INTERNAL QUALITY ENHANCEMENT CELL (IQEC)/ INTERNAL QUALITY ASSURANCE CELL (IQAC) REPORT

School of Petroleum Technology

Pandit Deendayal Petroleum University, Gandhinagar
a) **Question Paper Review**

A committee comprising of SPT faculty members reviewed the End Semester question papers of 2016-17 and found that in large, most of the faculties have done justice in framing the question papers.

Based on the analysis, the following guidelines have been reframed for making the question paper robust and providing equal opportunity across the diverse class.

- Questions based on fill in the blanks or True-False should be avoided.
- Short notes can be limited and should not carry 5 marks.
- Using proper English, punctuation and grammar is an integral part of any question paper. Faculties are advised to conduct a quality check focused on font style/size uniformity, usage of punctuation marks and directives.
- Lengthy questions should be asked in parts and marks breakup for each part of questions should be mentioned.
- Questions papers should neither be lengthy nor be short. Faculties are advised to ensure that the question paper should be appropriate for duration of 3 hours or the scheduled time.
- If two faculties are taking a course jointly and the paper is divided in two different sections, then each section should be analyzed properly. The faculties are advised to sit together and perform a detailed quality analysis in order to ensure the paper is fulfilling the above mentioned guidelines.
- Faculties are expected to spend time in designing the question paper keeping in mind the sanctity of examination.
• The most important criteria proposed by the committee focuses on breakup of a question paper in parts:
  – The first part of the paper should be around 30 marks, comprising of short questions with marks ranging from 2 – 5 marks. This part can include application based short questions and direct questions.
  – The second part of the paper should be around 40 marks, comprising of numerical (if any) and questions aimed at testing the student reflection on class-room teaching.
  – The third part of the paper should be around 30 marks, comprising of application based questions and questions aimed at testing the practical and analytical skills and intellect level of students.

b) Industry-Academia Relationship
– SPT faculty members also take up joint research projects in collaboration with Industry. Faculty members and B.Tech students from SPT have worked on collaborative projects with companies like Gujarat Gas, Shell Hazira LNG, etc.
– To strengthen Industry-Academia relationship SPT organizes Expert Lectures, Conclaves, Seminars and Workshops and also undertakes Projects in collaboration with industry. Topics related to course curriculum where students need a better clarity are addressed in expert lectures by industry stalwarts. Organizing Conclaves, Seminars, Workshops for students, faculties, industry participants while keeping pace with recent trends and technologies in Oil and Gas sector makes the participants aware of practices followed in industry and helps them in interacting and networking with stalwarts from industry and academics. This not only helps in overall development of students as well faculty members, but also makes the students aware of industry expectations, which in turn helps in making them not only employable but deployable as well.
– Special lectures of one week each are conducted every year by Petroskills/Shell Total on (a) Offshore Drilling (b) Reservoir Simulation
SPT has successfully organized many programs where participants were greatly benefitted. Some of the programs organized by SPT for industry-academia interaction are given below:

