



SELF STUDY REPORT

FOR

2nd CYCLE OF ACCREDITATION

**S. C. M. S. SCHOOL OF ENGINEERING AND
TECHNOLOGY**

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

SCMS School of Engineering and Technology (SSET), which was founded in 2001 by the prestigious SCMS Group of Institutions, is renowned for its unwavering commitment towards quality and excellence, as well as ethical principles. SSET is one of Kerala's first ten self-financing engineering colleges, and it has always been on the cutting edge of providing high-quality professional courses in traditional engineering and technology-based disciplines, as recognized by the All-India Council of Technical Education in New Delhi (AICTE). The management's visionary approach and unconditional support, combined with the concerted and dedicated service of eminent faculty, both teaching and non-teaching, and the insatiable thirst for knowledge of our energetic and spirited students, have elevated this college to the status of a centre of excellence. We focus on our internal and external customers in our pursuit of excellence, with continuous improvement in all of our activities and total stakeholder involvement. Our dream is to mold “world class professionals” to meet the present and future challenges in business and industry. Finest care has been taken to highlight the institution's quality initiatives in pursuit of our mission and vision statements.

Spread over a 22 acre lush green campus, SSET offers Graduate, Post Graduate and Ph.D programmes in various streams of Engineering and Technology. Affiliated to the A P J Abdul Kalam Technological University, Thiruvananthapuram, SSET offers courses in B. Tech - Automobile Engineering, Civil Engineering, Civil & Environmental Engineering, Computer Science and Engineering, Computer Science and Engineering (Data Science), Electronics and Communication Engineering, Electrical and Electronics Engineering, Mechanical Engineering, and M. Tech in Computer Aided Structural Engineering, Environmental Engineering, Computer Science and Information System, Communication Engineering, VLSI & Embedded Systems, Production and Industrial Engineering and Master of Computer Applications.

The Self Study Report – Cycle 2 of the institution is being presented here. Utmost care has been taken to highlight the quality initiatives taken by the institution in pursuit of our mission and vision statements.

Vision

To be a centre of excellence in providing technical education in harmony with the changing global order.

Mission

To offer technology related education of exceptional quality to students by developing their total personality with due emphasis on ethical values and preparing them to meet the growing challenges of the industry and human society.

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

- Serene campus with a well-organized teaching and research environment for last 20 years.
- Excellent central library with adequate books and journals, and a consortium for e-resources.
- Experienced, qualified, dedicated faculty.
- Healthy number of PhD completed and pursuing faculty.
- Overall Discipline of Campus.
- Outstanding and consistent performance in university examinations.
- Excellent placement record of graduates across all programs, especially in circuit branches.
- Pro-active management with a progressive vision and all - round support.
- Multidisciplinary courses under the same management.
- Exceptional academic environment for students and teachers, with good infrastructure support.
- Well-equipped Fab lab and robotics center to promote rapid prototyping and project-based learning.
- Direct involvement in public consultancy works.
- NBA accreditation.
- Internationally renowned for its established reputation, that is bolstered by illustrious alumnae across the world.
- Plethora of opportunities for curricular/co-curricular activities that promote gender equality.
- Mentoring and counselling of students are evaluated on a regular basis.
- With NSS/Sports/Cultural clubs, students receive appropriate guidance, support, and encouragement to help them grow into responsible citizens.
- Good number of research publications from the faculty and students.
- Incentives for Paper publications to motivate research activities.
- On-campus hostel for both Boys and Girls, with all nearby amenities such as Hospital, Bank (ATM) etc
- College bus facility available in all major routes.

Institutional Weakness

- Self-supporting college calling for massive investment with no financial grants or any kind of support from any other sources
- Industry- academia interface needs more augmentation.
- Faculty and student research projects into new areas to be probed.
- Require more funded projects and collaborative research in each department.
- More initiatives needed for Alumni involvement at the institution level.
- To comprehend new and critical challenges, more faculty internships/industrial trainings required.

Institutional Opportunity

- IEDC centre, Fab lab, Robotics center to enshrine innovation and startup culture.
- Locational advantage for strengthening academia-industry linkages.
- Prevalent boom in IT enabled sectors.
- Alliances with R&D organizations in India and abroad to optimize learning outcomes.
- Feasibility of student projects to patents and Incubations.
- Streamlining collaborative research with research institutions.

