



SELF STUDY REPORT

FOR

1st CYCLE OF ACCREDITATION

**SARDAR PATEL COLLEGE OF ENGINEERING,
ANDHERI WEST MUMBAI**

**BHAVANS CAMPUS, MUNSHI NAGAR, ANDHERI - (W), MUMBAI - 400058
400058**

<http://www.spce.ac.in/index.php>

Submitted To

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BANGALORE

(Draft)

1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

Sardar Patel College of Engineering under the management of the Bharatiya Vidya Bhavan, was founded by Kulapati Dr. K.M.Munshi. It was established to meet the growing demand for engineering talent. The college was inaugurated by the first Prime Minister of Independent India, Pandit Jawaharlal Nehru in 1962. Currently, the college is surrounded by 45 acres of green campus. The college is dedicated to Sardar Vallabhbhai Patel, an eminent nation builder of independent India. The college is affiliated to the University of Mumbai for full-time degree & postgraduate degree courses and is run under the management of the Bharatiya Vidya Bhavan. The college has been well recognized for various testing consultancy assignments in the Civil Engineering Department. The college received its autonomous status by UGC from 2010-11. The college is among the top five preferred engineering colleges in Maharashtra, as far as first-year engineering admissions are concerned. The college runs three UG, five PG and three Ph D programmes, which are affiliated to the University of Mumbai. The Civil Engineering department of the college has also been recognized as minor QIP research centre since 2012-13. The college has produced a number of graduates with an aptitude for research and leadership qualities. Most of the alumni of this college secured the responsible positions in national or international renowned companies spread all over the world. The on-campus placement for UG students has been above 90% over the last several years. The students have shown remarkable presence in various national and international Professional events organized by Reputed Professional Bodies and Institutions. Recently the college has joined hands with few US University academic experts in revamping the curriculum.

Vision

Vision

Sardar Patel College of Engineering (SPCE) aspires to be an institution of national repute that will create professionals with competence and motivate research for the progress of the nation.

In addition to the above Vision statement of the institute each of the three departments viz. Mechanical Engineering, Electrical Engineering, and Civil Engineering also have their own vision statements. These are given below:

Vision of Mechanical Engineering Department:

To be a nationally recognized mechanical engineering department producing a blend of responsible and competent engineering graduates with research motivation and inculcation of human values.

Vision of Electrical Engineering Department:

Department of Electrical Engineering aspires to produce socially responsible and dedicated electrical engineers by providing conceptual learning that enhances research-based activities.

Vision of Civil Engineering Department:

To build a reputed department that will produce competent, committed and socially responsible professionals.

Mission

Mission

- To impart quality education through time relevant curriculum in academic programs
- To enhance career opportunities for students through industry-institute interaction and value-added courses
- To promote excellence by encouraging innovative ideas and lateral thinking
- To inculcate a sense of discipline and responsibility towards society

Again, each Department of SPCE also has its own Mission which are given below:

Mission of Mechanical Engineering Department:

- To impart need-based technical education by designing curriculum in collaboration with stakeholders
- To develop linkages with renowned industries in India & abroad for excellence in teaching & research
- To provide state of art laboratories to impart field knowledge to mechanical engineering students
- To encourage the students to participate in extracurricular activities for overall personality development and be a responsible person of society.

Mission of Electrical Engineering Department:

- To educate through classroom teaching along with intensive practical activities and promote academic excellence with the help of expertise in different fields of Electrical Engineering from industries and academic institutes.
- To promote innovative ideas through seminars and projects.
- To bring awareness of social responsibilities as an Electrical Engineer

Mission of Civil Engineering Department:

- To impart knowledge in civil engineering and allied fields through a dynamic curriculum.
- To promote commitment toward excellence.
- To create awareness about and encourage socially responsible civil engineering practices.

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

Programmes in the Institute has successfully completed rounds of NBA accreditation.

Institute received Academic Autonomy in 2010 and received extension of autonomy upto 2021.

Based on Excellent performance in TEQIP-II institute fetched 2.5 crores.

Based on Excellent performance in TEQIP-III institute fetched 70 lakhs.

SPCE offers a dynamic and vibrant curriculum which is aligned in terms of the reforms required by the following

1. UGC for CBCS implementation
2. AICTE Model Curriculum (January 2018) for UG and PG programs
3. NBA directives for implementing Outcome-Based Education (OBE)
4. Latest syllabus for national competitive examinations such as GATE
5. Industries/ recruiters
6. Industry 4.0 technology revolution

Curriculum has Value added Non Technical Courses, Course on UMA/UBA, Course on Startup, Course on fire and safety in alignment with OHSAS, Management Courses.

Students and faculty are encouraged to complete Swayam, NPTEL courses.

Institute enjoys more than 90% placement of the students. Our Recruiters include Top companies TATA, Lnt, Mahindra, Reliance, Aker solutions, GE, J P morgan and many more.

Institute has very good blend of Qualified Experienced faculty with young energetic faculty

Institute has Very Good Campus, Good infrastructure, Yoga bharti, recreational facilities, ICT infrastructure, state of art Library, 24x7 Reading room facility, E-learning infrastructure, wifi enabled premises,

Alumni has create the remarkable presence in various industries across the globe. Alumni are working at Various top positions Like CEO, CTO, VP, Sr.VP, Director , Executive Director etc.

The institute is always a preferred choice for the good academic quality of students

The institute is under a Bharatiya Vidya Bhavan. The institute enjoys the legacy of 58 years.

We have the tagline "Let the Noble Thoughts come to us from all the sides".

Institute is located in Mumbai, the Financial capital of India.

Institute has always promoted very good industry institute interaction through, Industry based projects, Field projects, involvement of industry experts in Curriculum design, Industry experts acting as faculty etc.

Institute has shown verticle growth in recent times by adding MTech PEPS in Electrical Engineering, PhD in Electrical Engineering, increase in intake of PhD Mechanical Engineering.

Institutional Weakness

SPCE is keenly aware that there are areas that need improvement. We understand the need to overcoming them

and they feature prominently in our planning. The Major weaknesses are listed below

1. Lack of regular faculty for PG programs

Currently, the faculty of PG programs are hired on an ad-hoc basis. This leads to higher attrition rates. This causes a lack of continuity and in turn, limits the research opportunities for the PG staff. The institute is keen to appoint regular faculty for PG section but currently, these are not sanctioned by DTE.

2. Lack of specialized skills in supporting staff

The supporting staff are appointed by the government and have reasonable skills and qualifications. However, they don't have specialized skills by which they can support specialized Industrial and academic projects.

3. Limited hostel capacities

The current hostel capacities for both boys and girls are limited and most of the students stay off-campus. Hence, a lot of their time and energy is lost due to long commutes. It also limits the duration of time the students can spend in the institute. However, the Institute has already drafted a plan for a new hostel with an increased capacity which has been approved.

4. Lack of Faculty quarters

SPCE does not have any faculty quarters and thus the faculty travel to and fro every day. Considering that the campus is located in an upmarket neighborhood, the affordability of residential areas nearby is quite low. As a result, most faculty spend a long part of their time and money in commuting.

5. Lack of quality PG students

Most of the students admitted for the PG program come from rural and semi-urban areas where the facilities during the graduation are limited. As a result, the overall quality of PG students is lesser and considerable effort is required to bring them upto speed with other BTech graduates before they can be trained further.

6. Lack of International Professional assignments for faculty

Faculty need more motivation and training to encourage them to take on more International professional assignments.

7. Lack of Programme in Computer Engineering /IT

Institutional Opportunity

In today's dynamic world, there is a need to update the teaching-learning methodology, infrastructure, etc. to increase the employability of the students. SPCE does not consider this as a challenge but an opportunity to further strengthen its areas of operation so that it continues to remain a premier engineering institute. In order to achieve this, there are several opportunities that the Institute is looking to explore and maximize.

1. To collaborate with reputed foreign universities:

There are several best practices adopted by different reputed universities globally. SPCE looks to increase its collaboration with them in order to learn and adopt them by suitably modifying them to suit the Indian context. Collaborative research, student exchange programs, Joint Faculty training seminars, guest lectures, etc. are several ways in which this collaboration can be achieved. The students will get an opportunity to interact with their global counterparts which will expand the horizons of their thinking.

2. Demand for new PG programs and specializations

With more and more Indian companies investing in research, the demand for specialized Post Graduate Engineers in the Industry is increasing. SPCE is looking to expand its number of PG programs with specializations that can cater to this demand. The curriculum will be designed after consultation with academic and industry experts and will be state-of-the-art. This will also help increase the areas of research for both faculty and students.

3. Rising demand from industry for consultancy and testing

SPCE already has tie-ups with several top Industries with regard to consultancy and providing facilities for testing. There is still a lot of scope to increase it further. Faculty will be encouraged and sufficiently incentivized to increase collaboration with industry. This can also help the students to work on industrial problems thus improving their employability

4. Faculty and staff development through exposure to world-class academic and research

Collaboration with reputed academia, Research journals, and research institutes is being considered in order to boost the opportunities to do research. Also, the faculty will get an opportunity to use world-class research facilities and also help set-up such facilities in the institute depending on feasibility.

Institutional Challenge

As SPCE looks to grow further, there are definitely many challenges that it is likely to face. While we are definitely optimistic about our ability to meet these challenges, it is important to recognize them and plan accordingly. Some key challenges that we anticipate are listed below:

1. Globalization in Engineering Education.

Globalization has impacted every aspect of society and engineering education is no exception to it. As the opportunities for students become global, the demands also change accordingly. Hence, there is a need to stay connected with global innovations in engineering education and keep ourselves updated. However, it may not be possible to directly adopt all the global practices due to incompatibility with the local conditions. Hence, one needs to upgrade the infrastructure and provide training to faculty and staff as well as students in order to assimilate these global methodologies.

2. Keeping pace with rapid changes in technology.

Technology has entered in a major way in education and one needs to stay updated. It is very important to

ensure that the students are trained on the latest technology else they will face the risk of obsolescence. This also means a constant need to provide training to faculty, staff, and students on the latest technology. Again, labs and infrastructure also need to be constantly upgraded and thus required constant investment.

3. Few Industries in and around Mumbai

Mumbai was once a major industrial hub but due to high costs of land and labor and development of dedicated industrial hubs in other parts of the country several core Industries have moved out of the city. As a result, it becomes more difficult for students to regularly remain connected with the Industries. While Industrial visits are held frequently, it involves increasing travel times and costs. Again, Placement opportunities within Mumbai have reduced and so students have to travel to other parts of the country for their career needs.

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

SPCE offers a dynamic and vibrant curriculum scheme that has absorbed most of the vital inputs from its various stakeholders. The proposed curriculum is aligned in terms of the reforms suggested by the following agencies/ stakeholders.

1. UGC for CBCS implementation
2. AICTE Model Curriculum (January 2018) for UG and PG programs
3. NBA directives for implementing Outcome-Based Education (OBE)
4. Latest syllabus for national competitive examinations such as GATE
5. Industries/ recruiters

Students are motivated to register for SWAYAM / NPTEL online courses which provides greater academic flexibility. SWAYAM / NPTEL course titles are included in the Grade sheet of students who successfully complete these courses. The institute proposes BTech with Honours degree subject to fulfilling the requirements and subject to the approval of Mumbai University. To offer more freedom of choice to students, Track based choice of professional electives and Open electives at institute level have been introduced in the curriculum. The curriculum proposes a Start-up course to encourage entrepreneurship.

To focus on skill improvements of students, Course Outcomes based on specific skills have been included in the related course contents. The curriculum proposes “Engineering System Development” as an Open elective based on Govt of India’s Unnat Bharat Abhiyaan and Govt of Maharashtra’s Unnat Maharashtra Abhiyaan [UBA –UMA]. This course is in alignment with Vision-Mission Statements of the institute. The curriculum includes OHSAS, Fire and Safety engineering as an open elective based on the needs of the industry. The curriculum includes Ubuntu course to add more flavor of social service within the curriculum, in alignment with Vision Mission Statements of SPCE

To increase the employability of the students, Courses to be taught by industry have been introduced in the curriculum. The new curriculum will strongly equip the graduates with a unique set of skillsets thus improving their employability. This will certainly attract better recruiters and create a positive impact on placements.

SPCE thanks academic council, Board of studies, Industry Consultation Committees, students council members stakeholders, AICTE, NPIU, UGC, NBA who have given precious inputs to develop this curriculum.

The Curriculum is reviewed and updated periodically based on feedback received from the above stakeholders.

Teaching-learning and Evaluation

SPCE involves itself in active learning with students from diverse profiles. Hence, various methods like Group Discussions, Quizzes, Seminars, Assignments, Mini-projects, Industry/Field visits are implemented by faculty besides classroom teaching.

Specialized Industrial courses conducted by Industry experts have been launched. MOU's have been signed with reputed Industries like Siemens to provide specialized training to students. Project-based learning has been especially emphasized. Field projects have been taken under UMA and UBA and a specific course on Engineering System Development has been introduced to cover the same. A proper mix of all these methods helps to develop technical and professional skills in students. The faculty motivates the students to learn through NPTEL courses. The College has a rich collection of books, national and international journals, magazines, CDs in different areas which are used in teaching-learning processes.

SPCE has well-qualified faculty many of whom have experience in academic as well as industrial research. Faculty members are sent to attend Faculty Development Programmes, Conferences, Workshops organized by other premier Institutions/Universities. SPCE provides all infrastructures, teaching aids, computer labs, LCD projectors, Smartboards, etc. in order to ensure effective implementation of the best teaching practices in class.

Current Evaluation Pattern:

Theory Courses

- In-semester Evaluation of two tests of 20 marks each with weightage of 40 %
- End Semester Examination of 100 marks with weightage of 60%
- This ensures continuous evaluation through the semester

Laboratory Courses

- Continuous evaluation of the laboratory courses is carried out throughout the semester.

SPCE has clearly stated the learning objectives in terms of Program Educational Objectives- PEOs and learning outcomes (in terms of Program Outcomes- POs for each program.) The Question Paper has been designed to show CO/ Bloom's Taxonomy and PI for every question. The percentage of CO attainment feedback has been collected for every course in alignment with CO/PO mapping requirements.

SPCE students have shown very good results and the pass percentages are quite satisfactory. Remedial coaching is conducted every semester for the academically weak students. There is a mechanism to obtain online in-semester feedback from students for teaching. Based on the feedback analysis, counseling is provided to individual faculty.

Research, Innovations and Extension

SPCE has been very active in promoting R&D activities at all the departments. To create a congenial research culture in the institute, senior research advisors from IITB have been appointed. The Civil Engg. Dept. has been recognized as a QIP Ph.D. research center by AICTE, New Delhi. Two full-time students have already joined under QIP. The college is also a research center recognized by Mumbai University. Under this, more than 40 candidates are registered for their doctoral programs. There is a good research culture in the college. Many faculty members have undertaken research work with funds from AICTE, DST, TEQIP, etc. Students are encouraged to carry out research activities through simulation and experimentation and analyze the results critically. They are further motivated to publish a research paper in a journal or conference on their work. They are financially supported by the College to attend the conferences to present the research papers. Postgraduate students are encouraged to take up research projects in reputed industries. A National Level research Symposium is conducted every year to promote research activities.

Workshops have been conducted on innovation and IPR, Ideation, Start-up, etc to encourage the spirit of innovation among the students. Seed money has been given as research grants under TEQIP.

The college library has a rich collection of research articles. The Library subscribes research journals, periodicals, and e-journals to undertake inter-disciplinary research to cater to the needs of various departments. A Turnitin anti-plagiarism software is available in the library.

The various departments e.g. Civil Engineering, Mechanical Engineering Electrical Engineering, etc are active in carrying out testing and consultancy work. As per policy, 50% of the total revenue generated is shared with the Consultancy team, and 50% remains with the Institute for infrastructure support and other overheads. In case of testing activities, 50% of the total revenue generated is shared with the testing team, and 50% remains with the Institute for infrastructure support and other overheads.

Internal resource generation(IRG) through testing and consultancy work is good. It is proposed to further improve on these activities by advertising the available infrastructural facilities to interested stakeholders.

Infrastructure and Learning Resources

The development and augmentation of infrastructure is an ongoing process, keeping in view the needs for up-gradation and addition in consonance with the changes and needs of the system. Smartboards are used by professors for Teaching-learning.

The campus is made Wi-Fi at most of the places and 24 x 7 internet bandwidth of 40 Mbps is available. Many modules of e-learning resource materials through moodle have been made available on the intranet of the college. Few faculty members have prepared e-learning material which is also made available on YouTube. Professor of Mathematics has prepared the SEAM ICT tool (SEAM App) as a product of SEAM eLearning, a start-up by himself. Professor at Mechanical Engineering developed Augmented Reality Tool based course material for Engineering Graphics.