<table>
<thead>
<tr>
<th>SN</th>
<th>Event Details</th>
<th>School and Student Chapter</th>
<th>Event Learning and Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Workshop on Enhancing Oil and Gas Production in Cambay Basin, Western Onshore</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Shri Rabi Bastia</td>
<td>SPT and SPE</td>
<td>Date: 21&lt;sup&gt;st&lt;/sup&gt; September, 2016</td>
</tr>
<tr>
<td></td>
<td>2. Shri Chandrasekhar Deshpande</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Shri Anil Kaul</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Shri Shyam Sunder Sharma</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Shri D.D. Sharma</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Mr. Anwar Husen</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Shri. Santanu Das</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. Mr. Atul Singh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td><strong>International Shale Gas and Oil Workshop</strong></td>
<td>School of Petroleum Technology</td>
<td>Date: 6&lt;sup&gt;th&lt;/sup&gt; October, 2016</td>
</tr>
<tr>
<td>3</td>
<td><strong>Book Release Ceremony</strong></td>
<td>School of Petroleum Technology</td>
<td>Date: 5&lt;sup&gt;th&lt;/sup&gt; January, 2017</td>
</tr>
<tr>
<td>4</td>
<td><strong>Geowalk – A field trip to Pavagadh</strong></td>
<td>School of Petroleum Technology</td>
<td>Date: 21&lt;sup&gt;st&lt;/sup&gt; January, 2017</td>
</tr>
</tbody>
</table>
| 5 | Well Logging Workshop  
**Guest:** Mr. Prem Kumar Chawala, ONGC | School of Petroleum Technology | 2nd March, 2017 |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Guest Lecture by Dr. J.V.S.S. Naratana Murty</td>
<td>School of Petroleum Technology</td>
<td>15th March, 2017</td>
</tr>
</tbody>
</table>
| 7 | SPE Annual Ceremony  
**Guest:** Mr. Darcy Spady, SPE President with the SPE committee | School of Petroleum Technology | March, 2017 |
| 8. | PDPU SPE Fest’16 | SPE and SPT | SPE PDPU Student chapter successfully concluded its maiden three day technical Fest pertaining to oil & gas industry, The SPE Fest 2016. The three day fest included technical as well as non-technical competitions. Events were judged by Industry veterans, experts & college alumni. Apart from competition, there were technical sessions, & Gala night. The events are as follows:  
- **SHOWCASE** : Paper and Poster Presentation Competition  
- **APOTHEOSIS** : Model Making Competition  
- **EXAMEN** : Case Study Evaluation  
- **EXEGESIS** : Well Log |
c) **Laboratory Setup and Updation (Undergraduate)**

SPT believes in an application based teaching approach rather than a theoretical approach. Practical study is required along with classroom study to understand the concepts properly as well as to develop skills for applying the conceptual knowledge in the real world. In line with this belief SPT has set up state-of-the-art Lab Facilities for the students where they not only perform experiments designed based on the theoretical studies, but are also provided a platform to take up research studies as well. By performing experiments in Laboratory, students get a hands-on experience on equipments.
– SPT has identified Key Areas for development of labs, which is a continuous process. Some of the point highlighted below have been achieved and some are ongoing:

1. Safety Training to Lab assistants, students, faculty members and researchers
2. Design of New Experiments
3. Preparation of New Lab Manuals
4. Updation of Old Lab Manuals
5. Procurement of New Sophisticated Lab Equipments
6. Training to Lab Assistants
7. Induction of Lab Assistants in upcoming labs

– SPT has also procured sophisticated equipment such as Magnetometer, Gravimeter, Seismometer, DGPS/GPS for students and trainings and workshops are conducted in order to provide them a hands-on experience on the equipments.

– Lab manuals are continuously reviewed, analyzed and updated in order to keep the course as robust as possible and by taking into account industry requirements as well. New and improved experimental set-ups are available for student use. New experiments are also designed by faculty members in consultation with each other and industry experts.

– Reservoir Characterization Lab is being planned. Space has been allocated for the same.

• **Drilling and Stimulation Lab**

– SPT is setting up a state-of-the-art Drilling and Stimulation Lab for the growth of the university and research scholars. The lab is being set up with assistance received from Department of Petroleum, Government of Gujarat. Drilling is the backbone of exploration and development activities in E&P industry. Development of the knowledge base in drilling is one of the most important reasons for conceptualization of the lab and research activities. Stimulation is the technique which improves upon the productivity of the oil & gas wells and enhances the overall recovery of the field. The objective of setting up the Drilling and Stimulation Lab at SPT is to provide a platform for Academia- Industry relation to fulfill the requirements of oil & gas operational activities and to work in tandem with industries in and around for R&D
activities. This will help in designing suitable job operations under simulated conditions in oil field reservoirs which is the need of the day for students, researchers and scholars.

The commissioning, demonstration and training of cementation evaluation equipment has been started on September 26, 2016 by the commissioning enginers of Ms. Chandler Engineering, USA.

