and materials**

∗ **any other (please specify)**

PDPU has a distinct policy document for supporting student's participation through a strategic initiative which provides for financial support, materials and equipment, uniform and academic flexibility in attendance. Students representing PDPU in any kind of competition is to be approved by the Dean - Students Affairs, well in advance. Any student representing PDPU will be entitled for relaxation as per the attendance policy and will be provided funds for participation on behalf of the university.

Please refer Annexure 5.1.12 for policy document.

5.1.13 Does the university have an institutionalized mechanism for students' placement? What are the services provided to help students identify job opportunities, prepare themselves for interview, and develop entrepreneurship skills?

Yes, there is a department for training and placement known as 'Corporate Relations Cell'. A Dean-student affair is the head of the cell with a separate full time Advisor, Training and Placement. PDPU has a full time working staff dedicated exclusively to the Training and Placement Cell. University conducts workshops such as interview sessions, CV writing, one-to-one counseling sessions etc. PDPU also carries out pre-placement visits.

The Training and Placement Cell (T&P Cell) facilitates the process of placements for graduates and post-graduate students at the University, besides collaborating with prominent organizations in setting up of internship and training program of students. The placement policies and other related activities are handled by Training & Placement Cell, assisted by the Faculty In-charge and Students' Placement Committee at each school. Students Committee is closely co-opted in implementing these policy decisions. The process of coordination with recruiters is handled by the T&P Cell. The companies are requested to communicate with Manager-Training & Placement for initial discussions

and subsequent communication. Faculty of each schools help identify companies and contacts through their networks and interactions with the industry.

Dates of interviews, Selection of candidates, Job offers etc. are facilitated and managed through the Training & Placement Cell.

The T&P Cell office is well equipped to support all placement procedures including Pre-Placement Talk, screening test, group discussions and interviews.

Facilities available at T&P Cell:

- Auditorium and lecture theaters for Presentations.
- Well equipped discussion rooms for interviews and group discussions.
- IT support for placement activities

PDPU has a school-wise placement committee which is supervised by a Faculty In-charge.

With the help of Govt. of Gujarat, PDPU has also established an Innovation Incubation Centre (IIC) for promoting innovation, creativity and entrepreneurship amongst students. Presently, 715 students have registered as members of IIC. After framing innovation policy, IIC has received 28 research and incubation proposals from PDPU students and faculty.

5.1.14 Give the number of students selected during campus interviews by different employers (list the employers and the number of companies who visited the campus during the last three years).

Sr. No.	Name of Company	Number of placed students
1	Essar	53
2	GSPC Gas	45
3	Accenture India Private Limited	46
4	Gujarat State Petronet Limited	31
5	Jaihind Projects Ltd.	31
6	Gujarat State Petroleum Corporation Ltd.	26
7	Cairn India	24
8	Oil and Natural Gas Corporation Ltd.	20

9	Gujarat State Fertilizer Corporation	16
10	Makwana Engineers & Technical Services Limited	18
11	Gujarat Narmada Valley Fertilizers Corporation Ltd.	16
12	L&T	16
13	Mahindra Satyam	14
14	Reliance Industries Ltd.	15
15	GIPCL	10
16	Jindal Drilling & Industries Ltd.	11
17	Wipro Technologies Limited	12
18	GACL	9
19	Infosys Limited	9
20	Omega Sea Services Pvt. Ltd.	12
21	Aakash Exploration Services Pvt. Ltd	8
22	Adani Gas Ltd.	7
23	Halliburton	6
24	OPaL	6
25	Gujarat Gas	5
26	INOX	5
27	Deep Industries Ltd.	4
28	HOECL	4
29	M-I Swaco India	4
30	Sapient Global Markets	4
31	HMEL	3
32	Punj Lloyd	7
33	Jubilant Energy Limited	2
34	L&T Infotech Limited	4
35	Mott MacDonald	2
36	Sabarmati Gas	3
37	Weatherford	2
38	Corrtech	1
39	E I Technologies Pvt. Ltd.	3
40	GAIL	2
41	Linde Engineering India Private Limited	1
42	Niko	1
43	Oil India Limited	1
44	Pandit Deendayal Petroleum	1

	University	
45	PNGRB	1
46	Shiv Vani Oil & Gas Exploration Services Limited	1
47	Tech27	1
48	Azure Power	1
49	Bharat Petroleum Corp. Ltd.	5
50	Ernst & Young Pvt. Ltd.	2
51	Empire Industries	1
52	Guj Power Corp. Ltd.	2
53	Guj State Energy Generation Ltd.	1
54	Gujarat Alkalies & Chemicals Ltd.	1
55	Gujarat Energy Transmission Corp. Ltd.	2
56	Gujarat Pipavav Power Company Ltd.	1
57	Hindustan Oil Exploration Company	2
58	Indian Oil Corp. Ltd.	2
59	Infraline Energy	5
60	Jindal Drilling & Industries Ltd	1
61	Jubilant Energy	1
62	Mahanagar gas Ltd.	3
63	Suzlon Energy	1
64	Tata Consultancy Services	3
65	Torrent Power Ltd.	2
66	Transgraph Consulting	1
67	Uttar Guj Vij Company Ltd.	2

5.1.15 Does the university have a registered Alumni Association? If yes, what are its activities and contributions to the development of the university?

PDPU has alumni association and its registration process is underway. Alumni association is committed to the growth and skill development of the university. Annual meetings with Alumni Association are held and alumni are invited to participate in the growth of the university. Some of the alumni are also facilitating the placement initiatives of the university.

The Alumni Association coordinates with the alumni for mentoring the current students through regular personal interactions, video conferencing interactions, mentoring during

internships and placements. Alumni also provide feedback on course curriculum and its application in practical world, modification and addition in the contents of the courses, faculty and introduce industry experts for inviting as guest faculty, visiting faculty and distinguished speakers.

5.1.16 Does the university have a student grievance redressal cell? Give details of the nature of grievances reported. How were they redressed?

Yes, PDPU has a student grievance redressal cell. Dean - Student affairs is the incharge of the cell. PDPU in order to support the students in regards of their grievances has a provision for faculty advisors/mentors. Faculty Advisors or Mentors interact with their allotted students frequently and help them sort their academic and personal problems. In some cases, Faculty Mentors also talk with parents to apprise them for the progress/problems of their children.

Grievances related to examination, evaluation, attendance, technical problem of IT facilities, physical facilities, timings, regarding library facilities, quality of teaching etc are reported.

University has mechanisms to handle student grievances. For any academic performance-related matter, a student can approach academic committee or the School Director, if not satisfied; a student can also approach to the University-DG. In case of disciplinary issue, grievances are handled at the school level by the School Director and University level by University level Committee.

5.1.17 Does the university promote a gender-sensitive environment by (i) conducting gender related programs (ii) establishing a cell and mechanism to deal with issues related to sexual harassment? Give details.

University does promote gender sensitive environment. PDPU has set up a Women's Cell to look after this matter. Women's Cell looks after the complaints received and takes actions.

PDPU is also in the process of revising the policy to deal with gender sensitivity and sexual harassment cases based on the order of the new Act.

Some of the initiatives undertaken by the university to promote gender awareness and sensitivity are as follows:

- Extraordinary Women Lecture Series
- Open Forum Debate
- Homage to Nirbhaya
- Planner Making Competition
- A Two Day Free Eye Checkup Camp
- Introductory Seminar on Women's Cell PDPU
- Women Empowerment Workshop
- Police Heart Women Safety and Security Drive

University has a Women Cell which works for spreading awareness on gender sensitivity through various activities and also supports students on gender-related issues. The University level Gender Committee has members from every school.

5.1.18 Is there an anti-ragging committee? How many instances, if any, have been reported during the last four years and what action has been taken in these cases?

Yes, the university is proactive to prevent any ragging incidents in the campus. There is an Anti-Ragging Committee, which is comprised of all stakeholders as stipulated by UGC. Anti-ragging squad is being constituted to monitor affairs on the campus on day to day basis. The role of Anti-ragging Squad (ARS) is to maintain vigil; overseeing and patrolling function and shall remain mobile, alert and active at times. In last four years, two minor incidents of ragging occurred in the campus and during both occasions the students found guilty have been suspended/ rusticated from the university. PDPU is a ragging free campus.

5.1.19 How does the university elicit the cooperation of all its stakeholders to ensure the overall development of its students?

PDPU takes extensive support from various stakeholders like: community, industry, parents, alumni and government to ensure overall development of the students. This is done through formal and informal interactions.

- Feedback received from the students is considered for curriculum development

and delivery.

- Parents of the students are informed about the progress of their wards and inputs regarding the procedures at PDPU.

- Feedback from the industry helped to devise and revise the course curriculum through participation of industry representatives.

- The university encourages students to participate extensively in the activities of Students' clubs through SAL.

- Feedback from the alumni helped the students to understand the current industry practices.

5.1.20 How does the university ensure the participation of women students in intra- and inter-institutional sports competitions and cultural activities? Provide details of sports and cultural activities where such efforts were made.

Yes, PDPU encourages girl's participation in all the activities. PDPU has a women's team for all sports. PDPU women team has stood 1st place in inter-institutional football tournament. One of the PDPU students has been awarded with 'Senior Eklavya Award' for exceptional contribution in sports. There is an exclusive NCC wing comprising of girl cadets.

Women students are encouraged to participate in all sports and cultural activities. In every student level committee, gender representation is maintained.

5.2 Student Progression

5.2.1 What is the student strength of the university for the current academic year? Analyze the Programme-wise data and provide the trends for the last four years.