The college arranges various on-line webinars and other technical events to enable the student for better self-learning.

CCTV camera systems have been installed at prominent places on campus, The College has a very good setup for ICT facilities. The information pertinent to the College and important notifications are displayed on the college website (www.spce.ac.in). Most of the computing infrastructure including the website is maintained by

the college.

The college has separate hostel buildings. 66 girls and 307 boys are accommodated in the hostels. A separate mess facility is provided to girls and boys.

The hostel buildings are updated with major renovations. In future better hostel facilities would be provided by constructing new hostel buildings. The college has prepared a master plan for a new hostel for educational, research, staff/student residential purposes. This will be taken up for its implementation soon.

Institute has ladies common room, ramps for 'Diwyangjan', Updated library, Reading room, Conference Hall, Good laboratories, Green and Environment-Friendly campus with Nature's park, canteen, Biometric attendance system, computing facilities with the necessary software, Research laboratories, parking facility

Student Support and Progression

SPCE strives to provide the best possible facilities and opportunities for the growth and development of its students. It has Scholarship facilities for deserving students. Scholarship to SC/ST/OBC, lower-income, and Minority students are being provided by the state govt. The institute also focuses on enhancing student capabilities by providing guidance for competitive exams, career-counseling, soft skill development, remedial coaching, etc. The college has an anti-ragging committee consisting of male and female faculty members to prevent harassment of students. There are also two counselors on the campus to ensure their mental well-being.

Students are active participants in professional bodies like ISHRAE, ASME, SAE, IIIE, IGBC, IET, etc. The students are encouraged to take an active part in various activities like industry visits, workshops, seminars/conferences, paper presentations, etc. The presence of SPCE Start-up Cell which conducts ideation workshops, start-up conclaves, motivational talks to support entrepreneurial activities. The various departments organize expert lectures from industry persons, academicians, alumni, etc. This is reflected in the excellent placement statistics where almost 90% of the students opting for placement is placed successfully. Reputed companies like Siemens, Tata Motors, L&T, Mahindra, etc. feature among our top recruiters. Around 25% of the students also appear in various State level, National and International examinations and more than 95% of them clear them successfully.

Institute offers value-added non-technical courses like UBUNTU, yoga, Self-defense, Financial literacy, Integrated self-management, photography, etc. for all-round progression of the students.

Apart from academics students also take part in various sporting and cultural events that promote their all-round development. The college also ensures the active participation of students in the academic and administrative decisions of the college. The student council consisting of meritorious students plays an active role in organizing important events in college. There are also representatives of students in the academic council and the Subject boards.

The institute has been making efforts to reach out to its Alumni and many illustrious alumni have given their contributions via suggestions in curriculum, expert talks and workshops, appearing as judges for various technical competitions, etc. Alumni meets are also organized to facilitate student-alumni interactions.

Governance, Leadership and Management

The Vision and Mission of SPCE are reflected in its governance and leadership. The administrative structure ensures decentralization and participative management. The Governing Council, termed as Board of Governance (BOG), focuses on evolving and sustaining quality policy and plans. BOG lays guidelines and policy parameters that the Principal executes through its staff.

BOG, Academic Council and Board of Studies induct professionals from reputed academic institutions like IITB, VJTI, and industries like L&T, Godrej, Siemens, etc. Administrative committees regularly meet to monitor the improvements in their respective domains. Further, SPCE has an Institution Development Committee comprising of Principal, Vice-Principal, Academics, Finance, R&D Deans, HODs, Librarian, etc. IDC meets every Monday to identify issues, suggest solutions and plan further improvements. SPCE has been adopting e-governance practices in various areas of operation for efficient performance and transparency.

Faculty members are encouraged to organize seminars and conferences, prepare research proposals and consultancy assignments. They are given financial support under TEQIP. Training programs are organized for non-teaching staff members. Additionally, there are welfare schemes like a group medical insurance, staff welfare fund, etc. Due to dynamic leadership and best management practices, SPCE was recognized as an outperforming institute receiving an additional grant of ₹2.5 Cr and ₹70 Lakhs under TEQIP II and III respectively. This has been used to fund various QIP for staff and students.

Quality assurance processes are an integral part of institutional policy. Hence, SPCE established an Internal Quality Assurance Cell (IQAC) comprising of representatives from industry and academia.

SPCE has engaged external statutory auditors for external and an internal auditor to conduct periodical internal audits. SPCE receives grants from state government and other agencies for various projects and schemes.

Examination audits, data audit, performance audits are conducted regularly and student feedback regarding Teaching methods and course content are taken regularly and shared with stakeholders for Quality improvement.

A self-appraisal report is submitted by the faculty and staff at the end of the academic year which is analyzed by the respective higher authority. Good performers are encouraged and the poor performers are counseled and inspired to do better

Institutional Values and Best Practices

Being a part of the Bhartiya Vidya Bhavans trust, SPCE follows its core values and believes in its slogan “*Let noble thoughts come to us from every side*”. The Institute treats all the students, staff and supporting staff equally. The Institute has always paid great attention to promote gender equity. In our institute, all academic and non-academic committees of the college have a good representation of both the genders. The institute has a student welfare and women development cell on the campus to empower girl students. Facilities such as girls common room and counseling, etc. are also available.

The 45 acres of green land of the College are well maintained. The institute is environmentally conscious and adopts several green initiatives such as:

- Increased use of LED lighting.
- Solar water heaters in hostels.

- Rainwater harvesting system
- Well defined strategies to handle solid, liquid and e-wastes.
- Promotion of E-documentation to save paper

The campus has also been made friendly for Divyangjan with facilities like ramps, rails, etc. The students are also given adequate support during examinations.

The institute strives to promote human values and professional ethics by conducting specific value-added courses like Ubuntu, Indian Knowledge Traditions, etc. apart from regular talks and workshops on these topics. The institute also celebrates the birth anniversaries of inspiring personalities and organizes specific events to spread awareness about their lives.

The Institution maintains complete transparency through regular financial, administrative, and Exam audits. The examination process is made more transparent through a robust grievance redressal mechanism.

SPCE has tied up with the Ministry of Higher and Technical Education of Government of Maharashtra to execute a project titled **Unnat Maharashtra Abhiyan (UMA)**. Under this, the Institute has executed projects in rural Maharashtra pertaining to areas like rural sanitation, toilets, drainage management, drinking water, road development, evaluation and reinforcement of roads, water conservation, fuel and energy, health, drought, etc.

The above best practices have been possible only due to efficient and effective administrative functioning achieved by the Decentralization of autonomy to departments. These initiatives reflect the Institutional values and lends a certain distinctiveness to the Institute.

2. PROFILE

2.1 BASIC INFORMATION

| Name and Address of the College | |
|---------------------------------|---|
| Name | SARDAR PATEL COLLEGE OF ENGINEERING, ANDHERI WEST MUMBAI |
| Address | Bhavans Campus, Munshi Nagar, Andheri - (w), Mumbai - 400058 |
| City | Mumbai |
| State | Maharashtra |
| Pin | 400058 |
| Website | http://www.spce.ac.in/index.php |

| Contacts for Communication | | | | | |
|----------------------------|-------------|-------------------------|------------|---------------|-----------------------|
| Designation | Name | Telephone with STD Code | Mobile | Fax | Email |
| Principal | P.H.SAWAN T | 022-26289777 | 9967505051 | 9122-26237819 | dean_acad@spce.ac.in |
| Professor | M.M.Murudi | 022-26232192 | 9969259751 | - | mohanmurudi@gmail.com |

| Status of the Institution | |
|---------------------------|--------------|
| Institution Status | Grant-in-aid |

| Type of Institution | |
|---------------------|--------------|
| By Gender | Co-education |
| By Shift | Regular |

| Recognized Minority institution | |
|--|----|
| If it is a recognized minority institution | No |

| Establishment Details | |
|--|------------|
| Date of Establishment, Prior to the Grant of | 01-01-1962 |

| | |
|---|------------|
| 'Autonomy' | |
| Date of grant of 'Autonomy' to the College by UGC | 23-06-2010 |

| | | |
|--|------------------------|-------------------------------|
| University to which the college is affiliated | | |
| State | University name | Document |
| Maharashtra | University of Mumbai | View Document |

| | | |
|-----------------------------------|-------------|-------------------------------|
| Details of UGC recognition | | |
| Under Section | Date | View Document |
| 2f of UGC | 24-10-2016 | View Document |
| 12B of UGC | 24-10-2016 | View Document |

| | | | | |
|--|--|---------------------------------------|---------------------------|--|
| Details of recognition/approval by stationary/regulatory bodies like AICTE,NCTE,MCI,DCI,PCI,RCI etc(other than UGC) | | | | |
| Statutory Regulatory Authority | Recognition/Approval details Institution/Department programme | Day,Month and year(dd-mm-yyyy) | Validity in months | Remarks |
| AICTE | View Document | 30-04-2018 | 48 | Being Autonomous Institute Extension of Approval granted upto next four academic years |

| | |
|---|----|
| Recognitions | |
| Is the College recognized by UGC as a College with Potential for Excellence(CPE)? | No |
| Is the College recognized for its performance by any other governmental agency? | No |

| Location and Area of Campus | | | | |
|------------------------------------|--|------------------|-----------------------------|---------------------------------|
| Campus Type | Address | Location* | Campus Area in Acres | Built up Area in sq.mts. |
| Main campus area | Bhavans Campus, Munshi Nagar, Andheri - (w), Mumbai - 400058 | Urban | 5 | 14639.38 |

2.2 ACADEMIC INFORMATION

| Details of Programmes Offered by the College (Give Data for Current Academic year) | | | | | | |
|---|---|---------------------------|----------------------------|------------------------------|----------------------------|--------------------------------|
| Programme Level | Name of Programme/Course | Duration in Months | Entry Qualification | Medium of Instruction | Sanctioned Strength | No.of Students Admitted |
| UG | BTech,Civil Engineering Department | 48 | HSC | English | 70 | 69 |
| UG | BTech,Electrical Engineering Department | 48 | HSC | English | 70 | 66 |
| UG | BTech,Mechanical Engineering Department | 48 | HSC | English | 70 | 70 |
| PG | Mtech,Civil Engineering Department | 24 | B.TECH. | English | 20 | 20 |
| PG | Mtech,Civil Engineering Department | 24 | B.TECH. | English | 20 | 19 |
| PG | Mtech,Electrical Engineering Department | 24 | B.TECH. | English | 20 | 11 |
| PG | Mtech,Mechanical Engineering Department | 24 | B.TECH. | English | 20 | 12 |
| PG | Mtech,Mech | 24 | B.TECH. | English | 20 | 10 |

| | | | | | | |
|--------------------|--|----|---------|---------|----|---|
| | anical Engineering Department | | | | | |
| Doctoral (Ph.D) | PhD or DPhil,Civil Engineering Department | 60 | M.TECH. | English | 45 | 4 |
| Doctoral (Ph.D) | PhD or DPhi l,Electrical Engineering Department | 60 | M.TECH. | English | 10 | 0 |
| Doctoral (Ph.D) | PhD or DPhi l,Mechanical Engineering Department | 60 | M.TECH. | English | 60 | 3 |

Position Details of Faculty & Staff in the College

| Teaching Faculty | | | | | | | | | | | | |
|--|-----------|--------|--------|-------|---------------------|--------|--------|-------|---------------------|--------|--------|-------|
| | Professor | | | | Associate Professor | | | | Assistant Professor | | | |
| | Male | Female | Others | Total | Male | Female | Others | Total | Male | Female | Others | Total |
| Sanctioned by the UGC /University State Government | 8 | | | | 15 | | | | 36 | | | |
| Recruited | 5 | 0 | 0 | 5 | 7 | 3 | 0 | 10 | 17 | 14 | 0 | 31 |
| Yet to Recruit | 3 | | | | 5 | | | | 5 | | | |
| Sanctioned by the Management/Soci ety or Other Authorized Bodies | 0 | | | | 0 | | | | 0 | | | |
| Recruited | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Yet to Recruit | 0 | | | | 0 | | | | 0 | | | |

| Non-Teaching Staff | | | | |
|---|-------------|---------------|---------------|--------------|
| | Male | Female | Others | Total |
| Sanctioned by the UGC /University State Government | | | | 120 |
| Recruited | 64 | 10 | 0 | 74 |
| Yet to Recruit | | | | 46 |
| Sanctioned by the Management/Society or Other Authorized Bodies | | | | 27 |
| Recruited | 20 | 7 | 0 | 27 |
| Yet to Recruit | | | | 0 |

| Technical Staff | | | | |
|---|-------------|---------------|---------------|--------------|
| | Male | Female | Others | Total |
| Sanctioned by the UGC /University State Government | | | | 34 |
| Recruited | 33 | 1 | 0 | 34 |
| Yet to Recruit | | | | 0 |
| Sanctioned by the Management/Society or Other Authorized Bodies | | | | 0 |
| Recruited | 0 | 0 | 0 | 0 |
| Yet to Recruit | | | | 0 |

Qualification Details of the Teaching Staff

| Permanent Teachers | | | | | | | | | | |
|-----------------------|-----------|--------|--------|---------------------|--------|--------|---------------------|--------|--------|-------|
| Highest Qualification | Professor | | | Associate Professor | | | Assistant Professor | | | Total |
| | Male | Female | Others | Male | Female | Others | Male | Female | Others | |
| D.sc/D.Litt. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ph.D. | 5 | 0 | 0 | 6 | 1 | 0 | 7 | 4 | 0 | 23 |
| M.Phil. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PG | 0 | 0 | 0 | 1 | 2 | 0 | 13 | 7 | 0 | 23 |

| Temporary Teachers | | | | | | | | | | |
|-----------------------|-----------|--------|--------|---------------------|--------|--------|---------------------|--------|--------|-------|
| Highest Qualification | Professor | | | Associate Professor | | | Assistant Professor | | | Total |
| | Male | Female | Others | Male | Female | Others | Male | Female | Others | |
| D.sc/D.Litt. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ph.D. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| M.Phil. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PG | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 0 | 10 |

| Part Time Teachers | | | | | | | | | | |
|-----------------------|-----------|--------|--------|---------------------|--------|--------|---------------------|--------|--------|-------|
| Highest Qualification | Professor | | | Associate Professor | | | Assistant Professor | | | Total |
| | Male | Female | Others | Male | Female | Others | Male | Female | Others | |
| D.sc/D.Litt. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ph.D. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| M.Phil. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PG | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Details of Visting/Guest Faculties | | | | |
|---|-------------|---------------|---------------|--------------|
| Number of Visiting/Guest Faculty engaged with the college? | Male | Female | Others | Total |
| | | 2 | 0 | 0 |

Provide the Following Details of Students Enrolled in the College During the Current Academic Year

| Programme | | From the State Where College is Located | From Other States of India | NRI Students | Foreign Students | Total |
|------------------|--------|--|-----------------------------------|---------------------|-------------------------|--------------|
| Doctoral (Ph.D) | Male | 4 | 0 | 0 | 0 | 4 |
| | Female | 2 | 1 | 0 | 0 | 3 |
| | Others | 0 | 0 | 0 | 0 | 0 |
| UG | Male | 593 | 31 | 0 | 0 | 624 |
| | Female | 236 | 3 | 0 | 0 | 239 |
| | Others | 0 | 0 | 0 | 0 | 0 |
| PG | Male | 61 | 1 | 0 | 0 | 62 |
| | Female | 10 | 0 | 0 | 0 | 10 |
| | Others | 0 | 0 | 0 | 0 | 0 |

| Provide the Following Details of Students admitted to the College During the last four Academic Years | | | | | |
|--|--------|---------------|---------------|---------------|---------------|
| Programme | | Year 1 | Year 2 | Year 3 | Year 4 |
| SC | Male | 76 | 66 | 65 | 58 |
| | Female | 32 | 32 | 33 | 32 |
| | Others | 0 | 0 | 0 | 0 |
| ST | Male | 36 | 34 | 35 | 38 |
| | Female | 10 | 10 | 16 | 20 |
| | Others | 0 | 0 | 0 | 0 |
| OBC | Male | 142 | 143 | 127 | 114 |
| | Female | 58 | 56 | 54 | 54 |
| | Others | 0 | 0 | 0 | 0 |
| General | Male | 290 | 311 | 316 | 267 |
| | Female | 96 | 99 | 90 | 80 |
| | Others | 0 | 0 | 0 | 0 |
| Others | Male | 80 | 78 | 110 | 165 |
| | Female | 43 | 25 | 25 | 38 |
| | Others | 0 | 0 | 0 | 0 |
| Total | | 863 | 854 | 871 | 866 |