- Hub for society beneficial interdisciplinary and community-based research and projects.
- Sustaining the autonomy of the institution by making more research guides available.
- MOU with Industries.
- Water Institute, Robotics Center, and IEDC to attract government and private sector projects.
- Conducting socially relevant activities/program for the benefit of local community.
- Exposure to experts through webinars and invited talks, including Dr Pradeep P Thevanoor talks.
- Incubation center for both urban and rural entrepreneurs.
- Induction of inter-departmental research orientation.
- Improve industry connectivity by increased alumni interaction.

Institutional Challenge

- More placement in core companies.
- Coping with changing cutting-edge technologies.
- Premium institutions' competitive pressures and the proliferation of new colleges.
- Keeping pace with the rapid changes in higher education.
- Phenomenal gap between academia and industry.
- Encourage interdisciplinary courses.
- NBA accreditation for all branches.
- Reigniting the interest in core engineering streams and improving admission.
- Reduced admission due to lack of interest in PG courses.
- Lack of interest among bright engineers to pursue research as a career.
- Full time Internship opportunity not available for final year B. Tech students.

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

We value learning and teaching, knowledge and engagement, and service performance and assess and evaluate them on a regular basis as part of our organizational culture and core values. SSET's ISO 9001:2008 certification for quality teaching systems in engineering and technology subjects by RINA, Italy has helped to establish its credentials as a quality-oriented institution. All Mahatma Gandhi University, Kottayam/A P J Abdul Kalam Technological University, Thiruvananthapuram courses are self-financed. We diligently follow the academic calendar prescribed by the university and prudently delivers on time, the curriculum fixed by university. Using the university calendar as a guide framework, the college develops an academic schedule for each semester that includes information about internal assessments, as well as an annual calendar that includes all of the college's and individual departments' activities. Class wise time table and faculty time table are prepared before the commencement of the semester. By soliciting feedback from students, parents, and

employers, the institution ensures quality teaching and contributes to the faculty's competency. SSET renders conscious efforts to enrich and arrange the curriculum provided by the affiliating university in order to promote holistic development and make our students employable.

To transform students from engineering graduates to engineers, skill development programmes, value-added programmes, personality development programmes, entrepreneurial activities, and other activities are organized. SSET has made every attempt to incorporate cross-cutting issues such as gender, climate change, environmental education, human rights, ICT, and so on into the curriculum and, more often, through other indirect means SSET's core strength is its highly qualified, motivated, and committed faculty team, that is a fine blend of experience and youth dynamism. Senior professors make a concerted effort to mentor junior faculty members by providing advice on teaching methodology, selecting the appropriate pedagogy, and supervising programme delivery, in addition to teaching responsibility. The young faculty, for their part, worked extremely hard to mould the students into next generation professionals by constantly monitoring their performance and providing them with the necessary guidance and advice. This effort by the faculty contributes to the transformation of students into exceptional professionals by the time they graduate.

Teaching-learning and Evaluation

Aligning with University's guidelines, different pedagogies have been accomplished to enhance the teaching and learning process, which is being pursued through semester system. Faculty serve as a facilitator, assisting students in realizing their full potential by creating a supportive, challenging, and stimulating learning environment. The academic calendar and course plan for each subject are planned in advance, and a well-structured framework for course delivery and subject allocation ensure accuracy. Extra reading, flipped classrooms, collaborative and interactive learning, and the use of audio-visual aids focus on student-centered learning. Slow learners are identified based on the results of formative and summative assessments, and they are counselled and scheduled for remedial classes, as well as bridge and enrichment courses in a variety of subjects during the summer vacation. Counselling, mentoring, and personality development render academic, personal, and psychosocial support to students. Advanced learners are encouraged and guided to present papers at seminars and conferences, compete in technical fests/quiz competitions, work on innovative/challenging projects, research level projects, and participate in the institution's R&D activities. As a catalyst for critical thinking, creativity, and scientific temper, the institute has a good library with full-time internet access, a good collection of latest books in various disciplines, and subscriptions to various magazines and journals. Seminars, conferences, and workshops expose students to advanced levels of knowledge and skills, and guest lecturers and industry experts enrich them. The Innovation and Entrepreneurship Development Centre, makes a concerted effort to instill and nurture critical thinking, creativity, and scientific temper in students. The institution has always strived to recruit and retain the best quality teachers who are competent, experienced, and experts in their field of study, and faculty receive full support for their overall growth and development. SSET's Staff Development Policy aims to improve faculty knowledge in their subject areas and to provide innovative approaches to devise pedagogical tools for the teaching-learning process, while also recognizing and supporting faculty in their role as educators. Feedback from students, evaluation of semester-end university exam results, feedback from placement cell, recruiters, and open house meetings with parents are all used to monitor and evaluate the teaching-learning process.