Student strength of the University for the current academic year (2015-16)

School	UG	PG	Ph.D.
School of Liberal studies	668	28	17
School of Petroleum Management	PG Diploma 20	114	18
School of Technology	1787	185	98
School of Petroleum Technology	534	46	08
Total	**3009**	**373**	**141**

Name of the Programme	Student Progression	Year Wise (%)			
		2012	2013	2014	2015
M.Tech.	PG to PhD	NIL	NIL	NIL	12
	Employed through campus selection	NIL	NIL	NIL	15
	Other than campus recruitment	25	50	88	15
MBA	Employed through campus selection	92	98	97	80
	Other than campus recruitment	NIL	NIL	NIL	17.5
	Entrepreneurs	NIL	NIL	NIL	2.5
	PG to PhD	8	2	3	NIL
B.Tech.	UG to PG	4	3.07	1.3	
	Employed through campus selection	84.16	50.8	48	39.3
	Other than campus recruitment	NIL	NIL	NIL	2.8
B.A. (Hons.)/BBA (Hons.) / BCom. (Hons.)	UG to PG	NA	40	45	22
	Employed through campus selection	NA	40	35	30
	Other than campus recruitment	NA	4	8	6
	PG to MPhil	NIL	7	NIL	NIL
	PG to PhD	NIL	7	8	NIL

Note: The above data is given as per available record.

5.2.2 What is the programme-wise completion rate during the time span stipulated by the university?

Programme UG	Rate of Completion 2007 - 2011 batch	Rate of Completion 2008 - 2012 batch	Rate of Completi 2009 - 2013 batch	Rate of Completion 2010 - 2014 batch
Civil Engg.	N.A.	N.A.	N.A.	100
Mech. Engg.	N.A.	N.A.	N.A.	100
Elect. Engg.	N.A.	N.A.	N.A.	100
Petro. Engg.	98.75	98.7	98.75	100
B.A./B.B.A. (Hons.)	N.A.	N.A.	100	98.75
Programme PG	Rate of Completion 2009 - 2011 batch	Rate of Completion 2010 - 2012 batch	Rate of Completion 2011 - 2013 batch	Rate of Completion 2012 - 2014 batch
Petro. Engg.	100	100	100	100
Solar Engg.	NA	100	100	100
Nuclear Engg.	90	98.75	100	100
M.B.A.	100	100	100	100
M.A.	NA	NA	100	98.75

5.2.3 What is the number and percentage of students who appeared/ qualified in examinations like UGC-CSIR-NET, UGC-NET, SLET, ATE / CAT / GRE / TOFEL / GMAT / Central / State services, Defense, Civil Services, etc.?

Name of Examination	Number of Qualified Students
UGC-CSIR-NET	11
GATE	55
GRE	49
TOEFL	77
GMAT	8
CAT	3
CIVIL SERVICES	NIL
IELTS	20

5.2.4   Provide category-wise details regarding the number of Ph.D./ D.Litt./D.Sc. theses submitted/ accepted/ resubmitted/ rejected in the last four years.

Sr. No.	Name	Title of Thesis	Category	Year of Admission	Branch	Date of final Viva	Date of Notification Issue
List of students who have completed their Ph.D.							
1	Chintan Pathak	Synthesis of Fly ash Zeolite for oil spill clean up	Full Time	2008	SPT	21/5/2013	5/06/2013
2	Sanjay Behura	Development of graphene and silicon nanowires for photovoltaic and field electron emission applications	Full Time	2009	Solar	2/8/2014	14/8/2014
3	Malkesh patel	Development and studies of structural, optical and electrical properties of sprayed Cu2ZnSnS4 and SnS for thin films solar cells	Full Time	2009	Solar	9/8/2014	12/8/2014
4	Brijesh Tripathi	Theoritical and experimental studies of titanium Dioxide Dye-sensitized Solar cells	Part Time	2010	Solar	12/8/2014	19/8/2014
5	Supin Gopi	Study of Hydrogen production process using low current, Non thermal plasma reformation of hydrocarbons	Part Time	2008	SoT	6/11/2014	28/11/2014

6	Mr. J. Brahma	Geological and Geeophysical integrated study of western and central tripura for identification of hydrocarbon plays and prospect.	Part Time	2011	SPT	3/3/2015	4/3/2015
7	Mr. Biswajit Thander	Comparision of various stochastic inversion techniques and its application to hydrocarbon resource/reserve estimation	Part Time	2011	SPT	19/3/2015	23/3/2015
8	Ms. Khushbu R. Chauhan	Development of CdTe thin film by electrodeposition in ionic liquid and studies on its electronic devices	Full Time	2010	Solar	3/4/2015	6/4/2015
9	Mr. Dipal Bakulbhai Patel	Studies on Schottky junction solar cells of PbO_x interfaced with metal and ionic liquid: promulgating the redox properties of ionic liquid	Full Time	2010	Solar	16/04/2015	20/4/2015
10	Mr. Pankaj Yadav	Electro-analytical characterization of silicon and dye sensitized solar cells.	Full Time	2011	Solar	8/06/15	12/06/15
List of students who have submitted their Ph.D. thesis							
1.	Pramila Mahala	Design optimization of wide band gap ingan solar cells	Full Time	2009	Solar	In process	--
2.	Rajendra Dutt Saklani	Sequence Stratigraphy of Paleogene Sediments of Western India special reference to	Full Time	2008	SPT	In Process	---

		Kutch Basin					
3.	Kavita Pandey	Electroanalytical evaluation of various interfaces in polymer based super capacitors	Full Time	2012	Solar	In Process	---
4.	Abhimanyu kumar Yadav	Renewable power aggregation using dc converters for residential applications	Full Time	2009	Solar	In process	--

5.3 <u>Student Participation and Activities</u>

5.3.1 **List the range of sports, cultural and extracurricular activities available to students. Furnish the program calendar and provide details of students' participation.**

Cricket, Football, Lawn Tennis, Volleyball, Basketball, Badminton Handball, Table Tennis, Caroms, Chess, Athletics, Martial Arts and other sports.

Please refer Annexure 5.3.1 for further details.

5.3.2 **Give details of the achievements of students in co-curricular, extracurricular and cultural activities at different levels: University / State / Zonal / National / International, etc. during the last four years.**

PDPU students participate in various competitive activities organized by institution across the country and win prizes/awards. The detailed list of student achievements in various co-curricular, extracurricular and cultural activities at different levels: University / State / Zonal / National / International, etc. during the last four year is appended at Annexure 5.3.2.

5.3.3 Does the university conduct special drives / campaigns for students to promote heritage consciousness?

As part of the creating awareness regarding to heritage sites, PDPU conducts heritage walk from Swaminarayan Temple, Kalupur to Teen Darwaja, Ahmedabad. As the part of the walk student visits various heritage sites in the old city of Ahmedabad with a guide who explains and describes the historical importance of each site.

Students visits L.D. Indology Museum, Ahmedabad and learn about archaeology, anthropology, great heritage, history and culture.

5.3.4 How does the university involve and encourage its students to publish materials like catalogues, wall magazines, college magazine, and other material? List the major publications/ materials brought out by the students during the last four academic sessions.

Yes. PDPU has in-house magazines for each school such as: SPT Mirror, SoT Mirror, SPM Mirror, SLS Mirror and Ecology a publication of SLS. The editorial boards of these publications consist of respective school students guided by school faculty members.

5.3.5 Does the university have a Student Council or any other similar body? Give details on its constitution, activities and funding.

PDPU has various Students Committees which organize different cocurricular, extracurricular, cultural, sports, community engagement and similar activities. To name a few academic committee, cultural committee, sports committee, placements committee, guest lecture committee etc. The Student Activities and Leadership Cell (SAL) provides strategic support and allocation of budget under the SAL policy.

5.3.6 Give details of various academic and administrative bodies that have student representatives on them. Also provide details of their activities.

At PDPU students participation is encouraged in various academic and administrative bodies. The following bodies have student representation:

Student Academic Committee: The role of this committee is to identify academic challenges in terms of course contents, scheduling, evaluations and represent the students interest to the concerned Authority, Faculty Dean and Directors of the School.

Antiragging Committee: The role of Anti-ragging Squad (ARS) is to maintain vigil; overseeing and patrolling function and shall remain mobile, alert and active at times. Annexure 5.3.6a

Women Cell: Women Cell works for spreading awareness on gender sensitivity through various activities and also supports students on gender-related issues.
Annexure 5.3.6b

Cultural Committee: This committee is responsible for organizing various cultural events and to celebrate festivals in cross cultural milieu.

Sports Committee: The sports committee organizes sports events at the intra university, interuniversity and national level.

Corporate Relation Committee (CRC): This committee helps students in the process of identification of right prospective profile/company and the efforts needed to attain their respective career objectives.

Student Activity and Leadership Cell (SAL): The Student Activities and Leadership Cell (SAL) provide strategic support and allocation of budget under the SAL policy. Please refer Annexure 5.3.6c for SAL policy.

Hostel Committee: The hostel committee looks into the different aspects of hostel life of students residing in the hostels. The maintenance and upkeep of the facilities at the hostel and requests for additional facilities are also to be routed through the hostel committee.

Public Relations Committee: The Public Relations Committee help PDPU develop relations with various stake holders and maintain a good rapport with the community in which it resides. The committee also manages relations with Industry and Business houses and gets PDPU empanelled as required for multiple purposes.

Alumni Relations Committee: The Alumni Relations Committee coordinates the activities of Alumni Association in conjunction with the various schools and their activities and programmes. The committee maintains regular communication with PDPU Alumni informing them about the different needs and requirements of current student where the Alumni play an important role through mentorship.

CRITERION VI – GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 Institutional Vision and Leadership

6.1.1 State the vision and the mission of the university.

PDPU Vision

"To be an Internationally Renowned and Respected Institution Imparting Excellent Education and Training Based Upon The Foundation of Futuristic Research and Innovations."