2.3 EVALUATIVE REPORT OF THE DEPARTMENTS

| Department Name | Upload Report |
|-----------------------------------|-------------------------------|
| Civil Engineering Department | View Document |
| Electrical Engineering Department | View Document |
| Mechanical Engineering Department | View Document |

3. Extended Profile

3.1 Program

Number of programs offered year-wise for last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---|---------|---------|-------------------------------|---------|
| 11 | 10 | 10 | 10 | 9 |
| File Description | | | Document | |
| Institutional Data in Prescribed Format | | | View Document | |

3.2 Students

Number of students year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---|---------|---------|-------------------------------|---------|
| 1037 | 1009 | 1030 | 1048 | 973 |
| File Description | | | Document | |
| Institutional Data in Prescribed Format | | | View Document | |

Number of outgoing / final year students year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---|---------|---------|-------------------------------|---------|
| 304 | 268 | 309 | 314 | 304 |
| File Description | | | Document | |
| Institutional Data in Prescribed Format | | | View Document | |

Number of students appeared in the examination conducted by the Institution, year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---|---------|---------|-------------------------------|---------|
| 1037 | 1009 | 1030 | 1048 | 973 |
| File Description | | | Document | |
| Institutional Data in Prescribed Format | | | View Document | |

Number of revaluation applications year-wise during the last 5 years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 56 | 46 | 44 | 42 | 39 |

3.3 Teachers**Number of courses in all programs year-wise during the last five years**

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 11 | 10 | 10 | 10 | 10 |

| File Description | Document |
|---|-------------------------------|
| Institutional Data in Prescribed Format | View Document |

Number of full time teachers year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 46 | 46 | 46 | 46 | 46 |

| File Description | Document |
|---|-------------------------------|
| Institutional Data in Prescribed Format | View Document |

Number of sanctioned posts year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 57 | 57 | 57 | 57 | 57 |

| File Description | Document |
|---|-------------------------------|
| Institutional Data in Prescribed Format | View Document |

3.4 Institution**Number of eligible applications received for admissions to all the programs year-wise during the last five years**

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 291 | 288 | 287 | 280 | 282 |

| File Description | Document |
|---|-------------------------------|
| Institutional Data in Prescribed Format | View Document |

Number of seats earmarked for reserved category as per GOI/State Govt rule year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 444 | 439 | 418 | 425 | 412 |

| File Description | Document |
|---|-------------------------------|
| Institutional Data in Prescribed Format | View Document |

Total number of classrooms and seminar halls

Response: 23

Total number of computers in the campus for academic purpose

Response: 480

Total Expenditure excluding salary year-wise during the last five years (INR in Lakhs)

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 189.58 | 221.6 | 150.4 | 159.26 | 156.7 |

4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curriculum Design and Development

1.1.1 Curricula developed /adopted have relevance to the local/ national / regional/global developmental needs with learning objectives including program outcomes, program specific outcomes and course outcomes of all the program offered by the Institution

Response:

SPCE is continuously updating its curricula to keep it relevant to the local/national/regional/global developmental needs by taking inputs from different stakeholders such as employers, students, alumni, industry experts, academicians and parents. The program outcomes (POs), program specific outcomes (PSOs) and course outcomes (COs) are reviewed at regular interval during the annual academic development process and modified wherever necessary.

SPCE offers a dynamic and vibrant curriculum which is aligned in terms of the reforms required by the following

1. UGC for CBCS implementation
2. AICTE Model Curriculum (January 2018) for UG and PG programs
3. NBA directives for implementing Outcome-Based Education (OBE)
4. Latest syllabus for national competitive examinations such as GATE
5. Industries/ recruiters
6. Industry 4.0 technology revolution

Curriculum has Value added Non Technical Courses, Course on UMA/UBA, Course on Startup, Course on fire and safety in alignment with OHSAS, Management Courses.

Students and faculty are encouraged to complete Swayam, NPTEL courses.

The entire curriculum is aligned to meet requirements of "Industry 4.0" needs by revamping the curriculum to include and reinforce courses such as digital integration related courses such as Robotics, Industrial Automation, Artificial Intelligence (AI), Machine Learning (ML), Augmented Reality (AR), Internet of Things (IOT).

Curriculum of UG and PG programmes are reviewed and revised periodically. Minor changes in courses, if required, are implemented per semester depending upon the gap analysis of the targeted and attained course outcomes. Major modifications/revisions are generally carried out once in four years. In few cases, such modifications would be carried out even during three years period to satisfy the emerging needs of the students and other stake holders through additional elective courses after completing the formalities of Subject Board (SB) approval followed by Academic Board (AB) approval. Since autonomy in 2010, there have been two major revamps in curriculum. The current curricula emphasize outcome based philosophy in line with NAAC, NBA and ABET requirements.

SPCE is committed to fulfill the objectives envisaged in the Vision and Mission by way of creating,

executing and disseminating the knowledge in the area of Engineering and Technology. The Institute has three major academic departments. Meetings of the Subject Board (consisting of academicians, representatives from industries) of all departments constituted under autonomous status are conducted to propose the relevant modifications in curriculum which are further approved by Academic Board. The course committee & department Advisory board of each department charts out the plan of execution of the curriculum every semester. The seminars, assignments, class tests, in-semester and end-semester examinations, team projects, presentations are the various constituents of the curriculum. Academic Board of the college has the members from reputed academic institutes like Indian Institute of Technology, Mumbai, College of Engineering, Pune, VJTI, Mumbai etc. Also the experts from industry are a part of Academic Board. Relative and absolute grading scheme has been adopted in result declaration.

With reputed institutes like WCE, Sangli, SGGSI&T Nanded, etc. Inter institute credit transfer has been made available to the students. Further opportunities are being explored to have tie-ups with foreign universities for improvement of programmes.

| File Description | Document |
|----------------------------|-------------------------------|
| Any additional information | View Document |

1.1.2 Percentage of programs where syllabus revision was carried out during the last five years

Response: 100

1.1.2.1 How many programs were revised out of total number of programs offered during the last five years

Response: 8

1.1.2.2 Number of all programs offered by the institution during the last five years

Response: 8

| File Description | Document |
|--|-------------------------------|
| Minutes of relevant Academic Council/BOS meeting | View Document |
| Details of program syllabus revision in last 5 years | View Document |

1.1.3 Average percentage of courses having focus on Employability/ Entrepreneurship/ Skill development during the last five years

Response: 29.45

1.1.3.1 Number of courses having focus on employability/ entrepreneurship/ skill development year-wise

during the last five years

| | | | | |
|---------|---------|---------|---------|---------|
| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
| 3 | 3 | 3 | 3 | 3 |

| File Description | Document |
|--|-------------------------------|
| Program/ Curriculum/ Syllabus of the courses | View Document |
| Minutes of the Boards of Studies/ Academic Council meetings with approvals for these courses | View Document |
| Average percentage of courses having focus on employability/ entrepreneurship | View Document |
| Any additional information | View Document |

1.2 Academic Flexibility

1.2.1 Percentage of new Courses introduced out of the total number of courses across all Programs offered during last five years

Response: 40.53

1.2.1.1 How many new courses are introduced within the last five years

Response: 154

1.2.1.2 Number of courses offered by the institution across all programs during the last five years

Response: 380

| File Description | Document |
|---|-------------------------------|
| Minutes of relevant Academic Council/BOS meetings | View Document |
| Institutional data in prescribed format | View Document |

1.2.2 Percentage of programs in which Choice Based Credit System (CBCS)/Elective course system has been implemented

Response: 72.73

1.2.2.1 Number of programmes in which CBCS/ Elective course system implemented.

Response: 8

| File Description | Document |
|---|-------------------------------|
| Minutes of relevant Academic Council/BOS meetings | View Document |
| Institutional data in prescribed format | View Document |

1.3 Curriculum Enrichment

1.3.1 Institution integrates cross cutting issues relevant to Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum

Response:

Institution integrates cross cutting issues relevant to Gender, Environment and Sustainability, Human Values and Professional Ethics into the curriculum. All programs have mandatory courses on Environment, Constitution of India and Indian Traditional Knowledge which students must complete for obtaining their degree. These mandatory courses address the above mentioned issues as follows.

(a) Environment and Sustainability

The curriculum of Mechanical Engineering department deals with health safety & environment norms for industrial applications. It also deals with how to produce eco friendly products through Green Manufacturing. Students have done interdisciplinary projects in collaboration with ICT on self sustained Pyrolysis for plastic waste management. The unit is small in size and can be installed in residential colonies for efficient and environment friendly disposal of plastic waste. The curriculum of Civil Engineering Department takes into account the problems related with environment, water quality, air quality, pollution and includes topic on green ambience. The curriculum of Electrical Engineering Department deals with utilization of electrical energy efficiently & environmental impact of electric installations. Electrical engineering students are also doing interdisciplinary project on bio sensors for detection of pesticides in water. These sensors are targeted for its use in villages to test potable water. Civil Engineering students are doing interdisciplinary projects with Mechanical Engineering students on Layering technology.

(b) Gender, Human Values and Professional Ethics

The curriculum of programs include two mandatory courses which integrate Gender, Human Values and Professional Ethics into the curriculum. These mandatory courses are 'Indian Traditional Knowledge' and 'Constitution of India'.

The 'Constitution of India' course enables students to understand constitutional ethos and principles, to co-relate with political system and constitutional tenets, to inculcate and pursue the values of civic life and to exercise their rights and duties with rationale. The course reinforces the concepts of gender equality and human values which are the thematic backbone of Indian constitution.

The 'Indian Traditional Knowledge' course aims at imparting basic principles of thought process, reasoning and inferencing. Sustainability is at the core of Indian Traditional knowledge Systems connecting society and nature. Holistic life style of yogic science and wisdom capsules in Sanskrit literature are also important

in modern society with rapid technological advancements and societal disruptions. The course provides an introduction to Indian Knowledge Systems, Indian perspective of modern scientific world-view, and basic principles of Yoga and holistic health care system. The course also provides an overview of Indian philosophical traditions, Indian linguistic Tradition, and Indian artistic tradition.

Overall, the curriculum lays the foundation for sensitising young minds about gender issues, environment and sustainability, human values and professional ethics.

1.3.2 Number of value-added courses imparting transferable and life skills offered during the last five years

Response: 63

1.3.2.1 Number of value-added courses are added within the last five years

Response: 63

| File Description | Document |
|--|-------------------------------|
| List of value added courses | View Document |
| Brochure or any other document relating to value added courses | View Document |

1.3.3 Average percentage of students enrolled in the courses under 1.3.2 above

Response: 8.29

1.3.3.1 Number of students enrolled in value-added courses imparting transferable and life skills offered year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 198 | 154 | 73 | 0 | 0 |

1.3.4 Percentage of students undertaking field projects / internships

Response: 85.44

1.3.4.1 Number of students undertaking field projects or internships

Response: 886

| File Description | Document |
|--|-------------------------------|
| List of programs and number of students undertaking field projects / internships | View Document |

1.4 Feedback System

| <p>1.4.1 Structured feedback received from 1) Students, 2) Teachers, 3) Employers, 4) Alumni 5) Parents for design and review of syllabus Semester wise /year-wise</p> <p>A. Any 4 of above</p> <p>B. Any 3 of above</p> <p>C. Any 2 of above</p> <p>D. Any 1 of above</p> <p>Response: A. Any 4 of above</p> | |
|---|-------------------------------|
| File Description | Document |
| Action taken report of the Institution on feedback report as stated in the minutes of the Governing Council, Syndicate, Board of Management | View Document |

| | |
|---|--|
| <p>1.4.2 Feedback processes of the institution may be classified as follows:</p> <p>A. Feedback collected, analysed and action taken and feedback available on website</p> <p>B. Feedback collected, analysed and action has been taken</p> <p>C. Feedback collected and analysed</p> <p>D. Feedback collected</p> <p>Response: B. Feedback collected, analysed and action has been taken</p> | |
|---|--|

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1 Average percentage of students from other States and Countries during the last five years

Response: 0.44

2.1.1.1 Number of students from other states and countries year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 2 | 6 | 3 | 4 | 7 |

| File Description | Document |
|---|-------------------------------|
| List of students (other states and countries) | View Document |
| Institutional data in prescribed format | View Document |

2.1.2 Demand Ratio(Average of last five years)

Response: 1

2.1.2.1 Number of seats available year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 291 | 288 | 287 | 280 | 282 |

| File Description | Document |
|---|-------------------------------|
| Demand Ratio (Average of Last five years) | View Document |

2.1.3 Average percentage of seats filled against seats reserved for various categories as per applicable reservation policy during the last five years

Response: 100

2.1.3.1 Number of actual students admitted from the reserved categories year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 444 | 439 | 418 | 425 | 412 |

| File Description | Document |
|---|-------------------------------|
| Average percentage of seats filled against seats reserved | View Document |

2.2 Catering to Student Diversity

2.2.1 The institution assesses the learning levels of the students, after admission and organises special programs for advanced learners and slow learners

Response:

The college organizes a mandatory 2-week induction program for all freshers immediately after their admission. The Principal, Deans, and Head of Department/Sections of the college address the gathering of the freshers and their parents by welcoming and giving brief details about the mission, philosophy, culture, and objectives of the institute. The distinctive features of the college as well as teaching-learning methodologies, the various facilities available on the campus to build their personality are explained in detail. The students during their two-week induction are exposed to technical as well as personality development sessions conducted by industry experts and professional counselors. The sessions are tuned to foster team building, increasing awareness about institute resources and overall personality enhancement. At the time of registration, a team of faculty members interacts with the students and their parents to get to know the background of the student. The key issues generally identified and further addressed are:

- Few students come from rural areas and vernacular medium school learning lacks confidence and clarity while speaking in English.
- Some of the students are from economically poor backgrounds and have financial problems. Such students are informed about various government and non-government schemes and enough guidance is given for applying for financial assistance.
- Certain students seem to be weak in understanding basic principles associated with engineering courses. This is generally evident from their CET score and the score in Physics, Chemistry, and Mathematics. Such students are given personal attention by the faculty of the first year by conducting a number of extra lectures and holding number of tests/retests so as to improve their understanding.
- Apart from this the college also conducts a diagnostic test to assess the level of expertise of the students in various areas like aptitude, Mathematics, English, etc. The students not performing well in this test are given remedial coaching.

The college provides **bridge courses** for the topics having gaps in the syllabus. Generally, such gaps are covered by the concerned faculty whenever required (for the purpose of the continuity of the subject matter) during the regular time table hours. Separate one hour slot is given apart from the regular time table on a working day for the same.

The college has a very good mechanism for continuous evaluation and monitoring of the progress of the students. This helps to identify advanced and slow learners. The advanced learners are motivated to explore more depth through course-specific projects or to register for related advanced online

courses. Slow learners are given enough assistance during **remedial classes** by clarifying their doubts, re-explaining the critical conceptual topics and giving them extra assignments so that these students improve their performance. Some of the faculty upload their lecture slides & videos on sharing platforms to facilitate slow learners to download those and learn at their own pace. The students remaining absent frequently and hence failing in performance are counseled, their parents are consulted and collective efforts are taken by the parents and the institute to see that students attend the classes regularly.

| File Description | Document |
|----------------------------|-------------------------------|
| Any additional information | View Document |

2.2.2 Student - Full time teacher ratio

Response: 22.54

2.2.3 Percentage of differently abled students (Divyangjan) on rolls

Response: 0.39

2.2.3.1 Number of differently abled students on rolls

Response: 4

| File Description | Document |
|---|-------------------------------|
| List of students(differently abled) | View Document |
| Institutional data in prescribed format | View Document |

2.3 Teaching- Learning Process

2.3.1 Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences

Response:

The conventional class room lecture method is followed active learning methods which encourage participative learning by students. Active learning methods include Group Discussions, Quiz, Virtual Reality mobile app, Project Based Learning, Video Films, NPTEL lectures, Field Visit, Industry Visit etc. Few online videos developed by Bentley systems and MOOC facility from SWAYAM, Emerson , ISHRAE & IET are also made available to students. With recent introduction of digital boards, the modern pedagogy with emphasis on information technology and digital learning are promoted.