Research, Innovations and Extension

SSET has a robust Research Department, which identifies and nurtures the innovation and creativity of students

and teachers across all streams. We have established Memorandums of Understanding (MOUs) with institutions and academicians to enrich academic and innovative research activities across its various departments, thereby contributing to technological growth, meeting societal needs, ensuring the safety of health and the environment, and protecting each individual's intellectual property. With the cooperation and technology support of the University of Applied Sciences, Weingarten, Germany, the SCMS Water Institute (SWI) is being devised as a center of excellence to solve water and water-related problems as an Indo-German Project (UAS). Several GWP members are interested in water-related projects, and they are working with SWI to fine-tune the excellent German water technology so that it can be optimally standardized for Indian local conditions, thereby solving the country's water-related problems. The Mechanical Engineering Department has a one-of-a-kind FMS (Flexible Manufacturing System), a fully automatic, computer-aided, and robotic-enabled processing workstation, as well as a highly sophisticated 3D scanner and printer. The institution has given the principal investigator autonomy to plan, design, and execute research projects in order to ensure smooth progress and implementation. The financial, manpower, and technical resources are released to allow for a smooth execution of the projects. Labs, a library, a computer center, and a reprographic facility are all part of the institution's infrastructure. Staff consultancy work are encouraged as it enriches the faculty knowledge. We are keen to promote institute-neighbourhood-community network and recognizes the relevance and importance of service learning via units like NSS, Helping Hands Organization, and H2O, which have the potential to make classroom learning more meaningful in order to make students more socially aware and responsible. Computer literacy programmes, e-literacy programmes for housewives, legal literacy programmes, rainwater harvesting training, rejuvenation of water sources in surrounding areas, awareness campaigns on social issues, and blood donation camps are just a few of the social drives carried out by these organizations.

Infrastructure and Learning Resources

The tranquil ambience fosters an ideal teaching and learning environment, which is supported by a well-defined infrastructure. To stay competitive with the fast pace of technology, timely updates are enhanced with the constant support of proactive management. Dr. Pradeep P Thevannoor Learning Resource Centre, provides a fully integrated and dynamic environment for academic study and research. Our central library has been recognized and hailed for having the best information sources and services. Computer labs are equipped with sufficient number of latest machines which are networked and provided with internet facility to assist both faculty and students. The lab and computer facilities are constantly innovated and upgraded and state-of-the-art equipments and machines are regularly added to provide cutting edge instructional facilities. Special emphasis is given to the maintenance of sensitive equipment, lab equipment, LCD projectors, and so on. The proper maintenance of equipment and infrastructure is ensured by annual maintenance and timely servicing. Our vision is to improve students' innovation and creative thinking skills, allowing them to develop good socially relevant projects, prototype them, and help them find funding/incubation from government/private sources to start a business or be good innovators. IEDC and FAB Lab fine tune each student's innovative skills and foster them for societal benefit. SSET places a special emphasis on developing students' artistic abilities through strong support for co-curricular and extra-curricular activities. Various student-initiated club fosters their artistic abilities, allows them to hone their organizational skills, and fosters a spirit of sportsmanship and cooperation. We value our students' athletic abilities equitably to their academic abilities, and sports club encourages and facilitates systematic training of talented students in a variety of sporting events, both outdoor and indoor games. Our students' consistent performance in a variety of sporting events at intercollegiate and university levels illustrates the importance of sports in the SSET. Students' progressive and all-around behaviour is sealed by initiatives like NSS and H2O. Well-lit classrooms, seminar halls, research space, gymnasium, open-air auditorium, language lab, first-aid facility, hostel facility for boys and girls with recreation area, canteen, playground, parking facility, gymnasium, exemplify the institution's interest in the welfare of students.