- **Inaugration of DCS Lab**

  School of Petroleum Technology, PDPU celebrated the inaugural ceremony of Drilling, Cementing and Stimulation Lab on the 3rd March, 2017. The ceremonial opening was initiated by a ribbon cutting done by honorable Shri Nitin Patel (Deputy CM, Gujarat), Shri Subhash Shah (Chair Professor, SPT) and Shri Jaya Shah in the presence of dignitaries of the University, Dr. T.K.Reddy (DG,PDPU), Shri D.Rajgopalan (Chairman, Standing Committee PDPU), Dr. Anirbid Sircar (Director,Spt), Mr. R.K.Jain (Advisor, DCS lab)
• Petroleum Engineering Lab – I & II
  i. New equipments have been procured such as Sulphur-in-Oil Content Analyzer, Oil-in-Water Content Analyzer, Glass Washer
  ii. New experiments have been designed and added into the Laboratory course curriculum such as Sulphur-in-Oil Content Analyzer, Demonstration of Core-flood Apparatus (including Pressure Tap Core-Holder), Oil-in-Water Content Analyzer (as emulsion)
  iii. Lab manuals are corrected and updated with addition of new experiments on a continuous basis
  iv. Descriptive and Demonstrative posters related to laboratory experiments are prepared and put up in Petroleum Engineering Lab – II for making students understand the concepts properly.

• Petroleum Product Testing & Application Lab
  i. New equipments have been procured such as Distillation Equipment and Gravimetric Analyzer
ii. New experiments have been designed and added into the Laboratory course curriculum such as Distillation Equipment and Gravimetric Analyzer

iii. Lab manuals are corrected and updated with addition of new experiments on a continuous basis

- **Gas Technology Centre**
  
  SPT is establishing a Gas Technology Centre in collaboration with KIWA Technology, Netherlands and Eurotech India

  **Budget Allocated:** Rs. 10 Crore only

  **Objective:**
  
  o To offer a unique platform for consultancy, certification and lab based training services in the natural gas sector.
  o To offer skill development certification programs at foundation level and foreman level for fitters, welders, plumber, to be recruited in the City Gas Distribution (CGD) Sector.
  o To impart hands-on training to students on various components of CGD sector viz. fittings, valves, pumps, meter regulators, service regulators, pipes, joints, flanges etc.

- **Centre of Excellence for Geothermal Energy**

  Centre of Excellence for Geothermal Energy (CEGE) was established on 10th October, 2013 with an objective to drill a geothermal well and production of 1 MW of electrical energy. CEGE has completed geophysical techniques such as Remote Sensing, Geochemical Analysis, Magnetotelluric Survey (MT) and Gravity Surveys. CEGE team has integrated the results obtained from the above mentioned techniques and has identified possible geothermal resource locations in Dholera and Unai. CEGE is working on a conceptual model of district heating and cooling system, to be implemented at Dholera Swaminarayan Temple. Dr. Sircar, Ms. Shreya Sahajpal and Mr. Manan Shah from SPT are leading the CEGE team currently.
• Inaugural Ceremony of Geothermal Space Heating and Cooling System

*Ribbon cutting by Shri.Bhupendra Chudasama, Education Minister, GoG*
Inauguration Ceremony of Geothermal Space Heating and Cooling System was held at Swaminarayan Temple, Dholera, Gujrat on 13th December, 2016. Honorable Minister Shri Bhupendra Singh Chudasama was the Chief Guest in the event. The system was inaugurated by him at 5:00 PM in the evening as he cut the ribbon and unveiled the foundation stone. Dignitaries from PDPU, Institutes and Industries including Prof. T.K. K. Reddy, Director General, PDPU Prof. Anibid Sircar- Head CEGE, Ms. Shreya Sahajpal- Coordinator CEGE, Mr. Manan Shah- Research scientist CEGE, Mr. Dwijen Vaidya- Research Associate CEGE, Ms. Shubhra Dhale- Research Assistant CEGE, Ms Kriti Yadav- Research Assistant CEGE, Mr. Anubhav Uppal, Scientist - B, MNRE, Mr. Deepak Kumar, SE (E), ONGC Energy Centre, Mr. B.S. Mendhe, Chief Engineer(P), ONGC Energy Centre, Kothari Swamiji of Swaminarayan Temple were present to cherish the moment of success of CEGE, PDPU.