The entire academic process of planning, delivery and transparent assessment is designed to be student centric. Depending on the contents of the topic to be taught in a particular class, the curriculum delivery is a mix of different teaching methods such as chalk and talk, GDs, demonstrations, laboratory sessions, elaboration of abstract concepts through animations, video lecturing etc. The participative learning

activities implemented by the faculty include:

- Using Augmented Reality (AR) mobile app for aiding visualization for engineering graphics course.
- Using subject specific mobile app for teaching and revising concepts in Mathematics
- Using virtual laboratories for few experiments in subject such as strength of materials
- Allocating first 5-7 minutes of the lecture to revise the contents covered in the last lecture by asking some questions to check the understanding of the students and to develop a link for the topic of current lecture. Any doubts of the students are clarified through reexplanation or by dissecting the topic in bits interactively up to a level where student gets his doubt cleared.
- Asking quiz questions during lecture session based on pre knowledge or provoking students to think critically (active learning).
- Arranging group discussions on the assignment problems (Develops Team Work, Communication Skills, Think, Share and Pair attitude)
- Allotting group project and mini-projects to a group of 3-4 students under the supervision of a faculty. (Helps “Learning by Doing”, develops Team work spirit, lifelong learning attitude and professional skills)
- Assigning the students to carry out literature/field survey, submit a written report in standard format and then delivering an oral presentation on the same. Such seminars are generally on the contemporary issues in relevant engineering disciplines (literature review) or real world problem (field survey). (Helps to develop lifelong learning attitude and communication skills)
- Motivating the students to perform extensions (in extra hours or on holidays) of the main practical carried out by them during regular time table hours and making arrangements for the availability of the department facility. (Helps to develop critical thinking and lifelong learning attitude.)
- Providing information about the specific websites for accessing e-learning material, motivating the students to explore technical material, online lectures on the areas of their interest and by uploading learning material available with the faculty on sharable website enable them to learn the topics at their own pace.

All these participative learning activities contribute to holistic development and improved student learning, besides facilitating life-long learning and knowledge management.

| File Description | Document |
|---------------------------------|-------------------------------|
| Any additional information | View Document |
| Link for Additional Information | View Document |

2.3.2 Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc.

Response: 100

2.3.2.1 Number of teachers using ICT

Response: 46

| File Description | Document |
|---|-------------------------------|
| List of teachers (using ICT for teaching) | View Document |
| Any additional information | View Document |

2.3.3 Ratio of students to mentor for academic and stress related issues

Response: 22.54

2.3.3.1 Number of mentors

Response: 46

2.3.4 Preparation and adherence to Academic Calendar and Teaching plans by the institution

Response:

Academic Calendar:

The college prepares the academic calendar for UG and PG separately before the beginning of every academic year and is displayed on the department notice boards as well as on the college website. Academic calendar mentions the days of delivery of academic instruction, schedule for conduct of in-semester and end-semester examinations, assessment stages, submission of attendance defaulter report, declaration of results, other institute level events (co-curricular and extra-curricular) and the holidays. The current academic calendar is available at the following link.

<http://www.spce.ac.in/Documents/Schedules/ACADEMIC%20CALENDER%20%202019-20.PDF>

Teaching Plan:

For every theory course, a lesson plan is prepared by the concerned faculty to ensure uniform teaching throughout the semester. After approval by the HoD/Module coordinator, the same is implemented for course delivery. The teaching plan clearly mentions the objectives, and outcomes of the course which students are supposed to achieve at the end of the course. In –semester and end semester feedback are collected from the students and is analyzed to orient the teaching in such a way that the average student attains the outcomes to an expected level.

Evaluation Plan:

The evaluation of theory courses is kept transparent. After every evaluation (In-semester, End-semester), the answer books are shown to the students and are counseled for mistakes and errors. Any genuine discrepancy reported by the student in assessment is rectified before finalizing the points for any of the evaluations.

The students failing to acquire pass grades in any of the courses are permitted to reappear for re-examination conducted before the commencement of the next academic semester. The evaluation of the answer books of such students is done in the same manner as the usual end-semester examination.

2.4 Teacher Profile and Quality

2.4.1 Average percentage of full time teachers against sanctioned posts during the last five years

Response: 80.7

| File Description | Document |
|---|-------------------------------|
| Year wise full time teachers and sanctioned posts for 5 years | View Document |
| List of the faculty members authenticated by the Head of HEI | View Document |

2.4.2 Average percentage of full time teachers with Ph.D. during the last five years

Response: 41.74

2.4.2.1 Number of full time teachers with Ph.D. year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 21 | 23 | 22 | 17 | 13 |

| File Description | Document |
|--|-------------------------------|
| List of number of full time teachers with PhD and number of full time teachers for 5 years | View Document |

2.4.3 Teaching experience per full time teacher in number of years

Response: 15.22

2.4.3.1 Total experience of full-time teachers

Response: 700

| File Description | Document |
|----------------------------|-------------------------------|
| Any additional information | View Document |

2.4.4 Percentage of full time teachers who received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the last five years

Response: 6.52

2.4.4.1 Number of full time teachers receiving awards from state /national /international level from Government recognised bodies year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 3 | 0 | 0 | 0 | 0 |

| File Description | Document |
|--|-------------------------------|
| Institutional data in prescribed format | View Document |
| e-copies of award letters (scanned or soft copy) | View Document |

2.4.5 Average percentage of full time teachers from other States against sanctioned posts during the last five years

Response: 7.02

2.4.5.1 Number of full time teachers from other states year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 4 | 4 | 4 | 4 | 4 |

| File Description | Document |
|---|-------------------------------|
| List of full time teachers from other state and state from which qualifying degree was obtained | View Document |

2.5 Evaluation Process and Reforms

2.5.1 Average number of days from the date of last semester-end/ year- end examination till the declaration of results during the last five years

Response: 18.4

2.5.1.1 Number of days from the date of last semester-end/ year- end examination till the declaration of results year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 14 | 33 | 15 | 14 | 16 |

| File Description | Document |
|--|-------------------------------|
| List of programs and date of last semester and date of declaration of result | View Document |

2.5.2 Average percentage of student complaints/grievances about evaluation against total number appeared in the examinations during the last five years

Response: 4.45

2.5.2.1 Number of complaints/grievances about evaluation year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 56 | 46 | 44 | 42 | 39 |

2.5.3 Average percentage of applications for revaluation leading to change in marks during the last five years

Response: 100

2.5.3.1 Number of applications for revaluation leading to change in marks year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 56 | 46 | 44 | 42 | 39 |

2.5.4 Positive impact of reforms on the examination procedures and processes including IT integration and continuous internal assessment on the examination management system

Response:

The college has an integrated examination platform, that is, Examination Section office. All examinations are conducted centrally by Examination Section. Examination section has been housed in a secure room with restricted access. The civil infrastructure of the Examination section consists of Strong room, Office cabin for controller of examination, assessment hall for assessing answer-books and working space for supporting staff. Conventional and Wi-Fi net connectivity, adequate number of computer systems and printers as well as a photocopying machine

Examination Reforms

The examination of SPCE functions as per the directions issued by academic board and departments. The examination section conducts the examination of all the programs in accordance with approved academic

scheme. For conducting the examination, a committee is formed which consist of Chairman of exam section, Controller of exam, and Department exam controller and University nominee. Any reforms in conducting the examination is discussed by the examination committee and then approved. There have been significant reforms in examination system since autonomy is obtained by college in 2010. Followings are the important reforms in the examination systems.

- Exam section prepares the calendar for the entire academic year and publish it on the website at the start of the academic year. This enables every stakeholders to plan their activities.
- With an aim to have continuous evaluation of the student, two in-semester examinations (Test-1 and Test- 2), each of 20 point is conducted during semester.
- At the end of the semester, end semester examination of 100 points is conducted which is scaled to 60 points for the final grading.
- Assessed answer books are shown to the each students in every in-semester and end semester examination with synoptic answers. The grievance of the students is thus solved immediately. Any change of marks is brought to the notice of the head of the department with proper justification and then submitted to the examination section.
- Grading is decided based on mixed absolute and relative grading system. This is to ensure minimum passing criteria and also relative in comparison to maximum marks scored by the students.
- Exam committee declares the results only after approval from the constituted committee. This result declaration committee consists of Chairman of exam section Principal, Vice Principal, Dean Academics, Head of the Departments, PG coordinators (for PG results), Controller of exam, and Department exam controller.
- To avoid duplication of the grade sheets various security features are introduced in the grade sheets.
- Modification in the answer book (built in features such as graph papers, semilog papers with increase in pages of answer books to avoid handling of stationery)
- Online gateway for submission of the examination fees is proposed
- Separate exam calendar for faculty for quick review on exam activities
- Audit of the examination process for continuous improvements

These reforms have brought a transparency in evaluation process and ensured confidence in the fairness of evaluations for all stakeholders.

| File Description | Document |
|----------------------------|-------------------------------|
| Any additional information | View Document |

2.5.5 Status of automation of Examination division along with approved Examination Manual

A. 100% automation of entire division & implementation of Examination Management System (EMS)

B. Only student registration, Hall ticket issue & Result Processing

C. Only student registration and result processing

D. Only result processing

Response: D. Only result processing

| File Description | Document |
|--|-------------------------------|
| Current manual of examination automation system and Annual reports of examination including the present status of automation | View Document |

2.6 Student Performance and Learning Outcomes

2.6.1 Program outcomes, program specific outcomes and course outcomes for all programs offered by the Institution are stated and displayed on website and communicated to teachers and students

Response:

The college has defined Program Outcomes (POs), Program Specific Outcomes (PSOs) for each program and Course Outcomes for each course. These are displayed on website and communicated to teachers and students through display at classrooms and prominent locations of college.

The POs define the capabilities the students of a program are expected to achieve at the time of graduation. These are in line with the Graduate Attributes presented through Washington Accord and are accepted by National Board of Accreditation, India. The PSOs define the additional outcomes offered by the college for each program; these are unique to each program and are framed based on competencies of faculty, regional needs and inputs from alumni/employers. Since POs and PSOs are met through the attainment of course outcomes (COs) of various courses of curriculum, COs for all courses are also accurately defined.

Program outcomes, though in line with Graduate Attributes, vary slightly from program to program. POs, PSOs and COs are made available to respective stakeholders by following means.

- The POs, PSOs and COs are reviewed in the meetings of Board of Studies and Academic Board at the beginning of every academic year.
- The faculty explains the outcomes expected from the students in the orientation classes / beginning lecture of every semester.
- The course contents which are accessible to students, contain COs for each course.
- The POs and PSOs for the programme are displayed at prominent places in the department including classrooms.
- Both POs and PSOs are displayed on college website.

2.6.2 Attainment of program outcomes, program specific outcomes and course outcomes are evaluated by the institution

Response:

The learning outcomes (POs/PSOs) spell about the capabilities of graduating student in terms of

knowledge, skill and attitude.

The knowledge related POs/PSOs are attained by the students through the courses of four years of graduation study and are assessed through direct assessment tools viz. examinations, assignments, tutorials quiz, etc. as well as indirect assessment tools like Course Exit Survey and Graduate Exit Survey.

The skill related POs/PSOs like team spirit, communication skills (both oral and written, use of modern tools etc) are attained by the students through direct assessment tools like laboratory sessions, laboratory examinations, mini projects, projects, seminars, presentations & co-curricular and extra-curricular activities. Since attainment of skills cannot be quantified directly, rubrics are developed with appropriate performance criteria by the institute to assess the students. These are also assessed through Graduate Exit Survey.

The attitude related POs/PSOs are assessed through participation of the student in societal work carried out by the student (e), observation on his overall behavior and response(g) and independently executed tasks (k). These are also assessed through Graduate Exit Survey.

All direct and indirect assessment tools are used by all faculty members of all programs throughout the semester. The attainment of course outcomes is computed by all faculty members for their respective courses through direct assessment tools with weightage of 80% and Course Exit Survey with weightage of 20%. The Program Coordinator of each program collects this information from Coordinators and computes attainment of POs/PSOs.

The process of attainment calculations are as follows.

- A course faculty collects the academic data of the students in all examination.
- The attainment of program outcomes is monitored twice in a year.
- If there is a discrepancy in the targeted and attained level of outcome as observed by individual faculty or mentioned in the report, a critical analysis is carried out by each concerned faculty to find out the causes.
- Such findings are discussed in the department meeting and common causes for low attainment of outcomes are discussed.
- An appropriate action plan (e.g, conduct of remedial classes, addressing weak students, repeating the difficult topics, inviting guest lecturers etc.) with suggestions from SB/DAB to overcome the shortcomings mentioned in the report for the subsequent semester is scheduled and executed.
- A close monitoring is done for the implementation of the suggestions to finally crosscheck the improvement in the attainment.

The bitwise details regarding efforts taken by faculty and institute to ensure the attainment of POs are as follows:

- Proper care is taken during the preparation of lecture plan, the discussion in the classroom, question paper setting, conduct of Midsemester & End-Semester examinations and the evaluation process, that student attains the defined outcomes.
- Regular assignments, quiz, seminar, declared tests and surprise tests are conducted to monitor the progress of the student.
- Mentorship system is followed; the assigned faculty member monitors the performance of the students and maintains the record of the students.

- The College organizes co-curricular and extra-curricular activities to enrich the outcomes.

2.6.3 Average pass percentage of Students

Response: 96.3

2.6.3.1 Total number of final year students who passed the examination conducted by Institution.

Response: 208

2.6.3.2 Total number of final year students who appeared for the examination conducted by the institution

Response: 216

| File Description | Document |
|---|-------------------------------|
| List of programs and number of students passed and appeared in the final year examination | View Document |

2.7 Student Satisfaction Survey

2.7.1 Online student satisfaction survey regarding teaching learning process

Response:

Criterion 3 - Research, Innovations and Extension

3.1 Promotion of Research and Facilities

3.1.1 The institution has a well defined policy for promotion of research and the same is uploaded on the institutional website

Response: Yes

| File Description | Document |
|---|-------------------------------|
| URL of Policy document on promotion of research uploaded on website | View Document |

3.1.2 The institution provides seed money to its teachers for research (average per year)

Response: 8.69

3.1.2.1 The amount of seed money provided by institution to its faculty year-wise during the last five years(INR in Lakhs)

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|----------|----------|---------|
| 0 | 0 | 20.19010 | 23.23740 | 0 |

| File Description | Document |
|--|-------------------------------|
| List of teachers receiving grant and details of grant received | View Document |

3.1.3 Number of teachers awarded international fellowship for advanced studies/ research during the last five years

Response: 0

3.1.3.1 The number of teachers awarded international fellowship for advanced studies / research year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 0 | 0 | 0 | 0 | 0 |

| File Description | Document |
|---|-------------------------------|
| List of teachers and their international fellowship details | View Document |

3.1.4 Institution has the following facilities

1. Central Instrumentation Centre
2. Animal House/Green House / Museum
3. Central Fabrication facility
4. Media laboratory/Business Lab/Studios
5. Research / Statistical Databases

A. Any four facilities exist

B. Three of the facilities exist

C. Two of the facilities exist

D. One of the facilities exist

Response: A. Any four facilities exist

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |
| Any additional information | View Document |

3.2 Resource Mobilization for Research

3.2.1 Grants for research projects sponsored by the non-government sources such as industry, corporate houses, international bodies, endowments, Chairs in the institution during the last five years (INR in Lakhs)

Response: 37.24

3.2.1.1 Total Grants for research projects sponsored by the non-government sources such as industry, corporate houses, international bodies, endowments, Chairs in the institution year-wise during the last five years(INR in Lakhs)

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 0.85 | 1.05 | 35.34 | 0 | 0 |

| File Description | Document |
|-----------------------------------|-------------------------------|
| List of project and grant details | View Document |
| Any additional information | View Document |

| 3.2.2 Number of research centres recognised by University and National/ International Bodies | |
|---|-------------------------------|
| Response: 3 | |
| 3.2.2.1 Number of research centres recognised by University and National/ International Bodies | |
| Response: 03 | |
| File Description | Document |
| Names of research centres | View Document |

| 3.2.3 Percentage of teachers recognised as research guides | |
|---|-------------------------------|
| Response: 26.09 | |
| 3.2.3.1 Number of teachers recognised as research guides | |
| Response: 12 | |
| 3.2.3.2 Number of full time teachers worked in the institution during the last 5 years | |
| Response: 46 | |
| File Description | Document |
| Details of teachers recognized as research guide | View Document |

| 3.2.4 Number of research projects per teacher funded, by government and non-government agencies, during the last five year | |
|---|-------------------------------|
| Response: 2.28 | |
| 3.2.4.1 Number of research projects funded by government and non-government agencies during the last five years | |
| Response: 21 | |
| File Description | Document |
| Supporting document from Funding Agency | View Document |

3.3 Innovation Ecosystem

3.3.1 Institution has created an eco system for innovations including Incubation centre and other initiatives for creation and transfer of knowledge

Response:

SPCE START – UP CELL was established in January 2018 with respect to a mandate from AICTE in SARDAR PATEL COLLEGE OF ENGINEERING in order to develop a vibrant and ideal entrepreneurial ecosystem in the institute.