Student Support and Progression

Manual of Policies given to the students provides them with a very clear picture of the framework within which the institution functions. SSET places a strong emphasis on curricular, extracurricular, and co-curricular activities, which are an important part of a student's overall development as a responsible citizen. Students are encouraged to participate in a variety of activities in order to help them develop diverse facets of their personalities. The institution's management places a high value on student progression to higher levels of education and/or placement, and all measures are taken to ensure this smooth progression. All students have access to resources such as career counselling and placement, grievance resolution, and other welfare measures. Slow learners are given special attention, and students of high calibre are encouraged to develop their research skills. Institution's Placement Cell supports students' training and placement services and ensures that visiting organizations' campus recruitment programmes run smoothly and efficiently. The institution's excellent placement record affirms to the high quality of education it provides to its students. Industry Institute Interface (III), guest lectures, and industrial visits are all planned to broaden students' understanding of real-world situations. The Personality Development Programmes (PDPs) & technical trainings conducted by expert trainers from Infosys and ICT Academy of Kerala transform the personality of students. At SSET, PDPs are a regular feature and is spread over entire four years that a student spends at campus. Group Dynamics, Interpersonal Skills, Presentation and Communication Skills, Time and Stress Management, Assertiveness, and other topics are shrouded in these training programmes. Individuals are developed into self-assured young people who are prepared to confront any challenges that their lives and careers may yield. SSET maintains an affable relationship with alumni by dedicatedly conducting alumni chapters and alumni meets at the campus. During such alumni meets former faculty who are known to particular batch of students are also invited. Students of SSET have organized alumni associations in all major cities of India. They have been a source of strength to SSET as they are ones who spread name of our institution far and wide as a centre of excellence.

Governance, Leadership and Management

The quality policy is framed by Top Management and implemented by the principal and faculty, who are also actively involved in the design and finalization of various action plans for implementation. The teaching and learning objectives are primarily met through approved course plans, and faculty members in their respective specializations are actively involved in the design and formulation of the course plan. Evaluation, counselling, mentoring, conducting remedial sessions for weaker students, and organizing project work are all accomplished in collaborative efforts with faculty and staff. The principal, with the assistance of the Heads of Departments, is in charge of monitoring and follow-up, which is done through periodic reviews of various action plans. Faculty with strong leadership potential are identified during academic sessions, group activities, and interactions, and assigned specific roles in important academic and administrative activities. An open communication policy establishes a strong bond with all levels of management, ensuring smooth operation. The institution has a quality policy that has been developed over time through a process of reviewing and refining it on a regular basis. Our long-term development strategy focuses on systematic improvements in teaching and research with the goal of achieving deemed university status with a global presence. Faculty involvement is encouraged by holding an open forum in which faculty opinions and suggestions are solicited and followed up on. Students can offer suggestions and make requests to their mentors through the mentoring system, which facilitates feedback on institutional performance. Alumnae feedback is taken when they visit the campus and is effectively used for institutional development. Faculty members actively participate and support curriculum development,

delivery, and assessment within the overall framework of the University-approved programme. Yearly budgeting and financial planning for institutional infrastructure is promptly maintained and internal audits are evaluated by an external agency. Fees from students, income from research and consultancy, and interest on fixed deposits with banks are the primary source of institutional receipts. The institutional policy on quality assurance aims to continuously improve the effectiveness of SSET's quality Management System by providing quality education to students through excellent infrastructure, teaching and learning, and employee training.

Institutional Values and Best Practices

College has adopted best practices like Strategic planning for Institutional development, Industry - Academia Linkages, Technology Transfer for Societal Improvement, Campus Automation, Effective Utilization of Free and Open-Source Software to be a centre of excellence. Our institution provides excellent education and fosters activities that help our students become socially productive and value-oriented citizens. This institution has always been concerned about environmental and climatic issues, and efforts are made to keep the campus as environmentally friendly as possible. SSET fosters an innovative culture through the Innovations & Entrepreneurship Development Cell (IEDC), workshops, research projects, project competitions, collaboration with the Kerala Start-Up Mission, and development of a Fab Lab. IEDC has been initiated at SSET to create an environment with infrastructure required for students and faculty to innovate and prototype their potential ideas and to receive support from government, industry, and reputable academic institutions worldwide. We showed a keen interest in formalizing many projects at FAB Lab that contribute to human benefits and safety. Students are encouraged to participate in workshops and idea pitching competitions organized by the IEDC in order to develop their research skills. The CREATIVO competition, which is open to all students from the SCMS group of institutions, is held annually to identify, promote, and celebrate outstanding talents whose innovative ideas can be demonstrated and commercialized. Dr. Pradeep P. Thevannoor Innovative Awards (PPTIA) is one such initiative designed to meet the needs of global innovation and startup culture. The SCMS Water Institute (SWI) is envisaged to be a Center of Excellence in the coming years to solve water related problems as an Indo-German Project with the cooperation and technology support from the University of Applied Sciences, Weingarten, Germany (UAS). Initiatives such as concerted efforts to conserve electricity and water are undertaken, and rainwater harvesting is carried out and routed to a well on campus. The college is all set to start an incubation center, enabling to build a start-up culture among the students. The faculty members are awarded by research incentives considering research projects and publications which has enhanced the morale, productivity and research culture of faculty at SSET.