PDPU Mission

The mission of the university is as follows.

  i. To undertake unique obligation for Education in Energy Engineering and Management with special responsibilities in domain specific aspects of Energy & Infrastructure.

  ii. To seek to nurture students of extraordinary motivation and ability and prepare them for life-long learning and leadership in an increasingly knowledge driven world.

  iii. Envisage establishing institutes of excellence in education, competitive edge in research and real time relevance with futuristic thrusts in offering of programmes and undertaking of activities and projects.

6.1.2 Does the mission statement define the institution's distinctive characteristics in terms of addressing the needs of the society, the students it seeks to serve, the institution's tradition and value orientations, its vision for the future, etc.?

Yes, PDPU vision and mission carry the distinct objectives of catering to the society, students and all stakeholders. Having identified the local community requirements in light of Gujarat State becoming energy hub, PDPU is focused on developing and offering courses and programme focused on the Education in Energy Engineering and with special capabilities in domain specific aspects of Energy & Infrastructure.

Inspired by the vision and mission, PDPU is striving to convert words in to action and initiatives leading to futuristic society through following commitments.

PDPU is committed to:

Establishment of Centers of Excellence: Centers and institutions of excellence imparts state of the art education, training and research in the fields of science, technology and management in general and in relation to the domains of oil, gas and energy in particular.

Defining Core Academic Goals: Create capabilities for development of knowledge, skills and competencies as a core academic goal. The university invites experts from academia and industry to interact with the students to develop knowledge skills and competencies of students.

Creating and Upgrading Infrastructure to Global Standards: Create capabilities for upgrading the infrastructure to global standards for education, training and research in the areas related to energy, engineering, management and liberal studies. The university has established state of the art laboratories to conduct cutting edge research and impart practical training.

Developing Innovative Teaching and Training Pedagogies: Develop patterns of teaching and training at various levels of education accomplishment so as to set a high standard of education in energy, engineering, management and liberal studies.

Act as Reservoir of Resources: Function as a leading resource center for knowledge management and entrepreneurship development in the areas of energy, engineering, management and liberal studies.

Spearheading Collaborative Activities: Provide inter-relationship for national and global participation in the field of energy, engineering, management and liberal studies.

Developing Industry Linkages: Establish close linkages with industries to make teaching, training and research at the University relevant to the needs of the society at national and global levels.

Thus, without any discrimination to any demographic variable, PDPU is committed to create an inclusive society.

6.1.3 How is the leadership involved

∗ **in ensuring the organization's management system development, implementation and continuous improvement?**

Key issues related to Management System Development, Implementation and Continuous Improvement are discussed and appropriate decisions are taken at the meetings of the Statutory Bodies. The Board of Governors (BOG) and Finance Committee (FC) take active interest in understanding the developmental strategies of the university and offers its inputs on all broad areas of development and internal quality enhancement. BOG and FC are also submitted action taken reports on points discussed in previous meetings. All statutory bodies have autonomy to implement developmental initiatives in the line of vision and mission of the university.

Research Advisory Board (RAB) contributes with critical inputs and new ideas for research & development and incorporating cutting edge research in the framing/updating of curricula.

The Office of Planning and Development looks in to the emerging areas of knowledge and research and provides inputs for the development and implementation of new projects.

BOG has constituted a Standing Committee to oversee, guide and support the university in policy implementation.

∗ **in interacting with its stakeholders?**

PDPU Leadership conducts meetings with internal and external stakeholders frequently to know their inputs and to apprise them regarding university initiatives. Following meetings are conducted periodically:

• Faculty interaction with students and their parents for taking inputs in the form of feedback.

• Head of the Department meets with respective faculty, students and other stakeholders.

• Director of the school meets with the faculty, students, other stakeholders and Alumni, Business and Industrial houses and R&D organization.

• Director General meeting with respective faculty, students and other stakeholders.

- Meeting of Management (BOG) to take inputs from university representatives and standing committee.

∗ **in reinforcing a culture of excellence?**

Excellence for PDPU is 'constantly learning and updating in all endeavors'. Excellence is not a static pedestal but a dynamic process where constant introspection and self improvement are desired. PDPU defines excellence as achieving strength in Internationalization and Research to help Indian Society solve its grass root problems first and achieve inclusive growth. To build a culture of excellence the top leadership in frequent interactions with university stakeholders asserts the culture of excellence with ceaseless endeavors.

The leadership has advised the university to opt for ISO certification which helps in developing the culture of excellence through standardized processes for academics and administration.

The leadership monitors IQEC and IQAC to ensure quality of processes. The activities of IQEC and IQAC also help in continuous up-gradation of various academic processes.

∗ **in identifying organizational needs and striving to fulfill them?**

PDPU leadership deliberates on the School and University futuristic needs to meet with the requirements as defined in vision and mission statement.

To achieve the goals of providing excellent education and training, discussions are regularly held with internal stakeholders thereby defining the organizational needs of infrastructure and other resources. In pursuit of achieving excellence at Futuristic Research and Innovations, PDPU leadership directly and through statuary bodies of the university identifies the needs at departmental, schools and university level leading to the building up of world class infrastructure.

Guidance of the leadership helps in obtaining the resources and judiciously utilizing and using all resources at optimum level. The resources requirements are built in to the budgets and the same are discussed in Finance Committee Meeting for further action and allocation. Academic requirements of Schools are discussed in Academic Council Meetings. Also all Central bodies of University like OIR and ORSP work with all Schools and Departments after discussing with them their requirements and

strategies. At the School level also detailed Organogram is made to identify the requirements of various academic and administrative departments. The needs of the university are also identified through IQEC and IQAC activities.

6.1.4 **Were any of the top leadership positions of the university vacant for more than a year? If so, state the reasons.**

Yes, in the past, Office of Director General, Registrar and Director at SPM remained vacant for more than a year due to lack of suitable candidates despite repeated advertisements. Interim arrangements were made to ensure that the university administration does not get affected by giving charge to Deans / Senior Faculty who look after the responsibilities of vacant position. Currently, these positions have been filled-up.

6.1.5 **Does the university ensure that all positions in its various statutory bodies are filled and meetings conducted regularly?**

All statuary bodies like: Board of Governors, Academic Council, Finance Committee and also Research Advisory Board, Faculty and Boards of Studies meet regularly as per the University Act. All positions in statutory bodies are filled and new additions are made to strengthen the arms of the university as per University act.

6.1.6 **Does the university promote a culture of participative management? If yes, indicate the levels of participative management.**

All Statutory bodies of the University like BOG, Academic Council, Finance Committee and Board of Studies have representation from all Schools. Each Faculty is represented by Chair, Board of Studies as ex officio member and other members co-opted by the Board or Faculty. Key areas of University growth and development are discussed in a participative manner and resolutions are made on consensus. Each school has freedom to prepare the annual budget which is discussed with the finance committee for its approval.

6.1.7 **Give details of the academic and administrative leadership provided by the university to its affiliated colleges and the support and encouragement given to them to become autonomous.**

Not applicable as PDPU does not have any affiliated colleges. It has constituent Schools which are also autonomous as per the University Act.

6.1.8 Have any provisions been incorporated / introduced in the University Act and Statutes to provide for conferment of degrees by autonomous colleges?

Not Applicable

6.1.9 How does the university groom leadership at various levels? Give details.

University leaders are involved in delegations to International forums and they are given the opportunity to explore excellence in International education. They are also sent on delegations for leadership master classes/conferences. In 2013, four member delegation was sent to attend a Master Class on 'Developing World Class Universities' at Kuala Lumpur, Malaysia. International Round Tables hosted at PDPU provide opportunities to University team to network with International Colleagues.

Individuals both from academic and administrative staff at the university with potential to be the leader are identified by the management and they are groomed through deputing them to different programmes which help nurture the leadership quality. They are also given various roles in the university to head various academic events and activities.

6.1.10 Has the university evolved a knowledge management strategy? If yes, give details.

The University has knowledge management portal viz. Research Information and Management System (RIMS) with easy access to all faculties for uploading and disseminating information about research activities and publication.

The university established Pandit Deendayal Special Archive Section, creating a repository of all photos and works of a great social reformer Pandit Deendayal Upadhyaya on whose name the university is established. The University is also in the process of digitizing the library.

The research projects, theses, dissertations of the researchers at the university are properly maintained in the libraries for ready reference.

University schools have their own newsletters which disseminate information on various activities conducted at the School and University level to all stakeholders.

Annual Reports of the University also serve as documentation of relevant information on university activities.

The university maintains the recorded video cassettes of various conclaves/seminars/ roundtables wherein the industry experts are invited to deliberate on various topics. They are then maintained by the respective school libraries. SPM library compiles and maintains the annual research publications of SPM faculty members. The ORSP also maintains the research work of PDPU faculty.

To fulfill university established centers of excellences which are interdisciplinary in nature to account the interested students and faculties in different disciplines and skill set. The list of existing centers of excellence is given as follows:

a. Geothermal Energy

b. Biofuels and Bioenergy

c. Solar Research and Development Centre

d. Siemens Centre for Automotive

e. Climate Change – Air Quality and Pollution

Wi-Fi enabled campus for assessing the knowledge repository such as eBooks, journals and other knowledge assets of the Library Information Centre (LIC). PDPU is also a part of the knowledge exchange consortium with experts from IITs and other prestigious institutions.

6.1.11 How the following values are reflected the functioning of the university?

∗ **Contributing to national development –** PDPU has been promoted by Gujarat State Petroleum Corporation (GSPC) through Gujarat Energy Research and Management Institute (GERMI) to create a world class University in energy education and research with special focus on the oil and gas sector.

With a clear understanding that there is acute shortage of qualified and skilled manpower at various levels in the energy sector especially in the Oil & Gas Sector, the university has developed and implemented domain specific programmes in – Petroleum Engineering and Petroleum Management. In the engineering domain, undergraduate programmes, post graduate programmes and doctoral programmes focused on the petroleum sector are offered. Post graduate (MBA) and doctoral

programmes focused on the sector are offered, and postgraduate diploma programme in petroleum management is offered for working executives.