The main objective of this cell is to build entrepreneurial culture, to support student innovations, to identify entrepreneurial potential of students and transform them into start-up entrepreneurs.

NPIU and AICTE have come up with implementation of mandating Start-up program in TEQIP-III institutions through:

- Establishment of Start-up Cells and in-house expertise and capacity building.
- Start-up Cells are envisioned to play the role of Pre-incubator as well as Policy advocacy centre at regional level.

Vision of SPCE START – UP CELL:

- Promoting new ideas, innovations and entrepreneurial culture among the faculties and students of the institute faculties to convert their innovative ideas/problems to tech-solution with a feasible business model stage.

The vision of SPCE START – UP CELL is in line with our Honorable Prime Minister’s vision of START – UP INDIA.

Specific Objectives/outcomes:

1. Developing a Critical Mass of Motivated Students & Faculties with Entrepreneurial Orientation & Skill.
2. Building Innovation & Early Stage Enterprises by supporting & enabling Access to Resource & Facilities at Institute.
3. In-House Competency Development to Serve Potential and Early Stage Entrepreneurs.
4. Strengthen the Intra and Inter-Institutional linkage with Ecosystem Enablers at Different Level.

| File Description | Document |
|----------------------------|-------------------------------|
| Any additional information | View Document |

3.3.2 Number of workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry - Academia Innovative practices during the last five years

Response: 7

3.3.2.1 Number of workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 1 | 6 | 0 | 0 | 0 |

File Description**Document**

List of workshops/seminars during the last 5 years

[View Document](#)

3.3.3 Number of awards for innovation won by institution/ teachers/ research scholars/students during the last five years

Response: 2

3.3.3.1 Total number of awards for innovation won by institution/teachers/research scholars/students year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 0 | 1 | 1 | 0 | 0 |

File Description**Document**

List of innovation and award details

[View Document](#)

3.3.4 Number of start-ups incubated on campus during the last five years

Response: 0

3.3.4.1 Total number of start-ups incubated on campus year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 0 | 0 | 0 | 0 | 0 |

File Description**Document**

List of startups details like name of startup, nature, year of commencement etc

[View Document](#)

3.4 Research Publications and Awards

3.4.1 The institution has a stated Code of Ethics to check malpractices and plagiarism in Research

Response: Yes

| File Description | Document |
|---|-------------------------------|
| Institutional data in prescribed format | View Document |

3.4.2 The institution provides incentives to teachers who receive state, national and international recognition/awards

Response: Yes

3.4.3 Number of Patents published/awarded during the last five years

Response: 0

3.4.3.1 Total number of Patents published/awarded year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 0 | 0 | 0 | 0 | 0 |

| File Description | Document |
|---|-------------------------------|
| List of patents and year it was awarded | View Document |

3.4.4 Number of Ph.D.s awarded per teacher during the last five years

Response: 1

3.4.4.1 How many Ph.Ds are awarded within last 5 years

Response: 12

3.4.4.2 Total number of teachers recognised as guides during the last 5 years

Response: 12

| File Description | Document |
|--|-------------------------------|
| List of PhD scholars and their details like name of the guide , title of thesis, year of award etc | View Document |

3.4.5 Number of research papers per teacher in the Journals notified on UGC website during the last

five years

Response: 2.74

3.4.5.1 Number of research papers in the Journals notified on UGC website during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 22 | 31 | 29 | 21 | 23 |

File Description

Document

List of research papers by title, author, department, name and year of publication

[View Document](#)

3.4.6 Number of books and chapters in edited volumes / books published, and papers in national/international conference-proceedings per teacher during the last five years

Response: 3.3

3.4.6.1 Total number of books and chapters in edited volumes / books published, and papers in national/international conference-proceedings year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 27 | 25 | 47 | 30 | 23 |

File Description

Document

List books and chapters in edited volumes / books published

[View Document](#)

3.4.7 Bibliometrics of the publications during the last five years based on average citation index in Scopus/ Web of Science or PubMed/ Indian Citation Index

Response:

3.4.8 Bibliometrics of the publications during the last five years based on Scopus/ Web of Science - h-index of the Institution

Response:

3.5 Consultancy

3.5.1 Institution has a policy on consultancy including revenue sharing between the institution and

the individual**Response:** Yes

| File Description | Document |
|--|-------------------------------|
| Soft copy of the Consultancy Policy | View Document |
| URL of the consultancy policy document | View Document |

3.5.2 Revenue generated from consultancy during the last five years**Response:** 504.31

3.5.2.1 Total amount generated from consultancy year-wise during the last five years (INR in Lakhs)

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|----------|-----------|-----------|---------|
| 215 | 75.36457 | 58.097460 | 66.416870 | 89.4311 |

| File Description | Document |
|---|-------------------------------|
| List of consultants and revenue generated by them | View Document |

3.5.3 Revenue generated from corporate training by the institution during the last five years**Response:** 0.78

3.5.3.1 Total amount generated from corporate training by the institution year-wise during the last five years (INR in Lakhs)

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 0 | 0 | 0 | 0.78 | 0 |

| File Description | Document |
|---|-------------------------------|
| List of teacher consultants and revenue generated by them | View Document |

3.6 Extension Activities**3.6.1 Extension activities in the neighbourhood community in terms of impact and sensitising students to social issues and holistic development during the last five years**

Response:

The college encourages the faculty and students to initiate, participate and implement the programmes which contribute to societal awareness for various issues. Different student clubs/associations (CESA, MESA, EESA) in the college are monitored by department faculty coordinator. The activities of these include: organization of awareness programmes (for environment, water conservation, computer education etc), blood donation camps, educating rural population, building check dams, etc. B.Tech. projects and M.Tech. dissertations in few cases were based on addressing the real life problems in rural areas under **Unnat Bharat Abhiyaan** and **Unnat Maharashtra Abhiyaan**.

| File Description | Document |
|----------------------------|-------------------------------|
| Any additional information | View Document |

3.6.2 Number of awards and recognition received for extension activities from Government /recognised bodies during the last five years

Response: 0

3.6.2.1 Total number of awards and recognition received for extension activities from Government /recognised bodies year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 0 | 0 | 0 | 0 | 0 |

| File Description | Document |
|---|-------------------------------|
| Number of awards for extension activities in last 5 years | View Document |

3.6.3 Number of extension and outreach Programs conducted in collaboration with Industry, Community and Non- Government Organizations through NSS/ NCC/ Red Cross/ YRC etc., during the last five years

Response: 4

3.6.3.1 Number of extension and outreach Programs conducted in collaboration with Industry, Community and Non- Government Organizations through NSS/ NCC/ Red Cross/ YRC etc., year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 1 | 1 | 1 | 1 | 0 |

| File Description | Document |
|---|-------------------------------|
| Number of extension and outreach programs conducted with industry,community etc for the last five years | View Document |

3.6.4 Average percentage of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the last five years

Response: 4.93

3.6.4.1 Total number of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 46 | 62 | 86 | 60 | 0 |

| File Description | Document |
|---|-------------------------------|
| Average percentage of students participating in extension activities with Government or NGO etc | View Document |

3.7 Collaboration

3.7.1 Number of Collaborative activities for research, faculty exchange, student exchange per year

Response: 6

3.7.1.1 Total number of Collaborative activities for research, faculty exchange, student exchange year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 06 | 05 | 14 | 02 | 03 |

| File Description | Document |
|--|-------------------------------|
| Number of Collaborative activities for research, faculty etc | View Document |

3.7.2 Number of linkages with institutions/industries for internship, on-the-job training, project work, sharing of research facilities etc. during the last five years

Response: 877

3.7.2.1 Number of linkages for faculty exchange, student exchange, internship, field trip, on-the-job training, research, etc year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 143 | 133 | 176 | 212 | 213 |

| File Description | Document |
|---|-------------------------------|
| Details of linkages with institutions/industries for internship | View Document |

3.7.3 Number of functional MoUs with institutions of National/ International importance, Other Institutions, Industries, Corporate houses etc., during the last five years (only functional MoUs with ongoing activities to be considered)

Response: 12

3.7.3.1 Number of functional MoUs with institutions of national, international importance, other universities, industries, corporate houses etc. year-wise during the last five years (only functional MoUs with ongoing activities to be considered)

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 0 | 2 | 0 | 6 | 4 |

| File Description | Document |
|---|-------------------------------|
| Details of functional MoUs with institutions of national, international importance, other universities etc during the last five years | View Document |

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

4.1.1 The institution has adequate facilities for teaching - learning. viz., classrooms, laboratories, computing equipment, etc

Response:

The college maintains a policy for an appropriate teaching and learning environment.

The institute bears the vision of implementing world-class educational facilities.

In addition to adequate provision of the modern classroom and laboratory infrastructure for each department, the institute has tie-up with world-renowned institutes and industries to have a real feel of engineering applications.

Recently, MoU's are signed with renowned industrial organizations like L&T, AKER Solutions, GODREJ, RELIANCE, BADWE, Christiani & Sharpline, Wright State University Ohio.

Efforts are taken to develop laboratories through the industry-institute partnership.

There is a common practice to have interaction meetings with IIT professors, industry personnel, alumni and researchers.

Sharing of expertise and real field experience promotes a good teaching-learning environment.

In addition, the College provides a sound platform for Guest Lectures, Expert Lectures, Site Visits & Internship training to understand current advances in the field.

Classrooms are equipped with Smart boards . The premises are wifi enabled.

e-learning class rooms are developed in library.

Special Purpose CNC lab, NDT lab, artificial intelligence laboratory has been developed to improve the employability.

Renewable energy lab, Robotics and embedded system lab have been developed. Switchgear lab and Power system Lab are equipped with generator motor and WANS unit respectively.

24X7 reading room facility is given in library.

Central Computing facility , Research labs well equipped with licenses are provided to carry out research activities.

Seminar hall, Conference hall are well developed to conduct industry expert sessions, seminars, conclaves etc for professional development.

Workshop facilities are available to carry out necessary activities carried out by ROBOCON Team , SPCE racing Team, Wave(Aerodynamic Modelling) Team.

4.1.2 The institution has adequate facilities for sports, games (indoor, outdoor), gymnasium, yoga centre etc., and cultural activities

Response:

SPCE believes in all round development of students. Sports not only build better athletes but also better people. When students are physically fit, they will achieve more academically. Sports help develop team spirit.

SPCE has taken the initiative to start its Sports Club, SPIKE, to ensure the student's all-round development.

SPIRIT, the annual sport's fest of SPCE, Andheri is conducted in the month of February wherein various sports are played by students participating from various colleges all over Mumbai.

The institute also has a course on stress management through Yoga for PG students where sessions are taken by Yoga experts.

Institute organises yoga sessions in induction programme.

Institute is part of Bhavan's Campus, Andheri where organisation -Yoga Bharati conducts yoga scientifically for better health.

Institute promotes cultural activities through a power packed SPACE Annual Cultural Festival. Competitions are organised in various aspects of culture and students from other institutions also participate in the same.

Institution has speakers club, debating society , magazine for developing the relevant talent in the students.

The Bhavan's Campus has Amphi Theater , Nature park, Adventure park, Playgrounds, Volley Ball Court, a lake front equipped with joggers track and benches all of which are available for students to

energize and refresh themselves.

| File Description | Document |
|---------------------------------|-------------------------------|
| link for additional information | View Document |

4.1.3 Percentage of classrooms and seminar halls with ICT - enabled facilities such as smart class, LMS, etc

Response: 100

4.1.3.1 Number of classrooms and seminar halls with ICT facilities

Response: 23

| File Description | Document |
|--|-------------------------------|
| Number of classrooms and seminar halls with ICT enabled facilities | View Document |

4.1.4 Average percentage of budget allocation, excluding salary for infrastructure augmentation during the last five years.

Response: 15.47

4.1.4.1 Budget allocation for infrastructure augmentation, excluding salary year-wise during the last five years (INR in Lakhs)

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 25.4 | 75.6 | 9.24 | 28.35 | 9.24 |

| File Description | Document |
|--------------------------------|-------------------------------|
| Audited utilization statements | View Document |

4.2 Library as a Learning Resource

4.2.1 Library is automated using Integrated Library Management System (ILMS)**Response:**

The fully computerized Central Library of Sardar Patel College of Engineering is a treasure house of knowledge comprises an ever-growing collection of around 45,000 books; more than 11000 e-books (Tata McGraw-Hill, Pearson, Proquest, and Springer, IET, Elsevier) and 3,500 bound volumes of journals both national and international subscribed by the college over the years. The library has a good collection of CBT (Computer Based Tutorials) and video lectures from eminent personalities of various IITs and these are made available to our users on Intranet through on dedicated server. Library also has developed a collection of Dissertations, submitted by postgraduate students (M.Tech. & PhD) of this Institution. These design-oriented and case study thesis are kept for reference for the next generation in both forms, print and e-version. E-version of the same is made available through the digital library. All these valuable resources are well organized in the 6000 Sq. Ft. area, where more than 150 users can sit at a time and they are monitored by CC TV Cameras.

| File Description | Document |
|---------------------------------|-------------------------------|
| link for additional information | View Document |

4.2.2 Collection of rare books, manuscripts, special reports or any other knowledge resource for library enrichment**Response:**

SPCE Library has set up Cyber Library with 100 Pentium computers working in a networked environment through connectivity provided by Hathway and Syscon using 100Mbps High Bandwidth Leased Line.

The Online full-text databases like Springer, Science Direct, IEL, ASCE, ASME, J-Gate E-Journals and Pearson, McGraw-Hill, TMH, Proquest, ASTM E-books Link, In addition, facilities like Web OPAC, NPTEL online lectures and the digital library will also be accessible to the scholars.

College is the authorized local chapter for Swayam courses for faculty development and student learning

The institute has received two appreciation certificates for its performance as the authorized local chapter for Swayam courses since 2018

| File Description | Document |
|---------------------------------|-------------------------------|
| Any additional information | View Document |
| link for additional information | View Document |

4.2.3 Does the institution have the following

- 1.e-journals
- 2.e-ShodhSindhu
- 3.Shodhganga Membership
- 4.e-books
- 5.Databases

Any 4 of the above

Any 3 of the above

Any 2 of the above

Any 1 of the above

Response: Any 4 of the above

| File Description | Document |
|--|-------------------------------|
| Details of subscriptions like e-journals,e-ShodhSindhu,Shodhganga Membership etc | View Document |

4.2.4 Average annual expenditure for purchase of books and journals during the last five years (INR in Lakhs)

Response: 14.2

4.2.4.1 Annual expenditure for purchase of books and journals year-wise during the last five years (INR in Lakhs)

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 14 | 19 | 16 | 11 | 11 |

| File Description | Document |
|---|-------------------------------|
| Details of annual expenditure for purchase of books and journals during the last five years | View Document |
| Audited statements of accounts | View Document |

4.2.5 Availability of remote access to e-resources of the library

Response: No

4.2.6 Percentage per day usage of library by teachers and students

Response: 38.69

4.2.6.1 Number of teachers and students using library per day over last one year

Response: 419

4.3 IT Infrastructure

4.3.1 Institution frequently updates its IT facilities including Wi-Fi

Response:

In the era of the digital revolution, advanced IT Infrastructure is a need of time for every academic institution. In view of this, the institute has provided state of the art and well maintained IT Infrastructure to students and faculty members.

This includes an advanced server with SAN storage, computer labs with efficient computing infrastructure on different platforms, gigabyte LAN, Wi-Fi facilities, all required and advanced legal system and application software, CCTV surveillance facilities, biometric attendance system, etc.

Due to this state of the art IT Infrastructure, institute campus is the technologically adept campus.