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the College	
Name	S. C. M. S. SCHOOL OF ENGINEERING AND TECHNOLOGY
Address	Vidya Nagar, Palissery, Karukutty
City	Ernakulam
State	Kerala
Pin	683576
Website	scmsgroup.org/sset/

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Principal	Praveensal C. J	0484-2882901	9446763487	-	sset@scmsgroup.org
IQAC / CIQA coordinator	Anitha G Pillai	0484-2882900	9497775295	0484-2623885	anithagpillai@scmsgroup.org

Status of the Institution	
Institution Status	Self Financing

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 of the college	27-06-2001

University to which the college is affiliated/ or which governs the college (if it is a constituent college)

State	University name	Document
Kerala	A.P.J. Abdul Kalam Technological University	View Document

Details of UGC recognition

Under Section	Date	View Document
2f of UGC		
12B of UGC		

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	02-07-2021	12	

Details of autonomy

Does the affiliating university Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges?	No
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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	Vidya Nagar, Palissery, Karukutty	Rural	21.96	37972.66

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,Auto mobile Engineering	48	XII	English	60	10
UG	BTech,Civil Engineering	48	XII	English	90	20
UG	BTech,Civil Engineering	48	XII	English	30	2
UG	BTech,Comp uter Science And Engineering	48	XII	English	60	56
UG	BTech,Comp uter Science And Engineering	48	XII	English	120	120
UG	BTech,Electr ical And Electronics Engineering	48	XII	English	30	11
UG	BTech,Electr onics And C ommunicatio n Engineering	48	XII	English	60	40
UG	BTech,Mech anical Engineering	48	XII	English	120	49

PG	Mtech,Civil Engineering	48	B. Tech	English	18	15
PG	Mtech,Civil Engineering	48	B. Tech	English	24	14
PG	Mtech,Computer Science And Engineering	48	B. Tech	English	18	0
PG	Mtech,Electronics And Communication Engineering	48	B. Tech	English	18	0
PG	Mtech,Electronics And Communication Engineering	48	B. Tech	English	9	0
PG	Mtech,Mechanical Engineering	48	B. Tech	English	18	0
PG	MCA,Master Of Computer Applications	48	Degree	English	30	18
Doctoral (Ph.D)	PhD or DPhil,Computer Science And Engineering	48	M. Tech	English	6	5

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	0				0				0			
Recruited	0	0	0	0	0	0	0	0	0	0	0	0
Yet to Recruit	0				0				0			
Sanctioned by the Management/Society or Other Authorized Bodies	8				18				107			
Recruited	6	2	0	8	7	11	0	18	37	70	0	107
Yet to Recruit	0				0				0			

Non-Teaching Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				29
Recruited	19	10	0	29
Yet to Recruit				0

Technical Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				0
Recruited	15	17	0	32
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/LLD/DM/MCH	0	0	0	0	0	0	0	0	0	0
Ph.D.	6	2	0	7	6	0	3	3	0	27
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0	0	0	0
UG	0	0	0	0	0	0	0	0	0	0

Temporary Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt/LLD/DM/MCH	0	0	0	0	0	0	0	0	0	0
Ph.D.	6	2	0	7	6	0	3	3	0	27
M.Phil.	0	0	0	0	1	0	0	0	3	4
PG	0	0	0	0	4	0	34	64	0	102
UG	0	0	0	0	0	0	0	0	0	0

Part Time Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt/LLD/DM/MCH	0	0	0	0	0	0	0	0	0	0
Ph.D.	6	2	0	7	6	0	3	3	0	27
M.Phil.	0	0	0	0	1	0	0	3	0	4
PG	0	0	0	0	4	0	34	64	0	102
UG	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
UG	Male	242	0	20	0	262
	Female	111	0	10	0	121
	Others	0	0	0	0	0
PG	Male	12	0	0	0	12
	Female	35	0	0	0	35
	Others	0	0	0	0	0
Doctoral (Ph.D)	Male	3	0	0	0	3
	Female	2	0	0	0	2
	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	6	3	6	8
	Female	4	1	2	0
	Others	0	0	0	0
ST	Male	0	0	0	0
	Female	0	0	0	0
	Others	0	0	0	0
OBC	Male	132	127	99	109
	Female	84	80	48	62
	Others	0	0	0	0
General	Male	119	118	97	103
	Female	60	77	42	57
	Others	0	0	0	0
Others	Male	0	0	0	0
	Female	0	0	0	0
	Others	0	0	0	0
Total		405	406	294	339