Having developed expertise in delivering domain specific programmes, PDPU realized the need for complementary disciplines and knowledge areas. Thus, PDPU with an intention of catering to such needs of domain and to broaden the opportunities for students and professionals from disciplines like General Engineering and the Liberal Studies has developed programmes that help the students to make a mark at the national level and in the global arena. This objective is being further addressed through a number of specialized and well-planned undergraduate, post-graduate and doctoral programmes as well as intensive research projects. PDPU has also taken a step in promoting green energy at a National level by setting up one megawatt Solar power station.

MDPs and Conferences on Industry pertaining themes are conducted in the university to extend university expertise to industry and vice versa. Under the Siemens Centre of Automation, Skilling programmes is undertaken to train man power for the automobile industry.

In collaboration with Govt. of Gujarat, PDPU has established Innovation Incubation Centre (IIC) to promote innovative ideation and converting ideas in to practical user friendly devices and systems, thereby contributing to development of an innovation culture.

PDPU students and faculty participate in seminars/conferences/workshops organized by various national bodies like CII, FICCI, Petrotech and Petrofed. Various schools of PDPU have linkages with local chapter of above organizations. Thus indirectly through linkages with these organizations PDPU is helping to contribute in national development.

Schools of PDPU also organize blood donation camps. Further PDPU regularly organize community development programmes like computer education, drawing activities, English language teaching etc. for rural school children.

PDPU also organize seminars for Green Technology, Climate Change etc.

* **Fostering global competencies among students –** All activities of providing International Exposure have added to the global competencies of students.

International Round Tables hosted on the campus have provided holistic understanding to students on International trends in Energy, Education, Entrepreneurship and Economics. Students who opt for International Exposure Program come back with improved understanding of their academic topics and cultural understanding. Eminent speakers from abroad who visit the campus also share their perspectives to students. Students are also provided travel grant for making International Paper Presentations.

* **Inculcating a sound value system among students** – Activities of the University like NSS, NCC, CDI and Rural Internships, CSSI and URMI have sensitized students to the strong ethical approach towards leadership. Lecture Series initiated by the University also inculcate values. Courses like 'Gandhian Thoughts' have brought in value orientation for Science and Technology students. The activities of the Women Cell also contribute to interpreting the sound values among the students in terms of gender sensitization.

* **Promoting use of technology** – PDPU infrastructure is probably the best catalyst for the constructive use of Technology. PDPU has provided best among the best IT facility to faculty, students and researchers. The laboratories and the Centers of Excellence have also catered to the research requirements of external stakeholders. All lecture theatres and lecture halls are equipped with latest technological aids. Library is also fully automated.

  Various Software (like SPSS, MS Project, Petrel RE, Kingdom Suite, RISC, Geographix, HTRI, Bentley Staad Pro 8vi, Seimens UG NGX Software, MATLAB, Ansys, Auto CAD Educational Aspen, ArcGIS, @risk, Crystal ball etc.) required by the schools are made available for academic and research purposes. The university Chief Technology Officer (CTO) helps the university to identify and implement use of required technology.

* **Quest for excellence** – The only way to attain excellence is to know that there is no full stop for excellence. At PDPU, excellence is ongoing dynamic quest and is truly reflected in the constitution of IQAC at School levels which emphasizes not just on quality assurance but quality enhancement. PDPU has also opted for ISO certification. The university has also prepared and submitted an application for

recognition as Centre of Excellence in research to the Govt. of Gujarat. PDPU has obtained recognition as Scientific and Industrial Research Organization (SIRO) from the DST, Govt. of India. PDPU has been granted tax benefits to an extent of 175% for promoting research and development in the field of engineering and technology under section 35(i)(ii) of the Income Tax Act. PDPU has also defined a Quality Policy which is prominently displayed at various locations across the campus and also at PDPU website (Annexure 6.1.11)

PDPU organizes several international and national conferences, conclaves, seminars, workshops, roundtables, panel discussions and expert lectures in its quest for excellence.

6.2 Strategy Development and Deployment

6.2.1 Does the university have a perspective plan for development? If yes, what aspects are considered in the development of policies and strategies?

* **Vision and Mission:** The five-year strategic plan of the university uploaded on individual school websites emphasizes on research and Internationalization. The vision and mission of the university guide university for long-term sustainable improvement in quality.

* **Teaching and Learning:** Teaching and learning process to achieve the following objectives:

  - To become student centric institution
  - To develop excellence in curriculum development
  - To create innovative research oriented faculty resources
  - To enhance the capability of university by commencing new academic programmes.

The above objectives are planned to be achieved through the following strategic initiatives:

  - To create State of the Art Laboratories
  - To invite foreign university faculties

- To institute Chair Professors and Professors Emeritus

- To establish Skill Development Centers

- To augment the library resources

- Internationalization of Education

∗ **Research and Development:** Through ORSP and OIR, university is all set to provide research enabling environment and culture to stakeholders in PDPU and also provide international exposure to key stakeholders.

- Development of research strategy through Research Advisory Board (RAB).

- To establish Centers of Excellences.

- Collaboration with Industry to promote research.

- Collaboration with national and international universities to promote research through faculty and student exchange programme.

- Seed money to student and faculty for undertaking research projects.

- Development of separate cell for IPR and Patents Registration.

- Promoting research and development through its Innovation Incubation Centre (IIC).

∗ **Community Engagement:** Through live projects and internships, PDPU proposes to do community driven projects and wants to take up lead in promoting green and clean energy. Through the interdisciplinary approach of scientific projects, models and demonstrations as well as with constructive use of Fine Arts and Performing Arts, PDPU would reach out to the community to create awareness for the judicious use of energy. PDPU also proposes to maintain live contacts with NGOs through rural welfare work during Students' Rural Internships such as RI, CSSI and URMI.

∗ **Human Resource Planning and Development:** HR policy of the university has a well-defined plan to attract the best National and International faculty to PDPU and to provide performance-based incentives to the appointed faculty. PDPU promotes heterogeneity and diversity in both students and faculty body and therefore all attempts are made to maintain cultural, regional and gender diversity on campus. A separate human resources department is established under the Chief Human Resource Officer (CHRO) of the University.

* **Industry Interaction:** The corporate relations cell of the university has a well-defined road map for continuous healthy industry interaction. MDPs and Conferences on Industry relevant themes are conducted in the university to extend university expertise to industry and vice versa. Industry HR forums are conducted for dialogues with university. Through the Corporate Relation Cell, industry interactions, internships and training programmes are organized for every student as per their progress in the academic programme.

* **Internationalization:** PDPU has taken a step ahead as torchbearer in Internationalization in Gujarat by extending its international knowledge partners to Gujarat Businesses and Universities.

  University has a clear plan to develop students and faculty exchange with International universities and also collaborate in research projects to leverage benefit for the local industry and community.

6.2.2 Describe the University's internal organizational structure and decision making process and their effectiveness.

The university has well defined organizational structure for efficient implementation of strategic intent and vision and mission of the university. The Board of Governors (BOG) is the top governing body offering policy and strategy direction to the university. The chairperson of the board of governors is the President of the University. The BOG operates through the Finance Committee, Academic Council and Research Advisory Board which are headed by the Director General (DG) as Chairperson. The DG is also the Chief Executive and Academic Officer of the university. The academic recommendations are initiated by the school faculty and put up to Board of Studies and then placed by the respective Faculty to be concluded appropriately by the Academic Council. The matters regarding accounts, budgeting, financing, infrastructure and so forth are taken up by the Finance Committee.

Under DG are the Directors of constituent schools and the Deans of different faculties. The Directors assists the DG in managing the academic, administrative and other affairs of the institutes or centres and shall exercise such powers and perform such functions as may be prescribed or entrusted to them by DG. All the Directors are supported by Heads

of the Department/Academic areas. The Director General, with the approval of the Chairman, shall appoint the Deans of the University from amongst the Faculties of the University. The Deans shall assists the Director General and respective Directors of the Institutes or centres and shall exercise such powers and perform such functions.

Further the Director General is assisted by the Registrar. Registrar being the custodian of the records of the university is assisted by such other authorities like Chief Finance Officer, Chief Human Resource Officer, Controller of Examinations, CTO –Chief Technology Officer and Officer on Special duty for day-to-day administration. Registrar is the Officer to attest and execute all the documents on the behalf of the university under common seal.

The university follows both Top-down and bottom-up approach to manage various academic and administrative activities through effective decision making across the hierarchy. The bottom-up approach helps university in developing ownership culture for various programmes/ activities and decisions. Once the activity/initiative is owned by the respective team/committee it is effectively executed / implemented.

The issues pertaining to International Collaborations and Students' International Exposure are administered by the Office of International Relations and the matter about library and training and placement are taken up by the respective committees. The Office of Student Activities and Leadership (SAL) activate all the student related functions and activities including cultural, sports and academic extension like: quizzes, Techfest etc.

6.2.3 Does the university have a formal policy to ensure quality? How is it designed, driven, deployed and reviewed?

Yes. The university has constituted IQAC for Internal Quality Assurance and Enhancement. This is operational at the School level. Director General and the Educational Advisor meet School heads on first Friday of every month to review progress of IQAC cells of all schools and other issues common to all Schools. The functions laid down in first IQAC meeting vide PDPU/IQAC/2012, dated August 27, 2012 are as follows:

- Development and application of quality benchmark/parameters in various activities of the institution.

- Dissemination of information on quality aspects.

- Organization of discussions, workshops, seminars and promotion of quality circles.

- Recording and monitoring quality measures of the institution.

- Acting as a nodal agency of the institution for quality-related activities.