Wi-fi count in main building is around 20 with a speed of 40Mbps

A Sonicwall Firewall has been installed to protect the system

Internet lease line with a bandwidth of 100 Mbps has been laid out

There are more than 480 Computers in the institute allocated for academic purposes

| File Description | Document |
|---------------------------------|-------------------------------|
| link for additional information | View Document |

4.3.2 Student - Computer ratio

Response: 2.16

4.3.3 Available bandwidth of internet connection in the Institution (Lease line)

?50 MBPS

35 MBPS - 50 MBPS

20 MBPS - 35 MBPS

5 MBPS - 20 MBPS**Response:** 250 MBPS**4.3.4 Facilities for e-content development such as Media Centre, Recording facility, Lecture Capturing System (LCS)****Response:** Yes

| File Description | Document |
|---|-------------------------------|
| Facilities for e-content development such as Media Centre, Recording facility,LCS | View Document |
| Any additional information | View Document |
| Link to photographs | View Document |

4.4 Maintenance of Campus Infrastructure**4.4.1 Average Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component, as a percentage during the last five years****Response:** 18.7

4.4.1.1 Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component year-wise during the last five years (INR in Lakhs)

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 56 | 75.69 | 9.24 | 28.3 | 9.24 |

| File Description | Document |
|--|-------------------------------|
| Details about assigned budget and expenditure on physical facilities and academic facilities | View Document |
| Audited statements of accounts. | View Document |

4.4.2 There are established systems and procedures for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.**Response:**

The college was established in 1962. Since then the adequate availability of physical infrastructure was duly identified and has been planned and constructed accordingly.

All the departments are provided with built-up space as per the requirements of AICTE in the form of classrooms, laboratories, tutorial and seminar rooms, staff rooms and departmental library.

In addition to this, there are central facilities in the form of a library, computing facility, canteen, student recreational facilities, and auditorium.

Allied areas in the form of hostels and mess cater to the need of students. Hostel administration is done by Rector and his team as per the Hostel manual.

The campus also provides an appropriate parking facility for two-wheeler and four-wheeler vehicles.

The college was selected as a Network Institute for the Technical Education Quality Improvement Programme (TEQIP) both, phases I, II and III of the Ministry of Human Resources Development and the World Bank. With funding received under this, old and obsolete equipment in the various laboratories **are replaced** with state of the art equipment.

Equipment purchasing is carried out through purchase committee.

Building and Infrastructure committee plays a vital role in maintaining the infrastructure in the institute.

Review of Building and Infrastructure committee is done every week for resolving the various issues.

It is common practice to prepare and submit budget proposals for equipment procurement and departmental refurbishment by the individual department every year. The proposals are scrutinized and funds are sanctioned for the subsequent year for the optimal utilization of funds.

It is common practice to prepare research and funding proposals for various funding agencies by the individual department every year. The funds thus obtained are utilized optimally for the laboratory development through research.

IT infrastructure committee comprising the system administrator maintains the website and all ICT based systems in premises.

The housekeeping services are provided to ensure cleanliness and sanitation across all classrooms, laboratories, and campus premises

The central facilities are common areas for all the institutional components and organized, developed and maintained by institute level building planning and maintenance cells.

MTech TAs assigned to each lab along with the Lab faculty in charge of maintenance and development.

Further facilities provided are elaborated below:

Every department of the college has Seminar Hall of different capacities in addition to the common auditorium and open-air pranganga quadrangle as a central facility. These may be utilized by any department depending on availability and requirement for the conduct of guest lectures, workshops, training programs and co-curricular and extracurricular activities amiably. In order to ensure its fullest utilization class time table utilization plan is prepared centrally and college timings are adjusted for

effective utilization. All the classrooms, staff amenities, and laboratories are open for all the concerned round the clock to meet their academic requirement. Students can freely use any of the facilities of the college hours for their cocurricular It is common practice to prepare research and funding proposals for various funding agencies by the individual department every year. The funds thus obtained are utilized optimally for the said purpose. The central facilities are common areas for all the institutional components and organized, developed and maintained by institute level building planning and maintenance cells.

NAAC

Criterion 5 - Student Support and Progression

5.1 Student Support

5.1.1 Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years

Response: 34.3

5.1.1.1 Number of students benefited by scholarships and freeships provided by the Government year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 387 | 377 | 396 | 309 | 281 |

| File Description | Document |
|--|-------------------------------|
| Upload self attested letter with the list of students sanctioned scholarships | View Document |
| Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years | View Document |
| Any additional information | View Document |

5.1.2 Average percentage of students benefited by scholarships, freeships, etc. provided by the institution besides government schemes during the last five years

Response: 0

5.1.2.1 Total number of students benefited by scholarships, freeships, etc provided by the institution besides government schemes year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 0 | 0 | 0 | 0 | 0 |

5.1.3 Number of capability enhancement and development schemes –

1. Guidance for competitive examinations
2. Career Counselling
3. Soft skill development
4. Remedial coaching

- 5. Language lab
- 6. Bridge courses
- 7. Yoga and Meditation
- 8. Personal Counselling

7 or more of the above

Any 6 of the above

Any 5 of the above

Any 4 of the above

Response: Any 6 of the above

| File Description | Document |
|---|-------------------------------|
| Details of capability enhancement and development schemes | View Document |
| Any additional information | View Document |
| Link to Institutional website | View Document |

5.1.4 Average percentage of students benefited by guidance for competitive examinations and career counselling offered by the institution during the last five years

Response: 4.73

5.1.4.1 Number of students benefited by guidance for competitive examinations and career counselling offered by the institution year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 208 | 36 | 0 | 0 | 0 |

| File Description | Document |
|---|-------------------------------|
| Number of students benefited by guidance for competitive examinations and career counselling during the last five years | View Document |
| Any additional information | View Document |

5.1.5 Average percentage of students benefited by Vocational Education and Training (VET) during the last five years

Response: 4.74**5.1.5.1 Number of students attending VET year-wise during the last five years**

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 246 | 0 | 0 | 0 | 0 |

| File Description | Document |
|---|-------------------------------|
| Details of of students benefited by Vocational Education and Training (VET) | View Document |
| Any additional information | View Document |

5.1.6 The institution has a transparent mechanism for timely redressal of student grievances including sexual harassment and ragging cases**Response:** Yes

| File Description | Document |
|---|-------------------------------|
| Details of student grievances including sexual harassment and ragging cases | View Document |

5.2 Student Progression**5.2.1 Average percentage of placement of outgoing students during the last five years****Response:** 56.23**5.2.1.1 Number of outgoing students placed year-wise during the last five years**

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 143 | 133 | 146 | 182 | 241 |

| File Description | Document |
|---|-------------------------------|
| Details of student placement during the last five years | View Document |
| Details of student placement during the last five years | View Document |

| | |
|--|-------------------------------|
| 5.2.2 Percentage of student progression to higher education (previous graduating batch) | |
| Response: 6.58 | |
| 5.2.2.1 Number of outgoing students progressing to higher education | |
| Response: 20 | |
| File Description | Document |
| Details of student progression to higher education | View Document |

| | | | | |
|---|-------------------------------|---------|---------|---------|
| 5.2.3 Average percentage of students qualifying in State/ National/ International level examinations during the last five years (eg: NET/ SLET/ GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil Services/State government examinations) | | | | |
| Response: 96 | | | | |
| 5.2.3.1 Number of students qualifying in state/ national/ international level examinations (eg: NET/ SLET/ GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil services/ State government examinations) year-wise during the last five years | | | | |
| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
| 76 | 51 | 14 | 18 | 12 |
| 5.2.3.2 Number of students appearing in state/ national/ international level examinations (eg: NET/SLET/GATE/GMAT/CAT, GRE/TOEFL/ Civil Services/State government examinations) year-wise during the last five years | | | | |
| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
| 80 | 60 | 14 | 18 | 12 |
| File Description | Document | | | |
| Upload supporting data for the same | View Document | | | |
| Number of students qualifying in state/ national/ international level examinations during the last five years | View Document | | | |

5.3 Student Participation and Activities

5.3.1 Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one) during the last five years

Response: 3

5.3.1.1 Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one) year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 2 | 1 | 0 | 0 | 0 |

| File Description | Document |
|--|-------------------------------|
| Number of awards/medals for outstanding performance in sports/cultural activities at national/international level during the last five years | View Document |
| Any additional information | View Document |

5.3.2 Presence of an active Student Council & representation of students on academic & administrative bodies/committees of the institution

Response:

There is an active student council with 17 members. The student council organizes various events like Independence, PRARAMBH to welcome our dearest Freshers, Annual Debate, Cultural Evening during Dashehara, Republic Day, International Women's Day. They organize a three-day festival SPECTRA to dig out the technical talents of the college. The annual sports festival SPIRIT is enjoyed by all SPCEians. The month of March SPCE's most awaited annual cultural extravaganza "SPACE" is conducted. SPACE attracts students from other institutes as well. The students also help organize various festival celebrations and other events by which they get hands-on experience of teamwork, leadership, organizational skills.

Apart from the Student council, we have Student participation in bodies like EESA, MESA, TESA, CESA which work at the departmental levels.

There are Student representations in the subject board in each Department and also in the Academic Board. They provide valuable inputs with regard to academic decisions like curriculum development as well as other administrative policies

| File Description | Document |
|---------------------------------|-------------------------------|
| Any additional information | View Document |
| Link for Additional Information | View Document |

5.3.3 Average number of sports and cultural activities / competitions organised at the institution level per year

Response: 10

5.3.3.1 Number of sports and cultural activities / competitions organised at the institution level year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 10 | 10 | 10 | 10 | 10 |

| File Description | Document |
|--|-------------------------------|
| Report of the event | View Document |
| Number of sports and cultural activities / competitions organised per year | View Document |
| Any additional information | View Document |

5.4 Alumni Engagement

5.4.1 The Alumni Association/Chapters (registered and functional) contributes significantly to the development of the institution through financial and non financial means during the last five years

Response:

SPCE Alumni committee is working to create a platform to interact with SPCE alumni. They are connected to the institute and hence the networking between the students and alumni is possible. Many of our alumni are helping in the development of the institute. Some of them are on the various committees and boards. Ms. Seema Ghanekar and Mr. Sanjeev Nadkarni are actively participating being the members, BOG. Mr. Sanjeev Nadkarni has represented institute at various levels on behalf of BOG chairman. Mr. Tarninder Singh from Mechanical Engineering is actively associated with SPCE startup cell at various capacities

| File Description | Document |
|---------------------------------|-------------------------------|
| Link for Additional Information | View Document |

5.4.2 Alumni contribution during the last five years(INR in Lakhs)

? 15 Lakhs

10Lakhs - 15 Lakhs

5 Lakhs - 10 Lakhs

2 Lakhs - 5 Lakhs

Response: <2 Lakhs

| File Description | Document |
|---------------------------------------|-------------------------------|
| Alumni association audited statements | View Document |

5.4.3 Number of Alumni Association / Chapters meetings held during the last five years

Response: 4

5.4.3.1 Number of Alumni Association /Chapters meetings held year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 1 | 1 | 1 | 1 | 0 |

| File Description | Document |
|---|-------------------------------|
| Report of the event | View Document |
| Number of Alumni Association / Chapters meetings conducted during the last five years | View Document |
| Any additional information | View Document |

Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

6.1.1 The governance of the institution is reflective of an effective leadership in tune with the vision and mission of the institution

Response:

The vision of the College:

SARDAR PATEL COLLEGE OF ENGINEERING (SPCE) ASPIRES TO BE AN INSTITUTION OF NATIONAL REPUTE THAT WILL CREATE PROFESSIONALS WITH COMPETENCE AND MOTIVATE RESEARCH FOR THE PROGRESS OF THE NATION.

The mission of the College

- To impart quality education through time relevant curriculum in academic programs.
- To enhance career opportunities for students through industry-institute interaction & value-added courses.
- To promote excellence by encouraging innovative ideas and lateral thinking.
- To inculcate a sense of discipline and responsibility towards society

All the programs in its structure and in its contents are in line with societal and industry needs. The institute offers PhD programme in Civill Engineering, Electrical Engineering and also in Mechanical Engineering. The Institute offers 5 MTech Programmes in alignment with industry requirements. The Civil Engineering department of the college is recognized as a QIP center for Ph .D research. The college also has various MoUs with industries to enable students to get very good exposure to industries. This enables students to secure their bright future. Students do participate in competitive events wherein they exhibit their critical thinking and creativity. Students along with faculty have to their credit a few patents and numerous research papers at national and international forums.

| File Description | Document |
|---------------------------------|-------------------------------|
| Link for Additional Information | View Document |

6.1.2 The institution practices decentralization and participative management

Response:

The organization has good decentralization of authorities, and the overall improvements are closely monitored. The administrative, academic and financial policies are designed at the Administrative Council level, however inputs for the policy-making are derived from various stakeholders namely; internal faculty, staff, students, University, Directorate of Technical Education, Alumni, Recruiters, Faculty experts from other institutes, Industries, Research Organizations, etc. This college practices participative management at various levels. Various positions, namely, Dean (Academics), Dean (Finance), Dean (R&D), (IIC and

TPO), Faculty Advisors for student activities, Coordinators, Chairman (Central Purchase Committee), Electrical Maintenance In-charge, Water Maintenance In-charge, Hostel wardens, Rector, Security In-charge, Canteen In-charge, TEQIP Coordinator, Ph.D. Coordinator, PG coordinator, Heads of Departments, etc. positions are available and working is very smooth.

Every week, Institute Development Council (IDC) meets to review various activities including monitoring and resolves various issues in a participative manner.

Matters pertaining to each department are discussed with the staff during department meetings and their collective decisions and opinions are considered in HODs meetings

6.2 Strategy Development and Deployment

6.2.1 Perspective/Strategic plan and Deployment documents are available in the institution

Response:

The College has a perspective plan for as below:

Teaching and learning:

- Selected faculty members are deputed to IITs for the completion of their PhDs. Faculty members are deputed to IITs for attending to various training programs/conferences.
- It is proposed to depute a few faculty members to institutes of national repute for one term for attending to course work of the UG / PG program at the institute.
- Continuing education programs in specific domain areas are regularly organized in collaboration with industries
- This would bring in a better understanding of the teaching-learning styles of IIT patterns.

? Research and development:

- The institute has set aside Rs 40 lacks under TEQIP to provide a fund to R&D Projects
- Research advisors & Mentors from IITs are appointed to promote research culture
- Expert Lectures on “How to conduct research” are regularly organized by inviting senior research advisors
- Software tools SPSS, Minitab, MATLAB, etc. are in place which assists in conducting research
- Faculty/Students are exposed to the latest research areas during interaction with Alumni
- BTech students are encouraged to publish papers in reputed international journals

? Community Services:

Blood donation & bone marrow testing camps are regularly organized

? Human resource planning and development:

- This is an annual development activity. For newly recruited faculty members orientation

programs/pedagogy training programs are arranged.

- Few in-house training programs are regularly arranged for the skill development of employees.

? Industry interaction:

There is very good interaction between the departments of the College with industries.

- Many industry experts are invited to deliver guest lectures, interact with students and motivate them to obtain the skills required by industry.
- Many MOUs have been signed with industries for promoting sponsored research projects & provide a solution to the industry.
- Industrial Visits (IVs) are regularly organized which provides students an opportunity to plan, organize & engage in active learning experiences both inside & outside the classroom
- Internship training is organized to expose the students to the working environment in the industry
- Corporate training is conducted by the faculties for overall professional development and knowledge transfer
- The institute organizes regular Industry-institute meet to bridge the gap between the two.
- Institute received best industry-institute interaction award
- The institute is member of Confederation of Indian Industries (CII)
- The institute is also planning to become a member of FICCI & ACMA

Internationalization:

Institute had signed MOU with an Australia based company, Leighton for providing extensive training to the students in the area of infrastructure development and subsequently, the company provided students with placements as well. Recently the institute has also signed MOU with Wright State University, Ohio for exchange of expertise & knowledge. Few of the Alumni who are working abroad deliver expert lectures in their specialized areas. Institute is also planning to tie up with foreign Universities for student & faculty exchange.

| File Description | Document |
|--|-------------------------------|
| Any additional information | View Document |
| Strategic Plan and deployment documents on the website | View Document |

6.2.2 Organizational structure of the institution including governing body, administrative setup, and functions of various bodies, service rules, procedures, recruitment, promotional policies as well as grievance redressal mechanism

Response:

Organization and Governance

The college has a well-framed administrative set up conforming to the norms of the regulatory bodies.

Administration Setup:

The Chairman, Board of Governance in consultation with other members of the BOG designs policies on administration, finance, HR, Research activities and communicates to the Director for implementation. The Director conveys and monitors these activities in consultation with the Institute Development Council (IDC) members. The IDC is composed of following members under the chairmanship of the Principal:

- Vice Principal
- Dean (Academics), Dean (Finance), Dean (R&D), and TPO
- Head of Department (Civil, Mechanical, Electrical)
- Controller of Exams (CoE)
- Central Computing Facility I/C/ System Analyst
- Librarian
- Hostel Rector
- TEQIP Coordinator

The Director discusses with HODs and other senior members their opinions regarding implementing various policies. The following statutory committees are functioning in the college to look after the administrative and academic procedures as per the norms stipulated by the University Grants Commission (UGC).