Institutional preparedness for NEP

<p>1. Multidisciplinary/interdisciplinary:</p>	<p>Since its inception, SSET has always primed for societal transformation by accepting and confronting socially responsible challenges. As we are an affiliated institute, our curriculum is predetermined, and our options for multidisciplinary and interdisciplinary education are limited. Minors (2015 scheme) and Non-Departmental Electives (2019 scheme) have been added to the curriculum to encourage students to take a proactive approach to education by allowing them to choose their elective subject from outside their domain. Nevertheless, beyond the curriculum the efforts are being taken by way of seminars, webinars, workshops, projects etc. to give exposure to students outside their domain</p>
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	<p>knowledge. SCMS Water Institute (SWI) was established in 2010 to address the water related environmental problems affecting the society by focusing on the aspects related to urban water security management through multidisciplinary efforts. As on date we provide continuous support to local self-governments in Kerala, Kochi Municipal Corporation, Thrissur Municipal Corporation, Guruvayur Municipality, Meloor Grama Panchayath, Koratty Grama Panchayath, Kochi Metro Rail Ltd (KMRL), Cochin International Airport Ltd (CIAL) and various academic institutions in Kerala to address their environmental challenges. Students from various departments of SCMS School of Engineering & Technology get opportunity to work with SWI to get exposure on real life projects. The pandemic Covid-19 has altered our entire way of life and work. With the lack of pharmaceutical interventions to control the spread of the virus, vivid containment, isolation, tracking and other measures were brought into place to avert a community spread. Regardless of the hurdles and restrictions faced by the global academic researchers, we focused to invest time and technology to promote awareness and research on COVID-19 at institution level. We initiated to develop cost-effective & innovative inventions through an interdisciplinary faculty-student partnership model using the existing facilities at SCMS School of Engineering & Technology, that could better equip the COVID-19 frontline workers to fight the pandemic. To list a few innovations that came out of FAB Lab includes Automatic Sanitizer dispenser, Splash Protection Face Mask, Reusable N95 Compatible Face Masks, IR Based Automatic Door Openers, Ventilator Splitter, IR Based Hand Sanitizer Dispenser, SCMS Disinfecting Box, SCMS Biodegradable Disposal Unit for used Masks and Gloves, Automatic Respiratory Assistance for Ventilator etc. The indigenous faculty student partnership has been the key ingredient in coming up with challenging solutions. The various supporting products related to COVID -19 has been made into a reality at the FABLAB-SSET where students from different disciplines work.</p>
2. Academic bank of credits (ABC):	As of now, the Academic Bank of Credit system is not integrated into the curriculum and we do not have an option for a credit bank. But the students do have

	<p>an option of gaining credit and additional credit points within the curriculum. Students pursuing a B. Tech degree can earn a total of 180 credits under the 2015 curriculum and 160 credits under the 2019 curriculum. In addition, 2 credits can be earned as part of the mandatory activity points, by way of participation in co-curricular, extracurricular activities, undergoing internships, undertaking MOOC courses etc. An additional 20 credits each can be obtained by choosing honors and minors during their graduation. Of which, they are liable to account 8 credits through MOOC courses such as NEPTL, Coursera, and SWAYAM. Apart from their main stream of education, knowledge imbibed through online and minors enriches their employability skills also. The modern era is driven by digital technology, and the internet and World Wide Web have influenced the entire globe. Being up to date on the latest techniques and technologically savvy allows the learner to be more career-focused.</p>
<p>3. Skill development:</p>	<p>Our curriculum is more holistic and integrated, incorporating humanities, language, culture, arts, crafts, science and mathematics. We strive ahead with an objective to facilitate students in becoming more career focused by developing their academic expertise as well as overall improvement in essential soft skills and interpersonal skills. It connotes a shift away from a rigid course selection process towards a competence-based learning, which allows students to improve their core essential skills. SSET primarily focus on fostering students' entire human personality by allowing them to participate meaningfully not only in their profession, but also in their family, society, and natural environment, ultimately leading to a just and equitable society. We have already taken initiative to incorporate education on human values and several faculty members have already participated in the AICTE FDP on Universal Human Values in an endeavor to impart it to the students and is being done during the Student Induction Programmes. With the vision to involve professional and higher educational institutions in the development of rural areas in the country and to achieve sustainable development and a better quality of life various activities have been instigated like NSS, H2O and Unnat Bharat Abhiyan (UBA). These initiatives aim to build and strengthen a strong</p>