As the renewable energy sector is booming amidst the growing concerns of global warming, focus on geothermal energy has increased in recent times. Various institutes and organizations are focusing on exploitation of geothermal energy, which is the thermal energy stored beneath the earth. This energy is often exposed on surface in the form of hot springs and geysers.

Based on various exploration techniques, two geothermal bore wells have been drilled at Dholera, one on October 28, 2015 and another on January 31 2016. The bore wells have been drilled 1000 feet deep, and the temperature of the water is 47 to 50 degree Celsius, with a flow rate of five to six litters per second. The hot water produced from these wells is now being utilized in the Swami Narayan temple at Dholera.

To harness the geothermal energy in Gujarat, a team of six research officials of Centre of Excellence for Geothermal Energy (CEGE), Pandit Deendayal Petroleum University (PDPU) have developed ‘Geothermal Space Heating and Cooling system’ in association with Green India Building System and Services (GIBSS), a first of its kind in India. This system has been implemented at Dholera geothermal site, located in the Ahmedabad district.
About the System

The heat pump based geothermal heating and cooling system, which is first of its kind in India. Geothermal Space Heating and Cooling system at Dholera is based on Ground Source Heat Pump (GSHP) instrument. CEGE has drilled a well of 1000 ft. depth in Dholera, which produces water at 47-50 degree Celsius at the flow rate of 5-6 liters per second. The output from the cooling side of the system will be utilized for comfort cooling to assembly Hall at the temple. While, the output from heating side of the system will be utilized as an input to Organic Rankine Cycle (ORC) for power generation at pilot scale. The system will produce cooling of 32 TR capacity for the —Sabha Mandap‖ of the temple as an additional benefit. The heat pump system is highly energy efficient and eco-friendly system with minimum usage of water and optimum requirement of electricity.

d) Ongoing Research & Development Projects

SPT Faculties have undertaken various research projects as a part of Research and Development program for self-development as well as for the benefit of students, university and society. Some of the projects have been listed below:

- **Project Title**: Ichnofabric analysis, Event Stratigraphy and Depositional Environment of the Cretaceous sediments of Western India  
  **PI/Co-Pi**: Dr. Bhawanisingh G. Desai  
  **Sanctioned By**: DST; **Amount Sanctioned**: Rs 27,00,000

- **Project Title**: Assessing and modelling of petrophysical anisotropy and heterogeneity in bioturbated clastic reservoirs (Under Review).  
  **PI/Co-Pi**: Dr. Bhawanisingh G. Desai  
  **Total Budget**: 57.87 Lakhs

- **Project Title**: Geothermal Energy Exploration & Exploitation, Gujarat, India  
  **PI/Co-Pi**: Dr. Anirbid Sircar, Ms. Shreya Sahajpal, Mr. Manan Shah  
  **Sanctioned By**: Govt. of Gujarat; **Amount Sanctioned**: Rs 2,00,00,000

- **Project Title**: G Middle Jurassic-Cretaceous Belemnite fauna at Southern and Northern Tethyan margin: Biogeographic patterns, stratigraphic distribution and Key correlative levels  
  **PI/Co-Pi**: Dr. Bhawanisingh G. Desai
Sanctioned By: DST-RFBR International Bilateral Program
Amount Sanctioned: Rs 24,00,000 (Indian side)

- **Project Title:** Assessment of drilling fluid impact on oil well productivity based on formation damage laboratory testing
  