Statutory committees:

- Board of Governance (BoG)
- Academic Board
- Subject Board
- Finance Committee
- Institute Development Committee (IDC)

Additionally, the college has the following Non-statutory committees.

- Information Committee
- Anti-ragging Committee
- Anti-Sexual Harassment Committee
- Disciplinary Committee
- Purchase Committee
- Grievance Redressal Committee
- Library Committee
- Student Activities Committee
- Alumni Committee
- Internal Audit Committee

The college has set up a separate grievances redressal cell. Through students' Council meetings many complaints are well attended. The lab facility, library reading facility, 24 x 7 internet facility, security facility, medical assistance, Tea-Coffee vending machines, etc. have been well set up. Since many of such student-centered facilities are well in place, students are satisfied. However, the redressal cell makes every attempt to solve students' problems.

| File Description | Document |
|----------------------------|-------------------------------|
| Any additional information | View Document |

6.2.3 Implementation of e-governance in areas of operation

1. Planning and Development
2. Administration
3. Finance and Accounts
4. Student Admission and Support
5. Examination

All 5 of the above

Any 4 of the above

Any 3 of the above

Any 2 of the above

Response: All 5 of the above

| File Description | Document |
|--|-------------------------------|
| Screen shots of user interfaces | View Document |
| Details of implementation of e-governance in areas of operation Planning and Development, Administration etc | View Document |

6.2.4 Effectiveness of various bodies/cells/committees is evident through minutes of meetings and implementation of their resolutions

Response:

Statutory committees:

- Board of Governance (BoG)
- Academic Board
- Subject Board
- Finance Committee
- Institute Development Committee (IDC)

Additionally, the college has the following Non-statutory committees.

- Information Committee
- Anti-ragging Committee

- Anti-Sexual Harassment Committee
- Disciplinary Committee
- Purchase Committee
- Grievance Redressal Committee
- Library Committee
- Student Activities Committee
- Alumni Committee
- Internal Audit Committee
- Building and works Committee
- Building and works Committee has done following remarkable jobs. Institute has renovated hostel and prepared hostel manual as a part of good governance in 2018-19. Institute participated in campus development activities and a green campus with a good landscape is developed in 2016-2017. Institute has carried out maintenance work and renovated the washroom blocks in 2017-19. Institute carried out plastering and painting activities of institute building. MasterPlan of 700 capacity hostel is prepared and got approved by management in 2018-2019. Principal Bungalow's renovation work is undertaken.

The committees are successfully working and the incremental improvements are the result of their coordinated efforts. The above committees are functioning in order to facilitate the successful implementation of autonomy. Each committee conducts its meetings and keeps a record of minutes of the meeting. The major decisions taken by various committees are informed to IDC members in a weekly meeting. Sample Results are shown as follows:

1. The new cable network has been installed as part of incremental improvement
2. The library committee has done following remarkable jobs. Library Infrastructure is modified with Compactors in 2015-16. The library is equipped with AntiPlagiarism software in 2014-15. IT Enabled Library Infrastructure is developed 2019-20. 24x7 Reading Facility has been established since 2017-18

6.3 Faculty Empowerment Strategies

6.3.1 The institution has effective welfare measures for teaching and non-teaching staff

Response:

The college has “Staff Welfare Fund (SWF)”. Through this fund, faculty members have been provided with 50% of travel expenses or Rs. 50,000/- whichever is less. This is in addition to TEQIP funds budgeted for attending national/ international conferences. For any emergency or for any event of domestic importance, advance amount to the extent of Rs. 40,000/- is being provided to the staff member. The institution also support Group Medical Insurance to employees. As an average, 30% of employees avail of the advance/reimbursement facility.

| File Description | Document |
|----------------------------|-------------------------------|
| Any additional information | View Document |

6.3.2 Average percentage of teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the last five years**Response:** 26.52

6.3.2.1 Number of teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 28 | 30 | 0 | 1 | 2 |

| File Description | Document |
|--|-------------------------------|
| Details of teachers provided with financial support to attend conferences,workshops etc during the last five years | View Document |

6.3.3 Average number of professional development /administrative training programs organized by the institution for teaching and non teaching staff during the last five years**Response:** 6.4

6.3.3.1 Total number of professional development / administrative training programs organized by the Institution for teaching and non teaching staff year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 2 | 6 | 18 | 4 | 2 |

| File Description | Document |
|---|-------------------------------|
| Details of professional development / administrative training programs organized by the Institution for teaching and non teaching staff | View Document |

6.3.4 Average percentage of teachers attending professional development programs viz., Orientation Program, Refresher Course, Short Term Course, Faculty Development Program during the last five years**Response:** 59.13

6.3.4.1 Total number of teachers attending professional development programs, viz., Orientation Program,

Refresher Course, Short Term Course, Faculty Development Programs year-wise during the last five years

| | | | | |
|---------|---------|---------|---------|---------|
| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
| 13 | 44 | 40 | 18 | 21 |

| File Description | Document |
|--|-------------------------------|
| Details of teachers attending professional development programs during the last five years | View Document |

6.3.5 Institution has Performance Appraisal System for teaching and non-teaching staff

Response:

The performance appraisal is carried out yearly. This helps the college administration to identify the strengths and weaknesses of the individual members of teaching and non-teaching. The process is transparent. The administration accordingly provides counseling, if required. The internal (Non-statutory) promotions are usually carried out based on these reports. A self-appraisal report is submitted by the faculty and staff at the end of the academic year which is analyzed by the respective higher authority. The performance of the faculty members is graded as per the given scales and faculty members are informed if the grading is average or below average. The good performers are encouraged and the poor performers are counseled and inspired to do better.

| File Description | Document |
|----------------------------|-------------------------------|
| Any additional information | View Document |

6.4 Financial Management and Resource Mobilization

6.4.1 Institution conducts internal and external financial audits regularly

Response:

Yes. The institute ensures strong adherence to financial transparency. Regular audits are a part of the process. The college appoints internal and external auditors annually. The external auditor is a statutory auditor who carries out half-yearly and yearly audits. The internal auditor makes quarterly balance sheets. In addition to this, a separate audit is carried out by the regional office of the Directorate of Technical Education and by "Audit General (AG)" of the state government. for the grant-related fund provided by the state government.

| File Description | Document |
|----------------------------|-------------------------------|
| Any additional information | View Document |

6.4.2 Funds / Grants received from non-government bodies, individuals, Philanthropists during the last five years (not covered in Criterion III) (INR in Lakhs)

Response: 0

6.4.2.1 Total Grants received from non-government bodies, individuals, philanthropists year-wise during the last five years (INR in Lakhs)

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 0 | 0 | 0 | 0 | 0 |

| File Description | Document |
|--|-------------------------------|
| Details of Funds / Grants received from non-government bodies during the last five years | View Document |

6.4.3 Institutional strategies for mobilisation of funds and the optimal utilisation of resources

Response:

The college has been well recognized for various testing consultancy assignments in the Civil Engineering Department. Resource generation is also done through organizing On-Line examinations for various external agencies. Each of the three departments takes an active part in organizing continuing education programs for industry/institute personnel. This adds to resource mobilization.

The college has appointed Finance Committee & also Dean Finance, as per the UGC guidelines. Generally, the meetings of this committee are scheduled in every quarter. Approval of budget, monitoring of expenditure, purchase of major equipment, analysis of balance sheet, tackling of financial related college-level issues, a recommendation for appointment of internal and external financial auditors, in-time compliances for financial audit points, etc. are well handled by Dean Finance & this committee. The committee provides specific guidelines to the Director for effective implementations. At the director's level, a separate central purchase committee has been constituted which meets weekly. Various proposals of purchases are submitted for approval to the Director. The purchase committee prepares analytical comments on comparative statements prepared by the proposer. These recommendations are then approved, with changes if required by the Director. The local financial auditor prepares periodic audit reports for submission to the Director and the Finance Committee.

6.5 Internal Quality Assurance System

6.5.1 Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes

Response:

SPCE believe in improving quality consistently and continuously in all facets of Technical education. An academic audit of departments is conducted. Internal academic audits are conducted twice in a year at the end of each semester. The internal audit is conducted by an audit committee appointed by the Director. Typically internal academic auditors are faculty chosen from various departments of the college. The schedule of the audit is declared in advance. The faculties are provided with parameters of academic assessment. The assessment parameters include mapping of course outcomes with program outcomes, course delivery, in-semester evaluation planned and executed, Performance of Engaging lectures, Performance of Attendance of students, Counseling, quality of question papers, attainment of course outcomes, and result-analysis. The auditors are also provided with evaluation format and it is submitted to Chairman IQAC. Chairman IQAC compiles all the evaluations by the auditors and prepares a consolidated audit report which is sent to all departments. Heads of the department take cognizance of the report and necessary corrective measures to address the non-conformities. This is supported by an external academic audit. The committee for external academic audit is composed of academic experts from various autonomous colleges. The external academic audit is done usually once in two / three years.

6.5.2 The institution reviews its teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through IQAC set up as per norms

Response:

Based on recommendations of the academic audit, specific measures taken are as follows:

- Relative grading system implemented.
- For the four year program, the total number of credits is limited in the range of 175 to 200.
- Interdisciplinary & Value added courses are added in the structure.
- Students' attendance on Moodle is made mandatory and is regularly monitored.
- Coursebook maintenance is well organized.
- Question paper setting included indication for mapping of a question to course outcome.
- Efforts have been taken to motivate students for developing a self-learning attitude.
- Online examination for a few courses introduced.
 - OBE software is procured in line with NBA

The college has an Academic Board academic standing committee and Subject Board to monitor the teaching-learning process. Vice Principal, Deans, HoDs of all departments, are the members of these committees with Principal of the institute chairing the committee. Academic Board meetings are held once in a year, whereas subject board meetings are held twice in a year. All the decisions taken in subject Board meetings are ratified in academic board meetings. Department Advisory Board meets once in a month, discusses and resolves the issues related to the teaching-learning process. The Dean Academics collects academic monitoring reports on a weekly basis from all HoDs. Compensatory classes are scheduled for the academics who missed out due to any unavoidable reason. A notice to this effect is circulated. The attendance of students is displayed on students' notice boards. Special cases of less attendance are handled

by the Department's Academic Coordinator.

6.5.3 Average number of quality initiatives by IQAC for promoting quality culture per year

Response: 12.4

6.5.3.1 Number of quality initiatives by IQAC for promoting quality year-wise for the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 11 | 24 | 21 | 4 | 2 |

| File Description | Document |
|--|-------------------------------|
| Number of quality initiatives by IQAC per year for promoting quality culture | View Document |
| IQAC link | View Document |

6.5.4 Quality assurance initiatives of the institution include

1. Regular meeting of Internal Quality Assurance Cell (IQAC); timely submission of Annual Quality Assurance Report (AQAR) to NAAC; Feedback collected, analysed and used for improvements
2. Academic Administrative Audit (AAA) and initiation of follow up action
3. Participation in NIRF
4. ISO Certification
5. NBA or any other quality audit

Any 4 of the above

Any 3 of the above

Any 2 of the above

Any 1 of the above

Response: Any 3 of the above

| File Description | Document |
|---|-------------------------------|
| Details of Quality assurance initiatives of the institution | View Document |
| Any additional information | View Document |

6.5.5 Incremental improvements made during the preceding five years (*in case of first cycle*) Post accreditation quality initiatives (*second and subsequent cycles*)

Response:

SPCE believe in Establishing , maintaining and improving quality consistetly and continously in all aspects of Technical Education .

SPCE has identified the scope of improvement in Curricular aspects, Teaching Learning and Evaluation, Research Innovation and extension, Infrastructure and Learning Resources, Students support and progression, Governance leadership and management , Institutional values and Best Practices.

SPCE has always strived for excellence and worked to implement the incremental improvements wherever necessary.

Incremental improvement

1. Institute has renovated hostel and prepared hostel manual as a part of good governance in 2018-19.
2. Institute participated in campus development activities and green campus with good landscape is developed in 2016-2017.
3. Institute has carried out maintenance work and renovated the washroom blocks in 2017-19.
4. Institute carried out plastering and painting activities of institute building.
5. Master Plan of 700 capacity hostel is prepared and got approved by management in 2018-2019 .
6. Principal Bunglow renovation work is undertaken.
7. New cable network has been installed as part of incremental improvement.
8. Library Infrastructure is modified with Compactors in 2015-16. Library is equipped with AntiPlagiarism software in 2014-15. IT Enabled Library Infrastructure is developed 2019-20. 24x7 Reading Facility has been established since 2017-18
9. Renewable energy lab is established in 2014-2015.
10. Robotics and embedded system development is in process.
11. Switchgear lab is equipped with generator motor set in 2015-2016.
12. Power system Lab is equipped with WANS unit in 2018-2019.
13. New CNC machines laboratory was created in Mechanical Engineering Laboratory.
14. Special Purpose UTM has been installed in MED for carrying out high precision experimentation.
15. GATE training has been added as a new activity for student development 2018.
16. CBCS has been adopted in curriculum development.
17. Open electives 2018-2019 are offered, track based selection of electives is promoted.
18. Start up course is introduced to promote Government's Drive of Start up.
19. Courses like value engineering, project management are conducted by industry experts .
20. Industry offered a course on automation in electrical engineering curriculum since 2016-2017
21. 5 villages are adopted under UMA and UBA drive and Engineering system development course is launched in alignment with same.
22. Value added Non Technical Courses like Ubuntu, Financial Literacy, Photography, Yoga etc are added in curriculum and conducted successfully.
23. Students are encouraged to complete online courses through NPTEL as per requirements of AICTE

mandate.

24. Induction programme is organized for 1st year students as per requirements of AICTE.
25. As part of vertical growth MTech Programme in Power Electronics and Power system (2014-2015), PhD programme in Electrical engineering (2018-2019) are launched in electrical engineering .
26. Intake in PhD programme in Mechanical Engineering has been increased from 30 to 60 in July 2015.
27. New Faculty has been recruited as part of recruitment drive in 2015-2016
28. IIIE Student Chapter ,ASME Student Chapter, Value Engineering Student Chapter , IET , Rotoract club are established to groom the students
29. Skill development workshops started in 2015-16
30. SP learning initiative – (Mock placement) started in 2014-2015
31. Employability skill training started in 2016-17
32. Diagnostic test – for training need analysis started in 2016-17
33. LnT technical lecture series started in 2016-17
34. LnT -Anubhav (hands on training) started in 2016-17
35. Industry ready course for MTech scholars launched by Siemens
36. MOU with CEMS for skill based training
37. College is the authorised local chapter for Swayam courses for faculty development and student learning since 2017-18

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

7.1.1 Number of gender equity promotion programs organized by the institution during the last five years

Response: 2

7.1.1.1 Number of gender equity promotion programs organized by the institution year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 0 | 1 | 1 | 0 | 0 |

File Description

List of gender equity promotion programs organized by the institution

Document

[View Document](#)

7.1.2 Institution shows gender sensitivity in providing facilities such as

- a) Safety and Security
- b) Counselling
- c) Common Room

Response:

SPCE treats all the students, staff and supporting staff equally. SPCE has always paid great attention to ensure and promote gender equity. In our institute, all academic and non-academic committees of the college have a good representation of both the genders. The institute has a student welfare and women development cell on the campus to empower girl students, to sensitize everyone with regard to issues related to women, and to make the college campus a safe place for them. The cell also promotes activities related to girl students and their related affairs. The institute has a counselor to whom students can go and discuss their psychological, emotional, education-related issues as well as for career counseling. To facilitate our female students, the campus has established a spacious girl's common room where girls can relax, study, do informal discussions in the free time available. Female students appreciate this facility at a great deal. Programs/workshops related to self-defense are conducted in which trained faculties from this field give important tips related to self-defense along with demonstrations. A suggestion box is placed at strategic locations so that if anyone has any issue related to gender equity they can drop complaints or suggestions. The box is opened once every month and due action is taken to resolve the issue.