- Preparation of the Annual Quality Assurance Report and such other reports as may be decided from time to time.

PDPU schools conduct IQAC meetings regularly. Annual IQAC report by the concern schools is submitted to the university. A Special template is also created by the university for individual quality initiatives, which is circulated to all schools. The Educational Advisor organizes a meeting to discuss the IQAC reports of all schools. The annual IQAC and IQEC reports of all schools are uploaded at the university websites.

6.2.4 Does the university encourage its academic departments to function independently and autonomously and how does it ensure accountability?

PDPU has constituent Schools under the Faculty of Management, Faculty of Engineering and Technology and Faculty of Liberal Studies. All schools/faculty enjoy responsible autonomy in terms of academic calendar, requirement of funds, research and extension activities and also maintain accountability under the guidance of Directors and Deans of the faculty. Schools/ Departments update the syllabus or make innovations in teaching pedagogy, which is guided and monitored by the concerned Board of Studies and the Academic Council.

6.2.5 During the last four years, have there been any instances of court cases filed by and against the institute? What were the critical issues and verdicts of the courts on these issues?

Three students' cases took place, out of which in two cases the petitions were withdrawn. In one case the matter was disposed by the court. Labour cases from outsourced services took place, which were also disposed off in favor of the university. Two cases have been filed by the faculty regarding service conditions which are sub judice.

6.2.6 How does the university ensure that grievances/complaints are promptly attended to and resolved efficiently? Is there a mechanism to analyze the nature of grievances for promoting better stakeholder-relationship?

The University has constituted the students' Grievance and Redressal Committee to address, understand and resolve grievances of students.

- *The Students' Grievances Redressal Committee comprises of the following:*
    - (i) Director of the School to be nominated, by rotation. by the Director General – Chairman
    - (ii) Three Teachers to be nominated by the Director General
    - (iii) Director (Academics)
    - (iv) One student from each school to be nominated by the Director of respective School.

    The Director and teachers nominated by the Director General shall hold office for three years. The students shall hold office for one calendar year only.

- *Powers and functions of the Student Grievances Redressal Committee shall be*:
    - To entertain written and signed complaints and petitions of students in respect of matters directly affecting them individually or as a group.
    - To enquire into grievances and make recommendations and report to the concerned authority for redressal or suitable action.
    - To recommend appropriate actions against complainant(s), if allegation made are found to be baseless.

    Grievances pertaining to the students shall be received in the office of the Director (Academics) and shall be referred to the Students' Grievances Redressal Committee.

- *The Grievance Redressal Committee shall observe the following general principles:*
    - Create awareness among the students about the grievances redressal mechanism.
    - Register and acknowledge grievances received and referred to it.
    - To the extent possible, grievances received shall be settled within a fortnight by arriving at a final decision

- – If a final decision is not possible within a fortnight, acknowledgement shall be sent to the applicant along with indication as to when one can expect the final reply.
    - – As a matter of general rule, no grievances should remain pending beyond the limit of three months.
- Aggrieved parties who are not satisfied with redressal by the Grievance Redressal Committee may appeal to Director General for reconsideration and review.

    Currently, Students' Grievances Redressal Committee nominated by the Director General-PDPU is as under:

    1. Dr. H.B. Raghavendra – Chairman (Director-School of Technology)
    2. Dr. T.P. Singh (Dean – Students' Affairs)
    3. Dr. Akash Kumar Patel (School of Petroleum Management)

To handle employees' complaints the HR Department works under the guidance of the Registrar.

There is also a Women's Cell to look after women empowerment and grievances if any.

6.2.7 Does the university have a mechanism for analyzing student feedback on institutional performance?

- Students' feedback on central facilities like Transport, Cafeteria, Hostel, Sports etc are taken by the Facilities and Administration Department (FAD). Compliant registers are kept in hostel blocks and supervisor review the complaints and attend the same on daily basis. More facilities are added or strengthened based on the feedback by students.
- Log books are kept in libraries to review the feedback on the library activities by library committee.
- Feedback on IT facilities is collected by the IT Department and discuss with CTO for necessary actions. .
- CMS has provisions for feedback to students and parents to review the attendance and progress.

- Academic feedback related to courses is also obtained by respective schools. The respective course instructors are communicated the course feedback for self-introspection and improvement. The Dean and Director of respective schools, if required, discuss the feedback with concerned faculty and corrective measures are initiated.

6.2.8 Does the university conduct performance audit of the various departments?

Yes. The university conducts performance audit of the various departments in the following ways:

- The Research Advisory Body (RAB) conducts performance audit of the R&D activities of the university.
- Heads of the Departments at each school monitor the academic and research performance of their respective departments.
- Financial accounts of the university are monitored by the Finance Committee and Financial Advisor and also audited by an independent Chartered Accountant firm appointed by the university as per the University Act.
- Facilities and Administration Department (FAD) does the audit of central facilities.
- Performance of Schools is audited by the Educational Advisor and Director General, based on the annual IQAC reports of the schools.
- The university activities are also audited and certified by ISO certifying agency.

6.2.9 What mechanisms have been evolved by the university to identify the developmental needs of its affiliated institutions?

Not applicable.

6.2.10 Does the university have a Vibrant College Development Council (CDC) / Board of College and University Development (BCUD)? If yes, detail its structure, functions and achievements.

The university does not have Vibrant College Development Council (CDC) / Board of College and University Development (BCUD) as affiliated colleges are not there.

6.3 <u>Faculty Empowerment Strategies</u>

6.3.1 What efforts have been made to enhance the professional development of teaching and non-teaching staff?

To enhance the professional development of teaching and non teaching staff following efforts has been made:

- CPDA (Cumulative Professional Development Allowance) of INR 50000 to 100000 p.a. is given to all faculties in a block of three years. This professional development allowance is given to faculty for participating in National and International conferences, subscribing to research journals and membership in academic bodies.

- Faculty are also nominated for prestigious conferences and training program. Faculty are nominated from PDPU fraternity for its International Exposure Program (IEP) to accompany students.

- Required reading resource is made available to faculty in the library and each faculty is given laptop/desktop and other needed IT facilities like Internet connection.

- Non-teaching staff is also deputed for training programmes relevant to their skill development. The library staff is nominated for various conferences and workshops on knowledge management and other emerging areas. The accounts and the non teaching staff have been sent for relevant workshop at Ahmedabad Management Association.

6.3.2 What is the outcome of the review of various appraisal methods used by the university? List the important decisions.

- Various recommendations given by Research Advisory Board (RAB) are implemented to strengthen the research activities of the university.

- Students' feedback has helped to form syllabus and pedagogy better. The new courses required to improve employability of our students are added. Existing courses are improved in terms of their contemporariness of contents.

- Feedback taken from students for a course delivery is also positively discussed with individual faculty to achieve better results. An employee annual appraisal is analyzed and accordingly incentives are also offered to employee for further growth where applicable.

- An evaluation committee has been formed to assess the faculty members for awarding higher grade pay from time to time (relevant especially for movement from PB3 to PB4).

- Faculty upward mobility scheme has been approved and implemented.
  Please refer Annexure 6.3.2 for Upward Mobility Policy for Faculty.

6.3.3 What are the welfare schemes available for teaching and non-teaching staff? What percentage of staff have benefited from these schemes in the last four years? Give details.

Welfare Schemes for teaching and non teaching staff are available in the university. University has accepted IIT/IIM norms for the faculties. The details of the various provisions under the schemes are as follows:

- Providing CPDA to all teaching employees.
  Please refer Annexure 6.3.3a for CPDA for faculty prerequisite.

- Telephone bill, medical bills, mediclaims etc. are provided as per the policy.

- Children Education Allowance is provided to employees as per university norms. Advance against salary has been provided on a case to case basis. Please refer Annexure 6.3.3b for details.

- Employees are also entitled for gratuity and LTC as per university norms.

- CPF is also offered as per the university policy.

6.3.4 What are the measures taken by the University for attracting and retaining eminent faculty?

- PDPU promises excellent research environment and CPDA to all faculty. Advance increments are given on merit to attract good talent.

- Overall ambience of the university, its attractive salary packages which are at par with IITs/ IIMs and excellent academic and research facility ensure that eminent

faculty joins the pool of faculty at PDPU. Existing faculty also get nominations for international research projects.

- The university also offers attractive incentives to international faculty to take academic sessions on sabbatical.

- Excellent infrastructural facilities are provided to international faculties with the set up of exclusive hostel block.

- Attractive salary packages and employees friendly policies to have low attrition rate.

6.3.5   Has the university conducted a gender audit during last four years? If yes, mention a few salient findings.

No. University has not conducted a gender audit during the last four years.

6.3.6   Does the university conduct any gender sensitization program for its faculty?

Yes. In the academic year 2014-15 the following gender sensitization workshops have been conducted:

Workshop on Gender sensitization – 10th September, 2014

To bring out issues related to sexual harassment, human trafficking and indecent representation of women in our society, there was a workshop organized on "Gender Sensitization". This was conducted by Faculty member and students of LAW School at Nirma University along with PDPU Women's Cell.

Hallabol event – 9th October, 2014

Suraksha Setu society, in collaboration with Police Heart, had celebrated 9th October as *Women Safety Security Day* by doing an event Halla Bol at PDPU. The objective of this event was to generate awareness of Women Safety Security and 1091 women safety line services.

A Global Approach – 5th February, 2015

- This event was an open discussion session held by the Women's Cell in collaboration with AIESEC.

- For this discussion session the topic chosen was 'Cultural Differences and Problems Faced by Women in Various Countries.

CII Session on Time Management – 20ᵗʰ February, 2015

In this fast pacing world, where multitasking and just in time services are aspects that every individual should possess, Time management becomes mandatory. Keeping this in mind, Women cell jointed hands with CII and arranged a session on TIME MANAGEMENT. The speaker invited to conduct this session was Ms. Anita Shah.