  **PI/Co-Pi:** Dr. Anirbid Sircar/Vaishali Sharma

---

e) **Proposals Submitted**

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Title of the Projects</th>
<th>Submitted to</th>
<th>Amount Sanctioned (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Sivakumar P; Prof. Anirbid Sircar; Mr. R. Balasubramanian</td>
<td>Production of biodiesel from industrial waste using functionalized iron nano catalyst.</td>
<td>DST-Waste Management Technology (WMT)</td>
<td>38.55 Lacs</td>
</tr>
<tr>
<td>Dr Sivakumar P; Prof. Anirbid Sircar</td>
<td>Production, processing and extraction of self-sustained biofuel from assimilated native algae species</td>
<td>DST-Scheme for Young Scientists and Technologist scientists</td>
<td>98.99 Lacs</td>
</tr>
<tr>
<td>Dr. Anantha Singh T S; Dr Sivakumar P</td>
<td>Recovery of precious metals from printed circuit boards by combing bio-leaching and electro winning processes</td>
<td>DST-Waste Management Technology (WMT)</td>
<td>11.27 Lacs</td>
</tr>
<tr>
<td>Prof. Anirbid Sircar Mr. Dwijen Vaidya, Mr. Manan Shah</td>
<td>Deep Geothermal well drilling in Dholera, Gujarat, India and Deep Geothermal well drilling in Unai, Gujarat, India</td>
<td>Ministry of New and Renewable Energy (MNRE), Govt. of India</td>
<td>6 Crore</td>
</tr>
</tbody>
</table>
f) Library Resources

A good library is the store house of knowledge for any school. In the last seven years the School added books mostly in the upstream sectors both in hard and soft forms. From the last year collective efforts are made to improve our collection in downstream sector also. The School targets to double this effort in the next three years. Budget provisions are made for the same.

SPT has developed a strong library resource for Petroleum Engineering. Latest books, journals, articles are procured and added to the existing pool of knowledge for Upstream as well as Downstream courses. SPT has added total 1118 books (upstream and downstream both) till academic year 2016-17. SPT has added 503 books in 2011-12, 109 books in 2012-13, 90 books in 2013-14, 40 books in 2014-15 189 books in 2015-16 and 187 books in 2016-17.

g) Memorandum of Understanding (MoU) with Industries and Universities/Academic Institutions

SPT has signed some quality MoUs with leading industries and academic institutions on national and international level. SPT is also working in collaboration with many other companies and industrial bodies for student benefit.

i. KIWI Technologies for the development of Gas Technology Centre at PDPU
ii. Hazira LNG Pvt. Ltd., Ahmedabad for Shell Total Chair Professorship
iii. Institute of Seismology Research, Raisan for establishing academic & research collaboration and to share infrastructure facility/labs
iv. Gujarat Gas for joint B.Tech student projects, internships and faculty development programs.
v. SPT is also working in collaboration with University of Oklahoma, USA for joint research projects, educational activities and student exchange programs for Batch 2014-15 students.

h) Awards and Honors for School of Petroleum Technology
1. **2017**: The Society of Petroleum Engineering (SPE) student Chapter at PDPU achieved Prestigious International “OUTSTANDING AWARD” from SPE-International for the Year 2017.
2. **2016**: PDPU SEG Student Chapter has won **2016 Best Student Chapter Award**.
4. **2015**: The Society of Petroleum Engineering (SPE) student Chapter at PDPU achieved Prestigious International “GOLD STANDARD AWARD” from SPE-International for the Year 2015.
5. **2013**: The Society of Petroleum Engineering (SPE) student Chapter at PDPU achieved Prestigious International “GOLD STANDARD AWARD” from SPE-International for the Year 2013.
7. **2011**: The Society of Petroleum Engineering (SPE) student Chapter at PDPU achieved Prestigious International “GOLD STANDARD AWARD” from SPE-International for the Year 2011.
9. The Petroetch Student’s chapter of PDPU was awarded **Best Chapter Award-2012** by the PETROTECH SOCIETY.

10. **Championship Trophy** awarded to SPT students as a part of UPES SPE FEST-2013 awarded by UPES Dehradun and SPE.

11. Prakhar Sarkar from SPT has been awarded the SPE STAR Scholarship award for the year 2014-15.


13. SPT Team consisting of Anurag Sodani and Mohit Mehta represented SPE PDPU CHAPTER in SPE PETROBOWL 2016 at Dubai.

**i) Extension Activities**

SPT organizes Mock Interviews, Group discussions, seminars, Interaction programs for the students. Faculty members also conduct counseling sessions for students and also help them in designing and updating their resumes. In order to augment this, a credit course on Seminar is added in the curriculum in consultation with Board of Studies. The same has been ratified by FoET and Academic council. This course also helps in enhancing the overall personality development skills of students and in improving their presentation and orator skills.

**j) Attendance of Students in class**

A continuous monitoring program has been developed by SPT to understand and analyze student attendance in all the courses. This program has helped in improving student attendance over a period of time.