7.1.3 Percentage of annual power requirement of the Institution met by the renewable energy sources

| | |
|---|-------------------------------|
| Response: 0 | |
| 7.1.3.1 Annual power requirement met by renewable energy sources (in KWH) | |
| 7.1.3.2 Total annual power requirement (in KWH) | |
| Response: 487664 | |
| File Description | Document |
| Details of power requirement of the Institution met by renewable energy sources | View Document |

| | |
|---|-------------------------------|
| 7.1.4 Percentage of annual lighting power requirements met through LED bulbs | |
| Response: 33.83 | |
| 7.1.4.1 Annual lighting power requirement met through LED bulbs (in KWH) | |
| Response: 70783 | |
| 7.1.4.2 Annual lighting power requirement (in KWH) | |
| Response: 209241 | |
| File Description | Document |
| Details of lighting power requirements met through LED bulbs | View Document |

| |
|---|
| <p>7.1.5 Waste Management steps including:</p> <ul style="list-style-type: none"> • Solid waste management • Liquid waste management • E-waste management <p>Response:</p> <p>1.Solid Waste Management</p> <ul style="list-style-type: none"> • At present, there is provision for dry and wet waste bins is done • All the wet waste is being put in compost pits provided in the campus • At the end of 1.5 months, manure is produced which can be used in gardens or sold <p>2. Liquid Waste Management</p> <ul style="list-style-type: none"> • At present laboratory wastewater which might be toxic is generated in Chemistry and Environmental Engineering Lab. • Dilution and reduction of acidity and alkalinity by neutralization are taken up. |
|---|

- Experiments like COD have been modified to closed reflux so that harmful chemicals like mercuric sulfate use is reduced or not used
- In case solvents are used, they are stored in the container before sending it to hazardous waste management facility

3. E-Waste Management

- At present we have a tie-up with EPRI for e-waste collection where drives for e-waste collection are taken up
- Obsolescence of used computers is taken up by a committee and then sold to buyers
- E-waste collection drive conducted by SP Green Club

7.1.6 Rain water harvesting structures and utilization in the campus

Response:

Being located in a rainfall heavy region, the campus receives good amount of rainfall during the monsoon. The campus is also blessed with the presence of a natural lake. All roof water is collected through ducts and various sump systems have been set up to store the water. The entire roof of the main building has been used for this purpose. Harvested rainwater is used for groundwater recharge. This has significantly resulted in increasing water levels, even during the summer season. With this, the college is self-reliant for its water usage. This was not the situation prior to setting the roof water harvesting system.

7.1.7 Green Practices

- **Students, staff using**
 - a) **Bicycles**
 - b) **Public Transport**
 - c) **Pedestrian friendly roads**
- **Plastic-free campus**
- **Paperless office**
- **Green landscaping with trees and plants**

Response:

The open area by the side of hostel is planted and regularly maintained by watering, cuttings, etc. Plantation of trees is a regular phenomenon. Some departments have a system of welcoming guests with a plant which is then planted in the college campus. World environment day is celebrated every year with tree plantations. The campus has enough natural greenery. The age-old big trees are along the borders of

the campus. The green waste is centrally dumped and usually not burnt. This helps naturally to achieve carbon neutrality. The college has taken initiatives to make the system paperless. E-documentation policy is promoted in the administrative office and other departments. The papers are reused for printing.

7.1.8 Average percentage expenditure on green initiatives and waste management excluding salary component during the last five years

Response: 1.39

7.1.8.1 Total expenditure on green initiatives and waste management excluding salary component year-wise during the last five years(INR in Lakhs)

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 5.5 | 2.5 | 1.5 | 1 | 2 |

File Description

Document

Details of expenditure on green initiatives and waste management during the last five years

[View Document](#)

7.1.9 Differently abled (Divyangjan) Friendliness Resources available in the institution:

1. Physical facilities
2. Provision for lift
3. Ramp / Rails
4. Braille Software/facilities
5. Rest Rooms
6. Scribes for examination
7. Special skill development for differently abled students
8. Any other similar facility (Specify)

A. 7 and more of the above

B. At least 6 of the above

C. At least 4 of the above

D. At least 2 of the above

Response: C. At least 4 of the above

| File Description | Document |
|---|-------------------------------|
| Resources available in the institution for Divyangjan | View Document |

7.1.10 Number of Specific initiatives to address locational advantages and disadvantages during the last five years

Response: 7

7.1.10.1 Number of specific initiatives to address locational advantages and disadvantages year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 2 | 2 | 1 | 1 | 1 |

| File Description | Document |
|---|-------------------------------|
| Number of Specific initiatives to address locational advantages and disadvantages | View Document |

7.1.11 Number of initiatives taken to engage with and contribute to local community during the last five years (Not addressed elsewhere)

Response: 4

7.1.11.1 Number of initiatives taken to engage with and contribute to local community year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 2 | 1 | 1 | 0 | 0 |

| File Description | Document |
|----------------------------|-------------------------------|
| Report of the event | View Document |
| Any additional information | View Document |

7.1.12

Code of conduct handbook exists for students, teachers, governing body, administration including Vice Chancellor / Director / Principal / Officials and support staff

Response: Yes

7.1.13 Display of core values in the institution and on its website

Response: Yes

| File Description | Document |
|--|-------------------------------|
| Provide URL of website that displays core values | View Document |

7.1.14 The institution plans and organizes appropriate activities to increase consciousness about national identities and symbols; Fundamental Duties and Rights of Indian citizens and other constitutional obligations

Response: Yes

| File Description | Document |
|---|-------------------------------|
| Details of activities organized to increase consciousness about national identities and symbols | View Document |

7.1.15 The institution offers a course on Human Values and professional ethics

Response: Yes

| File Description | Document |
|--|-------------------------------|
| Provide link to Courses on Human Values and professional ethics on Institutional website | View Document |

7.1.16 The institution functioning is as per professional code of prescribed / suggested by statutory bodies / regulatory authorities for different professions

Response: Yes

7.1.17 Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties during the last five years

Response: 25

7.1.17.1 Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties year-wise during the last five years

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---------|---------|---------|---------|---------|
| 5 | 5 | 5 | 5 | 5 |

| File Description | Document |
|--|-------------------------------|
| List of activities conducted for promotion of universal values | View Document |

7.1.18 Institution organizes national festivals and birth / death anniversaries of the great Indian personalities

Response:

The institution organizes several programs to commemorate the birth/death anniversaries of the great Indian Personalities. Talks have been arranged to share the thoughts and the inspiring lives of personalities like Mahatma Gandhi, Sardar Patel, Chatrapati Shivaji Maharaj, Swami Vivekananda, and several others. These programs also invite prominent speakers who are well versed in the ideologies of these great personalities. To inculcate a sense of national pride as well as inspire the students towards living a life dedicated to a higher vision are the main objectives of such initiatives.

7.1.19 The institution maintains complete transparency in its financial, academic, administrative and auxiliary functions

Response:

The institution maintains complete transparency in its financial activities by carrying out the financial audits regularly and periodically. The institution maintains complete transparency in academic activities by conducting the audit of examination question paper and answer books. As a part of best practices towards transparency, the answer books of the examinations are shown to the respective students and their grievances are addressed. The data audit and performance audit of TEQIP II and TEQIP III programs have been successfully carried out and the details of the same have been uploaded on the institution's website. The institution has outperformed on TEQIP II and TEQIP III audit. All the important decisions have been taken through the respective committees after thorough deliberations. The respective administrative committees have been listed on the institution's website. The student council forms an important part of the decision making authority and thus students are also actively involved.

7.2 Best Practices

7.2.1 Describe at least two institutional best practices (as per NAAC Format)

Response:

Following two on-going best practices have been listed:

Best Practice I:

- **Title of the Practice:**

Decentralization of autonomy to departments

- **The objective of the Practice:**

To result in efficient and effective academic and administrative functioning.

- **Intended outcome:**

The department will demonstrate the smooth functioning of administration in delivering and monitoring academics, decentralization of power & decision making

- **The Context**

Within the institute's approved academic structure, the department is authorized to make academic changes for the better learning of the students. The Department Academic Coordinator, in consultation with Head of the respective department (HoD), is empowered to make suitable changes (concurrent with the institute policies) in the delivery and monitoring of academics. HoD is the Chairman of Subject Board (SB) and he is authorized to call upon meetings of SB to seek further guidance.

- **The Practice**

Subject Board meetings are arranged every semester to present the performance of various classes of the programs, present and discuss the future plans, inform about changes in institute policy regarding curriculum, etc. The suggestions by external Academic Board (AB) members are well taken into account and recorded in the form of minutes of the meeting. The genuine points of the discussions are brought to the notice of the Director and Academic Board. The AICTE guidelines are taken as reference in formulating the curriculum.

The academics related issues like a visit to industries, declaration of student defaulters, students' academic monitoring and administration related issues like faculty duty leaves, etc are handled within the department. Department also arranges remedial coaching to slow learners for curricular/co-curricular activities. Department also encourages students for out-reach services to society. Students' organizations in the department are very active and they conduct various events under the supervision of the department's faculty.

Usually, no difficulties are experienced either by faculty or students in the department. Constraint/limitations are experienced when the budget of the activity exceeds the predetermined limit. With special permission from the Principal, the activities are then worked out. Sometimes, the programs clash with academics. HoDs are empowered to adjust/compensate for the loss of academics appropriately, for which various committees are formed.

- **Evidence of Success**

It is seen over the last few years that the practice as above has provided satisfaction to all stakeholders of the department. If the department's proposal is marginally exceeding the institute's guidelines, the Principal has provided approval to the proposal on case to case basis. This has helped the department to

improve on academic results, MoU s with Industries, the research output of the department and providing training to students and faculty on need-based issues. Through the balance sheet, it is also evident that, over the years, the budget allocation of the departments has gone up. Increased publications, student awards, etc. minutes of committee meetings & documentation have also been streamlined.

- **Problems Encountered and Resources**

With the system practiced so far, the following problems have been identified: Regular faculty strength in the department is not enough. Many of the contractual faculty in the department is young and new to the department. More faculty with enough experience need to be recruited.

- The building structure is old and enough well-furnished infrastructural facilities do not exist. It needs the modernization of building infrastructure.
- There is a limit on recurring expenses for each of department. It needs more budget on recurring items from the college.
- Any change is not easily accepted. It needs appropriate orientation to its stakeholders.

Best Practice II:

- **Title of the Practice:**

Transparency in answer book evaluation system.

- **The objective of the Practice:**

To introduce an error-free and effective evaluation system.

- **Intended outcome:**

The transparent evaluation system is intended to bring tolerance free evaluation system. Every student, the major stakeholder of the system gets the right to know the evaluation scheme and the evaluation executed of his/her answer book. This practice helps to bring complete transparency in the evaluation process and satisfaction.

- **The Context**

The examination section is the center of focus in any institute for the students, the major stakeholder of the system. The good practices of this section cultivate towards building effectiveness and efficiency of the institute. An answer book evaluation is an important activity being executed through the exam section and is important from student's point of view as well. Best practices mentioned as a transparent evaluation system is introduced with an objective to satisfy the major stakeholders and to increase the effectiveness and efficiency of the system. Hence with an aim to bring transparency in the evaluation system, the evaluation scheme and evaluated answer books are shown to each of the students.

- **The Practice**

To execute the theme of a transparent evaluation system. The calendar is prepared well in advance at the starting of the academic year) showing the detailed examination events. Along with the answer book

assessment slot, the dates to show the answer books to the students are exclusively displayed in the examination calendar. This practice gives the complete execution road map to the students. On the date of answer books to be shown to the students, the assessed answer books are distributed to the students along with the scheme of the evaluation. Students review the evaluated answer books in light of the scheme of evaluation. If any deviation is observed in the assessment, the student discusses his/her query with the Course instructor in accordance with the proposed scheme of evaluation. If the query is justified and leads to the change of marks then the same change is noted with the reason for the change of marks in the grievance form. The student's acknowledgment of the change of marks is taken by his signature on the grievance form. This grievance form is then submitted to the Head of the Department for review and approval. The approved grievance form is then submitted to the exam section for change of marks statement.

- **Evidence of Success**

The record of the grievance form shows that most of the students review the answer books on scheduled dates. Further after completion of the grievance, no complaints are received from the students. This indicates the success of the process. Further, prior to this practice, the distribution of the photocopy to students and revaluation from external examiner was implemented. The process was open-loop and students were not able to review the assessment done even after revaluation. Hence, total satisfaction was not attained in the process and the process was not leading towards transparency, also it incurred lots of inventory (photocopying of answer books, etc.). With the implementation of the new practice, any discrepancy in paper evaluation is cross-checked with the synoptic prepared by the course teacher. Hence, the process is closed-loop and leads to error-free evaluation system thus explicitly covers the quality improvement in the assessment and hence is an efficient practice. Further, the process does not incur into the utilization of inventory (photocopy of the answer books) as that of the previous practice. Hence, the process is effective too.

- **Problems Encountered and Resources**

While implementing some of the faculty members were hesitant, as this was happening for the first time, & also little low in confidence especially the newly joined ones. So this problem was tackled by providing motivation from the senior staff which boosted their confidence level & also an experienced faculty was provided while showing the answer sheets to the student for the initial evaluations

7.3 Institutional Distinctiveness

7.3.1 Describe/Explain the performance of the institution in one area distinctive to its vision, priority and thrust

Response:

The Vision of SPCE as mentioned earlier is that "Sardar Patel College of Engineering (SPCE) aspires to be an institution of national repute that will create professionals with competence and motivate research for the progress of the nation." In order to achieve SPCE has tied up with the Ministry of Higher and Technical Education of Government of Maharashtra to execute a project titled **Unnat Maharashtra Abhiyan (UMA)**. UMA aligns closely with the **Unnat Bharat Abhiyan (UBA)** mechanism of the Ministry of

Human Resource Development (MHRD), Government of India (GOI), whose vision is to bring about "transformational change in rural development processes by leveraging knowledge institutions to help build the architecture of an Inclusive India.

Sardar Patel College of Engineering Andheri (West), Mumbai is an active participant in the UMA and UBA through problem solution for Rural Population. SPCE Mumbai is focusing on field public-oriented problems by analyzing various day to day social and developmental problems in the state of Maharashtra with active participation by faculty and UG/PG/Ph.D. students. (For example, rural sanitation, toilets, drainage management, drinking water, road development, evaluation and reinforcement of roads, water conservation, fuel and energy, health, drought, etc.).

SPCE Mumbai has successfully completed a few projects through Ideas, Active Participation with Student engagement and Integration with existing projects. SPCE has introduced one course on Development Engineering for UG (Civil Engineering)

Following UG projects/PG Dissertation is completed with the aim to develop a methodology to monitor the performance of existing regional rural pipe water supply scheme:

- Feasibility analysis for improving the performance of four rural regional piped water supply schemes in Thane district. This includes:
 1. Augmentation of the Rural Water Supply scheme.
 2. Assessment of rural piped water supply scheme: a case study
 3. Monitoring and evaluation of regional rural pipe water supply scheme.
 4. Feasibility study and optimization of the piped water supply system.

SPCE Mumbai is aiming further in active participation for Rural Development with successful participation by our faculty, students and Research scholars.

SPCE has also started a value-added non-technical course called UBUNTU. The main objectives of this course are: 1. Sensitivity to deprivation and poverty in Urban India 2. To explore experiencing the joy of giving 3. To develop a life being a contributor as an integral part of one universe 4. Identifying Aided schools and undertake activities in selected thematic areas 5. Developing sensitivity to cultural diversity, encouraging harmony in community living, fostering gender equality

As part of the experiential learning, the students have to actually get involved in various service programs through which they learn the importance for an engineer to give back to society.

| File Description | Document |
|---------------------------------|-------------------------------|
| Any additional information | View Document |
| Link for Additional Information | View Document |

5. CONCLUSION

Additional Information :

Future Plans

1. Establishing Technology innovation center
2. Establishing an innovation lab.
3. Establishing a QIP center for the Mechanical & Electrical department.
4. Starting new Post Graduate Programs
5. Increase in intake for existing PG courses
6. Research Collaboration with foreign universities.
7. Implementation of the master plan as designed for new Hostel

Concluding Remarks :

Institute has observed a remarkable change in various criteria after receiving autonomy in 2010.

Based on Good performance in autonomy, institute received an extension of autonomy up to 2021.

Institute has shown exemplary performance in TEQIP-II, TEQIP-III and secured extra grants.

Based on the information, supporting data sheets in each criterion, it is concluded that the institute has put in systematic efforts in all facets of technical education in the last five years.

Institute has put in tremendous efforts in the all-round development of Students by offering all Professional, Non-Technical, Social Courses.

The institution has developed the supporting staff by offering all types of courses from leadership team building to software like tally and many more.

Faculty have been encouraged for research and innovation by offering seed money as research grant.

Institute has put in honest efforts to improve all the relevant dimensions of technical education and believe that the Accreditation committee will find the institute suitable for the highest level of accreditation.