Panel discussion on Women Empowerment – 11ᵗʰ April, 2015

On the second day of Flare '15, the Women's Cell at PDPU organized a Panel Discussion. The topic of discussion was Women Empowerment. The panelists for this discussion were Dr. Mallika Sarabhai, Dr. Pramod Paliwal and Mrs. Preeti Das.

6.3.7 What is the impact of the University's Academic Staff College Programmes in enhancing the competencies of the university faculty?

Some faculty have availed refresher and orientation programmes of Academic Staff Colleges and have come back rich in experience and knowledge. Faculty are also sent on training programmes and workshop for capacity building. University is also constituting it's own Center of Academic Excellence and Leadership to provide tailor-made program to in house faculty.

6.4 Financial Management and Resource Mobilization

6.4.1 What is the institutional mechanism available to monitor the effective and efficient use of financial resources?

PDPU has been established under the Gujarat Government Gazette (Gujarat Act No. 14 of 2007). Under section 17 of the Act, the Finance Committee is empowered as an authority to look after the Finance and Accounts of the University. It examines the annual accounts and annual budget estimates of the university and recommends the Board. It also reviews the financial position of the university from time to time. FC also makes recommendations to the Board on all proposals involving raising of funds, receipts and expenditures.

Further, the University has appointed an Independent Chartered Accountant firms as Internal Auditors and Statutory Auditor to carry out audits of the internal processes, statutory compliances and monitoring of resources.

6.4.2   Does the university have a mechanism for internal and external audit?

Yes, the University has a mechanism for Internal and Statutory Audit by an Independent Chartered Accountant Firms. Their details are as follows;

1) Internal Auditors – M/s Manubhai & Shah (Chartered Accountants), Ahmedabad

2) Statutory Auditors and Tax Consultants – M/s P. R. Shah & Associates (Chartered Accountants), Ahmedabad

6.4.3   Have the accounts been audited regularly? What were the audit objections, if any, and how were they complied with?

Yes, the Annual Accounts of the University are regularly audited since its establishment in the FY 2007-08 by an Independent Chartered Accountant firm.

There were no major audit objections; the observations from auditors have been complied, if any. The latest Independent Audit Report for the FY 2014-15 is attached herewith as Annexure – 6.4.3.

6.4.4   Provide the audited income and expenditure statement of academic and administrative activities of the last four years. Provided in the annexure.

The following audited Annual Accounts are attached herewith as Annexure;

1) Annual Accounts of PDPU for FY 2014-15 (Annexure – 6.4.4a)

2) Annual Accounts of PDPU for FY 2013-14 (Annexure – 6.4.4b)

3) Annual Accounts of PDPU for FY 2012-13 (Annexure – 6.4.4c)

4) Annual Accounts of PDPU for FY 2011-12 (Annexure – 6.4.4d)

6.4.5   Narrate the efforts taken by the university for resource mobilization

Resource Mobilization: Pandit Deendayal Petroleum University (PDPU) has been established by GERMI through PDPU Act 2007; the Act of the Gujarat Legislature on 4th April 2007. GERMI as promoter for the university made the initial capital

expenditure and provided the corpus fund. As per the audited Annual Accounts for FY 2014-15 of the University, PDPU has *CORPUS FUNDS* as follows:

Sr. No.	Particulars	FY 2014-15 (Rs. in Crore)	FY 2013-14 (Rs. in Crore)
1	General Funds	59.34	54.73
2	Scholarship Funds	12.41	11.42
Total Corpus Funds		**71.75**	**66.15**

The faculties of University are encouraged through our research initiative programs to mobilize resources for research activities and strengthening the University facilities by applying to various funding agencies such as DST, UGC, GUJCOST, BRFST, ICSSR, etc.

- The outcome of this initiative is that the university has received more than 7.31 crore rupees as research grants

- The University has also generated resources especially in terms of donations received from philanthropists and corporate. More than 25 crore rupees have been received from various sources as donation.

- The University has received Rs. 120.80 Cr for the development of various Centres of Excellence. The details are as follows :

Project based on Financial Assistance from State Government

Sr. No.	Financing Party	Amount (Rs. in Crore)	Purpose
1	Gujarat Energy Development Agency	24.00	Solar Research Centre
2	Gujarat Energy Development Agency	20.00	Solar Research & Dev. Centre
3	Gujarat Energy Development Agency	17.14	Research Facilities of Product line Development (Solar Cell Efficiency Cell)
4	Gujarat Energy Development Agency	12.00	Gujarat Energy Innovation Centre

5	Gujarat Energy Development Agency	03.74	Centre for Bio Fuels & Bio Energy Studies
6	Industrial Extension Bureau (iNDEXT-B)	01.46	Establishment of Siemens Centre of Excellence
7	Government of Gujarat (Petroleum Department)	01.00	Creation of Oil & Gas Database
8	Gujarat Power Corporation Ltd	10.00	Geothermal Project
9	Gujarat Power Corporation Ltd	04.00	Energy Saving & Conservation Campaign
10	Jt. Commissioner of Industries	07.50	Setting up of International Centre of Excellence in Automobile at PDPU

- **Corporate Financial Assistance**

Sr. No.	Financing Party	Amount (Rs. in Crores)	Purpose
1	Gujarat Power Corporation Ltd	17.99	1 MW Solar Power Plant
2	Gujarat Alkalies and Chemicals Ltd	00.98	Lab Setup
3	Gujarat Energy transmission Corporation Ltd	01.98	Lab Setup

- **Research Grants (DST/BRFST)**

Sr. No.	Financing Party	Amount (Rs. in Crores)	Purpose
1	MNRE (Dr. Abhijit Ray)	01.94	Development of CZTS Solar Cells & Modules on Glass and Metallic Substrates by Non-Vacuum Processes
2	DRDO (Dr. Abhijit Ray)	00.34	Investigation of key factors to efficiency improvement in low cost Kesterite(CZTS) thin-film solar cells
3	DST (Dr. Indrajit Mukhopadhyay)	00.38	Studies on the Electrodeposition of Si & Ge at room temperature using

			less viscous ionic liquid
4	BRFST (Dr. Vishvesh Badheka)	00.24	Weldability aspects of Low Activation Ferritic-Martensitic Steel Welded by Activated Flux Tungsten Inert Gas Welding
5	BRFST (Dr. Vishvesh Badheka)	00.25	Friction Stir Welding of Stainless Steels & dissimilar metals
6	DST (Dr. Bhawanisingh Desai)	00.22	Ichnofabric analysis, Event Stratigraphy and Depositional Environment of the Cretaceous sediments of Western India
7	DST (Dr. Manoj Kumar Pandey)	00.18	Development of Charge carrier transporting materials towards efficient energy harvesting: A combined computational and experimental approach
8	DST (Dr. Anirban Das)	0.20	Chemical and Isotopic Investigations Of Fluoride Rich Groundwater in Gujarat and in Rajasthan
9	RIL (Dr. Rajib Bandyopadhyay)	0.26	Development of nanosized catalysts for the application in FCC & Hydroprocessing
10	DRDO (Dr. Manoj Kumar)	0.18	Fabrication & Characterization of TiO_2 Nano-rod Based Dye Sensitized Solar Cells (DSSC)
11	GEDA (Dr. Manoj Kumar)	0.15	Design & Development of Cost Effective Concentrator Photovoltaic (CPV) System
12	DST(Dr. Bhawanisingh Desai)	0.067	Ichnology of the Jurrasic rocks of the Jara dome, Western Mainland, Kachchh, India
13	DST(Dr. Vishvesh Badheka)	0.052	Gas Metal Arc Welding with Metal Core Wire
14	DST(Dr. Bhawani Singh Desai)	0.037	Ichnofabric Mapping of the Mundhan and Guneri section with special Reference to (Umian-Mundhanian Kutch Stages), Kachchh,Gujarat
15	DST(Dr. V.K. Srivastava)	0.028	Studies on Thermal Plasma Pyrolysis of Crude Oil Residue and Energy Recovery
16	(DST) Dr. Lalita Ledwani	0.19	Plasma Surface modification of polyester fiber & fabric to enhance dye uptake properties with natural

			dyes
17	GTECH-GERMI-GSPC (Prof. G. P Karmakar & Dr. Bhawanisingh Desai)	1.94	Permeability Characterization and Modeling of Tight Gas Sandstone Reservoirs
18	DOP (Dr. Bijaya Behera)	1.08	Creation of Corporate Database Management System
19	DST-JSPS (Dr. Indrajit Mukhopadhyay)	0.014	Development of New Anode Material for next Generation Li ion Batteries by electrodeposition Of Si on the inner-surface of nanospace carbon
20	ESC (Dr. Trudeep Dave)	0.043	Energy Saving Green Buildings using Polymer Modified Light Weight Concrete
21	SPM (Dr. D M Pestonjee)	0.06	Work Stress, Health and well being in Oil & Gas Industry Professionals
22	DST- RFBR (Dr. Bhawanisingh Desai)	0.22	Middle Jurassic - Cretaceous Blemnite faunas at southern and northern tethyan margins : Biogeographical patterns, stratigraphical distribution and key correlation levels

- **International Exposure program for Students, & Chair Professorship**

Sr. No.	Financing Party	Amount (Rs. in Crore)	Purpose
1	Reliance Industries Limited	3.00	International Exposure Program
2	Gujarat Energy Research and Management Institute	2.00	International Exposure Program
3	Torrent Power Limited	0.50	International Exposure Program
4	Adani Power Limited	0.10	International Exposure Program
5	Adani Gas Limited	0.10	International Exposure Program
6	Shell	US$ 1.1 million (over a period of 10 years at present restricted to first 3 years)	Chair Professorship

In addition to this, the University is mobilizing the resources also through Management Development Programmes, Consulting, & Testing Services.