**k) Multimedia System**

All Lecture Halls and Lecture Theatres in SPT are equipped with latest multimedia systems consisting of state-of-the-art audio-visual facilities to make the class room sessions vibrant, lively and interactive for the students.
l) **Student Research Projects**

As a part of research venture of SPT, certain guidelines are given to students as well as faculties for monitoring the quality of student research projects. B.Tech/M.Tech projects are the foundation of the school research and require proper monitoring and mentoring. SPT has constructed panels for review & monitoring of Undergraduate & Postgraduate Student Research Projects with publications envisaged and IPR. M.Tech students have been given a mandate of publishing at least one research paper based on the outcome of their respective projects. Faculties are also being encouraged to generate resource from industry and academia for facilitating student research, development of labs, and developments of centers of excellence. SPT also encourages students to publish and present papers at national & international levels with a proper scrutiny of various research ideas.

m) **Training Programs**

SPT is planning to conduct training programs for staff on soft skills, personality development, basic introduction to petroleum engg., and MS Office. Faculty members will also be encouraged to undergo trainings on soft skills, personality development, MS Office, Research Methodology. SPT has state-of-the-art laboratories with skilled Lab Assistants. Skilled/Experienced lab assistants will be stationed or inducted in each lab and proper training will be imparted to lab assistants. SPT will also organize Skill Development programs for faculty and staff and Group Dynamic sessions for faculty members and staff to help in group projects.

PDPU with the stable support of Govt. of Gujarat is establishing a Drilling and “Stimulation Laboratory (DSC) to conduct excellent, high-tech and cuing-edge research by providing the state-of-the-art research facilities. The centre is established with a vision to initiate and promotes research linkages with institutions and agencies including industry and professional organizations. PDPU has procured following equipments for the establishment of DSC Lab from Core laboratories and Chandler Engineering:
• Proppant Conductivity - M/s. Core Laboratories, Tulsa, Oklahoma, USA
• Formation Damage – M/s. Core Laboratories, Tulsa, Oklahoma, USA
• Cementation Evaluation Equipment – M/s. Chandler Engineering, Oklahoma, USA

In order to understand the installation, specifications and operational features of the procured equipment's, faculties from “SPT – PDPU has been nominated for one week on-site factory training (July 6 to July 12, 2016) at the respective facilities of Core Laboratories and Chandler Engineering, U“A. The details of the nominated faculties/official are as follows:

• Mr. R.K. Jain (Faculty, “SPT-PDPU)
• Prof. “Subhash “Shah (“Shell Total Chair Professor, PDPU and Emeritus Professor, The University of Oklahoma)
• Dr. Anirbid “Sircar (Director, “SPT-PDPU)
• Ms. Vaishali “Sharma (Faculty, “SPT-PDPU)
• Mr. Manan “Shah (Faculty, “SPT-PDPU)

The purpose of this factory training was to gain in-depth education and training the equipment's purchased from Core Laboratories and Chandler Engineering. This training include understanding of the Equipment Operational features, Calibration, “safety Measures, Technical Applicability, Data Acquisition & Control and Performance Analysis.
n) **Inter-Institute Collaboration**

SPT aspires to collaborate with esteemed institutes across the nation for Syllabus Review, Faculty exchange, Collaborative research, Student exchange program, Lab and technology transfer and sharing; and Personality development & social skills courses with Humanities.

o) **Faculty Advisor**

On joining the School, every student is assigned to a Faculty Advisor. Students are expected to consult the Faculty Advisor on matters relating to their academic performance and the courses they may take in various semesters. The role of Faculty Advisor is to extend guidance to students, enabling them to complete their courses of study in a smooth and satisfactory manner.