	<p>institutional neighbourhood network with a vision of rural development. We have established links with five neighbouring villages in Ernakulam and Thrissur Districts, Karukutty, Kochi, Koratty, Melur, and Palissery, as part of UBA program. Various departments have also served to broaden their reach toward the betterment of society by honing their engineering skills for the common good. With such initiatives, faculty and students indeed enlarge their knowledge and enhance their skills. The National Skills Qualifications Framework (NSQF) is a nationally integrated education and competency-based framework that enables individuals to achieve desired competency levels which categorize qualifications based on a set of knowledge, skills, and aptitude levels. These levels are defined in terms of learning outcomes that the learner must have regardless of whether they were obtained through formal, non-formal, or informal learning. In 2021, we took the first step by joining the Kerala government's Additional Skill Acquisition Programme (ASAP), which aims to raise student awareness and bring them into the skill development ecosystem. ASAP bridges the gap between industry and academia by emphasizing student employability and placement.</p>
<p>4. Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course):</p>	<p>As an affiliated institution, we are obliged to strictly adhere to the curriculum's norms and regulations. University exams and the assessment procedures for students are in English. So, a mixed approach of both English and vernacular language is used for teaching and learning process. The combination of both languages enables students to comprehend their subject knowledge with the assistance of teachers. As our faculty members are from Kerala, students benefit more from the process of learning and unlearning. Apart from classroom learning, online education also allows them to expand their knowledge in both languages. Teachers have already engaged themselves in contributing to translate NPTEL courses into the regional dialect, Malayalam language.</p>
<p>5. Focus on Outcome based education (OBE):</p>	<p>Outcome Based Education (OBE) frame work is used to fix the outcomes expected from students at the end of the programme and also in their career. Ways and means for attaining these outcomes are devised by the institution & departments. Through a process of predefined evaluation, feedback, corrective measures,</p>

and continuous improvement, we optimize the student-centric teaching learning process. Our initiatives align with NEP and OBE frameworks, which encourage students to be productive and contribute to nation building through their own innovations and contributions. Since SCMS School of Engineering and Technology is an affiliate to Kerala Technological University (KTU), it's a tier-II institution under OBE frame work of NBA. We adhere to the OBE frame work, by evaluating both quantitatively and qualitatively the different predetermined outcomes such as course outcomes, programme outcomes and programme specific outcomes throughout the entire process. To establish the correlation between a CO to certain - POs and PSOs, the degree of closeness of each CO towards those POs and PSOs are identified. NEP enhances the educational system to recognize, identify and foster the individual students to mould them with required skill sets. We maximize curriculum flexibility by allowing students to choose courses within programmes based on their interests and abilities. But when under the university system, courses under any programme will be decided by the university with a little freedom of choice to students in the form of electives, seminars and projects. During 2015 scheme course outcomes and syllabus of the programmes under KTU were fixed by the faculty concerned. But from 2019 scheme onwards, the COs are already fixed by the university along with the syllabus of the course. Still we could find the gap with present technology and industry needs to organize required programmes, delivering special trainings, conducting add-on courses, delivering open ended questions in the assignments and projects. Core curriculum encourages our students to take interdisciplinary courses in the Arts, Science, Humanities, Management, sustainable technologies, and environmental science knowledge, as well as core engineering subjects, which helps them to be more career oriented. Multidisciplinary and holistic approach develops critical thinking and creativity of students in various field. Outcomes in the OBE framework are attained not only through summative assessment methods, but also through a variety of other indirect methods. Our initiatives for start-ups, internships, industrial visits, and other curriculum activities along with faculty contributions, are all