Recognition as SIRO

Government of India, Ministry of Science and Technology, Department of Scientific and Industrial Research has accorded recognition to Pandit Deendayal Petroleum University (PDPU), Gandhinagar as Scientific and Industrial Research Organization (SIRO). On receiving this recognition, PDPU is entitled to all administrative support from the Ministry of Science and Technology (DSIR), as may be required on all issues to promote or encourage scientific research activities. Also the University will be entitled to avail custom / excise duty exemption on the import of equipments, instruments, spares thereof, consumables etc.

Recognition as Scientific Research Institution by Department of Revenue, Ministry of Finance, Government of India under Section 35(1)(ii) on the donations/ grants received for scientific research activities done by its faculty members and students.

On receiving this approval all the donors who will contribute for the purpose of Scientific Research Activities at PDPU will be eligible for a deduction of the amount equal to one and three-fourth times (175%) of the donation/grant received in PDPU for undertaking Scientific Research under section 35(1) (ii) of Income Tax Act 1961 read with rule 5(C) & 5(E) of Income Tax Act 1962.

Approved Under Section 80(G) of Income Tax Act for 100% exemption for the donation

The University has also obtained exemption under Sec. 80 G as per the Income Tax Act to supplement the objective of resource mobilization.

6.4.6   Is there any provision for the university to create a corpus fund? If yes, give details.
Yes, PDPU has a provision to Corpus Funds.

As per the Schedule – 1 in audited Annual Accounts for FY 2014-15 of the University, PDPU has *CORPUS FUNDS* as follows:

Sr. No.	Particulars	FY 2014-15 (Rs. in Crore)	FY 2013-14 (Rs. in Crore)
1	General Funds	59.34	54.73
2	Scholarship Funds	12.41	11.42
Total Corpus Funds		**71.75**	**66.15**

6.5 Internal Quality Assurance System

6.5.1 Does the university conduct an academic audit of its departments? If yes, give details.

Yes, the university has constituted IQAC for all Schools, which internally brainstorm on quality enhancement in all academic endeavors and submit annual reports. Once by proposing quality enhancement measures for the upcoming year and then at the end of the year account of what actually happened and how many quality parameters were successfully met. Committee constituted by Director General (DG) will review and suggest quality enhancing results for all schools after the reports are submitted.

6.5.2 Based on the recommendations of the academic audit, what specific measures have been taken by the university to improve teaching, learning and evaluation?

After the academic audit following constructive initiatives are taken by the university to improve academic environment:

- Implementation of CBCS is done at the university to provide academic flexibility to students across all schools and disciplines.
- Each faculty prepare a course book about the details of teaching learning process happened in the semester.
- Each faculty submits an account of what they consider quality enhancement for his / her courses and how the same is to be implemented.
- ICT facilities are upgraded and added to provide excellent academic infrastructure for improving teaching, learning and evaluation.
- Laboratories are augmented with latest instruments.
- Joint research projects are initiated with the industry.

- Innovative exam reforms like 'Open Book Exam' or 'Live Projects' are encouraged for selected subjects.
- Intranet of the university is made learner centric and learning aid is uploaded on the intranet.
- Libraries are updated with new books and journals.
- Curriculum is made more relevant to the contemporary requirements.

6.5.3 Is there a central body within the university to continuously review the teaching-learning process? Give details of its structure, methodologies of operations and outcome?

Yes. Academic Council, Boards of Studies and Faculty are the academic bodies at university faculty and programme level.

Academic council:

The Academic Council of the University shall consist of the following members, namely:

(i) The Director General, who shall be the Chairman of the Academic Council;

(ii) Two academicians or professionals, to be nominated by the Board;

(iii) Two academicians or professionals in the fields of science, technology or management in relation to the domains of gas, oil or energy to be nominated by the Board;

(iv) Two Deans, by rotation, to be nominated by the Director General;

(v) Two Directors, by rotation, to be nominated by the Director General;

(vi) One professor from each discipline of the University, by rotation to be nominated by the Director General.

The Registrar shall be the Secretary of the Council.

The term of office of the members other than the ex-officio members, sshall be three years.

Subject to the provisions of this Act and the regulations, the Academic Council shall have the following powers, namely: -

(i) To exercise control over the academic policies of the University and be responsible for the maintenance and improvement of standards of instruction, education and evaluation in the University;

(ii) To consider matters of general academic interest either on its own initiative or on a reference from the Faculty of the University or the Board and to take appropriate action thereon;

(iii) To recommend to the Board, such regulations as are consistent with this Act regarding the academic functioning of the University including discipline of students; and

(iv) To exercise such other powers and perform such other functions as may be conferred upon it by the regulations.

The broad roles of the *Academic Council* as clearly defined in the Act and the Statutes of PDPU are as follows:

- Prescribes and sanctions the number of academic programmes in the University and their intake for each academic year.
- Approves curricula and syllabi for the courses and studies in various schools of the University
- Formulates the rules and regulations for academic matters including the structure of student evaluation, conduct of examination and ratification of results;
- Reviews and monitor the standards of instruction, education, training and research carried on or imparted in the University;
- Approves recognition and equivalence of the certificates, diplomas and degrees of other Universities and Institutions from where PDPU intakes it's students;
- The new programmes/curricula are formally approved by the Academic Council after detailed deliberations and the minutes of the meetings are duly recorded.

6.5.4 How has IQAC contributed to institutionalizing quality assurance strategies and processes?

The university quality system is made operational under the IQAC of the University, Various Schools, Departments and Individual Faculty. The approach taken is bottom up where quality parameters are suggested by faculty and then implemented by the department, school and university, thus, bringing a sense of ownership in quality enhancement. All stakeholders are involved in the continuous quest for quality enhancement. The leadership of the university provides boost as positive catalyst and

provides academic autonomy and flexibility to various constituents of the university. Quality enhancement initiatives like conducting conclaves, round tables and seminars are facilitated by the IQAC. Each School and consequently each Department is advised to conduct its own academic activity, which brings opinion makers and think tanks from various organizations to the university for collective gain.

6.5.5 How many decisions of the IQAC have been placed before the statutory authorities of the University for Implementation?

All reports of IQAC are placed before the statutory bodies like Boards of Studies and Faculty for considerations. Academic Council also provides inputs on the quality initiatives suggested by IQAC. Following initiatives are placed:

- Exam reforms are implemented and from the year 2012, Absolute Grading pattern is implemented for transparency and academic rigor.
- Laboratories are augmented.
- Research component for students is improved with projects submission and dissertations.
- Doctoral Committee constitution has been amended to include external experts during periodical review.

6.5.6 Does the IQAC have external members on its committees? If so, mention any significant contribution made by such members.

IQAC does not have any external members. However, PDPU has Educational Advisor who is special invitee at meetings of IQAC. Being senior education expert, he provides quality inputs for smooth functioning of IQAC. In year 2013, EAdvisor has provided a template to all faculty to declare their own quality commitments to the university.

6.5.7 Has the IQAC conducted any study on the incremental academic growth of students from disadvantaged sections of society?

Not formally but greater induction of students from disadvantaged sections of the society is recommended by IQAC. Merit cum means scholarships are offered to needy students.

6.5.8 What policies are in place for the periodic review of administrative and academic departments, subject areas, research centers, etc.?

- To review teaching learning process and development of curricula periodically Boards of Study, Faculty and Academic Council act as statutory bodies.

- Research Advisory Board (RAB) through ORSP Charter facilitates research, development, innovation and funding policy.

- Finance committee examines annual account, annual budget estimation and financial position of the university.

- The Board of Governors (BOG) approves all the proposals and initiatives towards research and development strategies at the university and offers its inputs on all broad areas of development and internal quality enhancement.

- Centres of Excellence and Research Centres are having Steering Committee to review the progress and advancement.

- Consultancy policy of the university guides the consultancy initiatives by university faculty and provides norms and regulations for consultancy projects implementation.

PDPU has created a policy structure to fulfill the norms, rules and regulation and policy requirements of national statuary bodies like: UGC and AICTE.

CRITERION VII: INNOVATIONS AND BEST PRACTICES

7.1 Environment Consciousness

7.1.1   Does the university conduct a Green Audit of its campus?

- Rain water harvesting has been done in the campus.
- There is a sustained effort to carry out utilization of waste water and sewage generated. Sewage Treatment Plant (STP) is installed inside the campus for this purpose.

Annexure 7.1.1 gives the details.

7.1.2   What are the initiatives taken by the university to make the campus eco-friendly?

- ∗ **Energy Conservation**
- ∗ **Use of renewable energy**
- ∗ **Water harvesting**
- ∗ **Check dam construction**
- ∗ **Efforts for Carbon neutrality**
- ∗ **Plantation**
- ∗ **Hazardous Waste management**
- ∗ **e-waste management**
- PDPU has established one mega watt solar power station to sensitize the community for the judicious use of the energy and also encourage it for the green and clean energy and to lower the energy dependence.
- Solar Research Development Centre is established and substantial progress has been made in research & development and patents are filed.
- Centre of Excellence for Biofuel and Bioenergy Studies has been established and research is in progress with a committed group of faculty members.
- Centre of Excellence for Geothermal Energy has been established and substantial research and development activities are in progress.
- Centre of Excellence for Climate Change – Air Quality and Pollution is proposed to

be set up.

- While planning the university building construction, care has been taken not to uproot any tree. Construction is done preserving the trees as they are.

- Glass is used in most offices for effective light and reducing electricity consumption.

- In winter, academic sessions are kept continuously without break as in winter less electricity supply for air conditions or light is required. In summer, compound holidays are given so that the use of power has considerably gone down.

- Rain water harvesting is done.

- Solar water heaters are installed in the hostels.

- Poster competition was organized on the theme of the use of green and clean energy to sensitize students for the respect for environment.