**Specific role of Faculty Adviser 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 Director SPT 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 on 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 DirectorSPT as and when required.

p) Development of Man Power Skills
The School is striving very hard to develop manpower skills. The School inducts faculties who have shown demonstrated capabilities in the field of Petroleum Engineering. The School has made dedicated research groups and has plans to send faculties for exchange programs, Seminars and workshops. The school plans to send its young faculties to the Indian Industries for one month from 2015 to understand and work on practical projects.

q) Imparting world class education
The School has done quite well to train its Students and make them suitable for industries locally. The School has plans to get international placement for students and make students globally employable. Chair professors are instituted in the School and efforts are on to have at least 2 chair professors in the next three years. The effort will bridge the gap between industry and academia.

r) Excellence in Applied Research and Consultancy
The School has already developed the Centre of Excellence in Geothermal Energy. Multi disciplinary research is in progress and the Centre will strive to generate 1MW electrical energy from geothermal sources in next two years.
The School has practiced the principle of research core groups and two other thrust areas evolved for future growth. These are Shale Gas Research and Ichnofabric studies.
Preliminary work on experimental basis is in progress. The School encourages consultancy work and has focused consultancy in the area of hydrocarbon reserve valuation in the upstream sector. The infrastructure for the same already exists but needs further augmentation in the next two years. The other upstream sector in which the School will focus will be seismic interpretation and petrophysical evaluation. The School has dialogues with small and medium scale industries for collaborative works. In the downstream sector the thrust area indentified is Thermal Designing of Heat Exchangers, Refinery /Process Plant Simulation.

s) Faculty Recognitions

SPT faculty members are striving hard to excel in academics and contribute to the academic and research community. Faculty members are being appreciated and recognized in and around the world, for their work.

1. **Dr. Anirbid Sircar**
   - Central Advisory Board of Oil & Gas World Expo 2016
   - Subject Expert, UGC e-Pathshala, Jamia Milia Islamia University, Delhi
   - Member, Collaboration Committee, Department of Earth Science, IIT Kanpur
   - Advisory Committee of College of Fire Technology, Ahmedabad
   - Editorial Board of Trends in Chemical Engg., STM Journals
   - Editorial Board of Recent Trends in Fluid Mechanics, STM Journals
   - Reviewer, Journal of Petroleum and Gas Engineering
   - Reviewer, Advances in Research
   - Reviewer, Current Science, Indian Academy of Sciences
   - Reviewer, The Palaeobotanist, Lucknow
   - Awarded the Best Paper Award for “Geothermal Investigation in Cambay Basin, Gujarat, India” in the 2\textsuperscript{nd} Annual International Conference on Earth and Environmental Sciences, June 2015, Athens, Greece.
   - Indira Gandhi Shiromani Award in 2011
   - Marquis Who is Who Award in 2009
   - Institute Gold Medal (ISM Dhanbad)
2. **Dr. Uttam Bhui**
   - Member, Board of Studies, School of Petroleum Technology, PDPU
   - Reviewer, Journal of the Geological Society of India
   - Reviewer, Arabian Journal of Earth Science

3. **Dr. Ashish Sarkar**
   - Reviewer, Journal of the Geological Society of India

4. **Dr. Bhawanisingh G Desai**
   - Member, Board of Studies, School of Petroleum Technology, PDPU
   - Editorial Board of International Journal of Geology, Earth and Environmental Science
   - Reviewer PLOS1, Palaeontology Electronica, Current Science, Journal of Earth System Science
   - Reviewer of Project Completion Reports of DST and Earth Science
   - Member Editorial Board: International Journal of Geology, Earth & Environmental Sciences (JGEE)
   - Member Editorial Board: Archives of Petroleum and Environmental Biotechnology (Medwin Publisher)

5. **Dr. N Madhavan**
   - Reviewer, Journal of Hydrology, Elsevier

   **t) Publications**
   In the recent past, publications in SPT have improved a lot. Faculty members are working in varied areas of research such as Shale gas exploration and exploitation, ichnofabric
studies, reservoir characterization, Geothermal exploration and exploitation, Extraction of thermal energies from Low Enthalpy reservoirs, City Gas Distribution, Sequence Stratigraphy and Biofuels production and kinetics. In the past one year, 13 research papers have been presented in national and international conferences by SPT faculties; and some have already been accepted for publication. Since its inception, SPT faculty members have published and presented approximately 120 research papers in reputed national and international journals, national and international conferences/seminars.

- One book on City Gas Distribution has been prepared and will be in press by August 2016.