- Green Run – a marathon was conducted in Gandhinagar by PDPU students in 2012 to promote environment protection.

- University encourages use of bicycles for students to commute to nearby locations to reduce carbon footprints. University had bought bicycles and offers it on rental basis to students.

- Paperless environment is encouraged with extensive use of E-communication.

- E waste is managed judiciously by IT Department.

- Solar street lights have also been put up across the campus.

7.2 <u>Innovations</u>

7.2.1   Give details of innovations introduced during the last four years, which have created a positive impact on the functioning of the university.

- Taking the vision and mission of the university into consideration, Research Advisory Board is constituted to promote research and consultancy.

- University has conceptualized the structure of schools and centers. Schools are offering various educational programmes and conducting research work. Centers are focused on domain specific research.

- University has taken leadership in establishing collaborations with industry for

strengthening the academic and research activities.

- University has conducted several conclaves/seminars/roundtables to promote industry participation.

- PDPU has established Public Diplomacy Lecture Series with the help of MEA for public benefit.

- To sensitize students to the grass root realities and the problems of rural community, Rural Internship and CSSI Community & Social Service Internship is introduced for students.

- To apprise students regarding civic responsibilities and urban development measures, Urban Renewal Mission Internship and Civic Social Internship.

- University has organized several International Round Tables on campus involving Government, Industry and Academia from Canada, US, Japan, Singapore and Australia.

- PDPU has also started a project called 'One World' to bring international students interns on campus for world peace and harmony

- University has taken a lead to establish Centers of Excellence in Energy and Technology.

- PDPU has conducted largest University-to-University meetings on its campus, involving Gujarat based universities and International Universities in January 2013.

- PDPU has conducted two ICAI (International Conference of Academic Institutes) on campus in January 2013 and January 2011.

- Judicious use of ICT has reduced paper work on the campus.

- University has taken the lead in promoting women's education by providing 50% reservation to girls students in select programmes.

- From 2009-11 girls student in select programme were offered 50% Tuition fee waiver.

- Admission to PDPU Engineering programmes provides a special quota for girls students to the extent of 10% to promote women empowerment.

- To cater to the skill development of external stakeholders Center of Continuing Education has been established on campus, which runs evening and weekend classes for foreign language and Civil Services Training.

- PDPU has also started community development program (CDI) under which, under privileged students of the community are provided workshops on skill development during vacations.

- To promote industry understanding, School of Liberal Studies has introduced Corporate Internships for its UG students during summer vacations.

- PDPU has also established 'Study Abroad Emailer Group' to apprise students regarding opportunities of study abroad.

- A special archive section showcasing the life and deeds of Pandit Deendayal Upadhyaya is established in School of Liberal Studies library.

- A course on 'Gandhian Thoughts' is introduced for Technology students for promotion of ethics and values along with a basket of courses from humanities, arts and social sciences.

- University has also institutionalized celebration of National Days like the Independence Day, the Republic Day, Earth Day, Science Day, Engineers Day, Teachers Day in addition to public lecture series like – Pandit Deendayal Memorial Lecture Series, Prof. Khilar Lecture Series.

- University has provided CPDA of Rs. 1 lac per annum to faculty for International Seminars/Conferences or subscription of journals or membership in various academic bodies. This has strengthened research activities on campus.

- PDPU has sent total 300 students for one month International Exposure Program, resulting into greater understanding of academics abroad and also cultural appreciation.

- PDPU has established tie-ups with International Business Councils like – US-India Business Council, Australia-India Business Council and India-Canada Business Council.

7.3 Best Practices

7.3.1 Give details of any two best practices which have contributed to better academic and administrative functioning of the university.

At PDPU several innovative and ambitious initiatives and practices have been implemented. Of all such initiatives and practices, following two are worth mentioning:

- **Choice Based Course Offering**

The Practice:

PDPU offers students intellectual freedom and choice of selecting their own course basket leading to Outcome Based Education (OBE). Unlike traditional educational course offering where even before the student is oriented to different discipline at the outset the student has to select specialization.

Objective of Practice:

This practice exposes students to array of courses so that the student gains holistic learning experience, converging the knowledge of interdisciplinary courses.

The Context:

Recommendations by Knowledge Commission and Prof. Yashpal hint on the need to take education beyond the opaque walls of specialization. Integrated learning experience is the need of the day where business and employment scenario is volatile and keeps on demanding new skills. By enabling choice based course selection, not only highest commitment from the student is solicited but also stress-free and supportive environment for the student is created. PDPU pedagogy insists on 'different strokes for the different folks' and thus encourages non-judgmental environment. Nation building demands that youth gain knowledge of multiple disciplines instead of mono-dimensional course curriculum.

The Practice:

Course structure at PDPU schools are a mix of courses from Pure and Applied Sciences, Engineering and Technology, Social Sciences, Business, Management, Performing Arts, Fine Arts, Languages and Literature. Students have opportunity to appreciate the best that is known and practiced in the world. Choice based course offering has also encouraged self-study and proactive team communication from students. There have been questions posed recently regarding the declining habit of students to read. When the student learns the course, for which he has opted, chances of voluntary pursuit of knowledge increases. Choice based course offering also encourages 'learning for the sake of knowledge' rather than mere 'learning for the sake of employment'. This

broadens the perspective of students and inculcates genuine inquisitiveness.

Evidence of Success:

The course structures at PDPU have received enthusiastic response from all stakeholders and the success of PDPU students in and out of campus in various competitions, seminars and event management substantiates the stand taken by the university. In the years to come, PDPU is committed to expand the course basket and provide more responsible freedom to students.

Problems Encountered and Resources Required:

It is challenging to identify the resource faculty on visiting basis for many courses. Even the time table scheduling sometimes become difficult. With the sourcing of expert faculty members from the other institutions and organizations, managing their time becomes difficult and leads to the disruption of schedules leading to break in continuity of learning.

- **Internships**

Objective/ Context of Practice and the Practice:

No academic pursuit is complete without practical exposure. Complexity of global economy demands from youth insight into organizational structure and work patterns. PDPU thought of moving beyond 'brick and mortar' class rooms to the class rooms of life by providing various internship options to students. PDPU offers Rural Internship, Urban Internship, Corporate Internship and International Exposure to its students.

Rural Internship: - Proverbial wisdom insists 'charity begins at home'. PDPU understands that the heart of India still beats in rural society. No other nation has such complex social fabric as India with its rich ethnicity, culture, languages, customs and work pattern. Leader of tomorrow would have to understand the social fabric of rural community in India, its grass root realities, problems and solutions. Community driven initiatives like – adult education, women empowerment, health & hygiene, Rural internship equips students with fundamental understanding of rural sector and encourages students to work with NGOs for the welfare of the community. It also helps future business leaders in developing good insights of Indian rural markets.

Urban Internship: - Many citizens of today do not know the basics of urban administration. A person may be literate but if the person does not know essential

services of urban and civic body like town planning, health, revenue, finance, water filtration, solid waste management, public transport then the very purpose of education remains incomplete. PDPU exposes students of select programmes to Urban Renewal Mission Internship where students work with Municipal Corporation for one month for tasks related to Urban development. This experience provides them fresh perspectives on city administration and inculcates leadership values.

Corporate Internship: - During summer vacations, most students of PDPU are encouraged to move beyond the comfort zone and work with industry to gain real life exposure to the demands and work pattern of the industry. PDPU Students have worked with sectors like – Energy, Oil and Gas, Infrastructure, Manufacturing, Event Management, Media, Films, Banking, Aviation Industry, Hospitality, NGOs, Government etc. This enables PDPU students to complement theories learnt at the school and also network with industry.

International Exposure Program – The International Exposure Program enables students to not only develop technically but also enriches their linguistic and cultural knowledge. In terms of linguistic and cultural awareness, students emerge with a greater level of sensitivity and patience. This in turn leads them to move from a fundamental understanding of the theoretical concepts to a more sophisticated interpretation and application based approach. Secondly, most students adapt to the practical challenges they encounter by finding mechanisms to help them cope with their new surroundings. Many students have shown concern about adjusting in the countries they planned to visit. Students also have some misconceptions about the nature of the people and the overall cultural aspects of the region which are mitigated during the IEP Programme. The exposure program helps the students to soak in the real essence of the cultural aspects in person and enables them to grow technically as well as spiritually.

- Total 174 students went since 2010

- Out of them 94 students have been placed through campus recruitments

- Another 35 student are currently pursuing higher studies

IEP also helps understand the pattern of Higher Education abroad and foreign culture. Students are encouraged to avail IEP with countries like Canada, US and

Australia. This also facilitates students who are considering study abroad as upward mobility in Higher Education.

Evidence of Success:

Rural Internship:

Rural internship sensitizes students about need and social fabric of rural India. This program help students become a better citizens. Some of the students also get motivated to work for rural markets / NGOs.

Urban Internship:

AMC has appreciated the efforts and motivation of PDPU students to learn about urban administration. AMC at times also involve PDPU students in some of their activities by offering projects through which AMC understands the stakeholders perspective. For example during Kankaria Carnival PDPU students were engaged in various activities of AMC.

Corporate Internship:

Some companies which offer internship to PDPU students come back to PDPU and offer PPOs (Pre Placement Offers) to summer interns. PDPU students obtain on the job training during summer internships and understand the application of theories and concepts in to practical industrial and business world.

IEP: Most students learn to adapt to the practical challenges they encounter by finding mechanisms to help them cope with their new surroundings. Many students have shown concern about adjusting in the countries they planned to visit. Students also have some misconceptions about the nature of the people and the overall cross cultural aspects of the region which are mitigated during the IEP Programme.

Problems Encountered:

- Meeting with the cost of providing IEP has been limiting factor.
- As a part of Corporate Internships difficulties are faced when some of the companies do not offer proper work/project