	<p>aligned with the OBE and NEP framework. We prioritize research and consulting because, according to OBE, they are critical to the long-term viability of higher education institutions. SSET has a proven track record in the research publications and consultancy which enhances the students to have a correlation between what they study and what happens in industry and research. Continuous review which is the most important part of NEP 2020 is satisfied while OBE is implemented. Different regulatory bodies involving the industry, R&D, top, middle and lower-level management personnel of the institution clearly evaluate feedback from stakeholders and critically guides to the continuous improvement.</p>
<p>6. Distance education/online education:</p>	<p>After the initial chaos of the Covid pandemic, SSET decided to resume the teaching/learning process remotely. As an initial step towards remote learning, it was decided to create digital learning resources, both textual and visual, for the course contents to continue the previous classes. These course contents were communicated to the students through Google Classroom. The academic council took care of the whole procedure, ensuring that all courses were assigned within Google Classroom and the entire students of the respective classes could access the learning resources. After posting the contents, teachers carried out discussion sessions with the students through different online conferencing platforms, including Google Hangouts Meet, Google Meet, Microsoft Team, WebEx, Zoom, etc. This flipped mode of teaching/learning is adopted for a while, and later teachers started presenting the course content through the conferencing platforms and then posted the resources in the Google Classrooms. Student satisfaction on the remote teaching/learning process is evaluated, and corrections were made wherever necessary. Project guidance and evaluations, remedial classes, and mentoring sessions were also conducted through the online conferencing platforms. With a proper timetable, SSET took the entire classes to run online and completed the studies and internal examination in the time frame advised by the university. Google Classrooms and Google Meets were made accessible by the heads of departments, and continuous monitoring is done to ensure the quality of course delivery. Periodic Class</p>

Committee Meetings helped to align the teaching/learning process with student needs. The practical sessions were conducted live for all laboratories where there is a possibility of online/offline simulator tools. The staff filmed the experiments done in the SSET laboratory, and the video is sent to the students. Virtual labs are also made use to teach skills to the students. SSET became a part of the Coursera for Campus Campaign in 2021. In addition to Coursera, SSET encouraged students to do NPTEL courses as well. A good number of webinars, workshops, and talks have been conducted by all departments, where students get a medium to interact with the supporters from Academia and Industry as well as our alumni. Students were also encouraged to be part of online-hackathons and other peer-driven activities to interact with the outside world. The Student Chapters of Professional Bodies are also encouraged to conduct activities exploring the seamless opportunities opened through Internet and Communication Technologies. Extra-Curricular Activities like the Onam celebrations of 2020 were conducted entirely in online mode through the Instagram platform. Students explored the online forum features to run all the technical events too without any degradation in knowledge sharing as it is live on the campus.

Extended Profile

1 Program

1.1

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

2020-21	2019-20	2018-19	2017-18	2016-17
502	469	539	546	468
File Description		Document		
Institutional data prescribed format		View Document		

1.2

Number of programs offered year-wise for last five years

2020-21	2019-20	2018-19	2017-18	2016-17
14	14	14	14	14

2 Students

2.1

Number of students year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
1389	1519	1848	2211	2384
File Description		Document		
Institutional data in prescribed format		View Document		

2.2

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

2020-21	2019-20	2018-19	2017-18	2016-17
130	158	149	169	170

File Description	Document
Institutional data in prescribed format	View Document

2.3

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

2020-21	2019-20	2018-19	2017-18	2016-17
0537	597	655	641	569

File Description	Document
Institutional data in prescribed format	View Document

3 Teachers

3.1

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

2020-21	2019-20	2018-19	2017-18	2016-17
138	141	168	167	175

File Description	Document
Institutional data in prescribed format	View Document

3.2

Number of sanctioned posts year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
138	141	168	167	175

File Description	Document
Institutional data in prescribed format	View Document

4 Institution

4.1

Total number of classrooms and seminar halls

Response: 63

4.2

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

2020-21	2019-20	2018-19	2017-18	2016-17
758.634	1054.164	1060.074	1144.389	1033.707

4.3

Number of Computers

Response: 774

NAAC

4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curricular Planning and Implementation

1.1.1 The Institution ensures effective curriculum delivery through a well planned and documented process

Response:

- The College ensures effective curriculum delivery through a well-planned and documented process. In curriculum related activities, academic freedom is enjoyed by the faculty. They actively participate and support the curriculum development, delivery, and assessment within the overall framework of the program approved by the University.
- The institution follows the academic curriculum designed by A P J Abdul Kalam Technological University (APJAKTU). The curriculum provided by the university has got a balanced structure comprising Humanities, Basic Science, professional core and elective courses. In 2019 the curriculum had been revised after the first introduction of curriculum in 2015 by APJAKTU. The University has taken into consideration the Outcome Based Education Parameters and the curriculum has been prepared such that it helps in the attainment of Programme Outcomes to a large extent. At the same time within the institution, efforts are taken to assess the curriculum and syllabus and additional measures are taken to help attainment of PO's and PSO's.
- The academic calendar is published by the university every year before the commencement of the classes. The college plans the academic schedule as per APJAKTU's academic calendar. It details the academic activities for the semester, and provides schedule for conduct of class/course committee meetings, continuous internal evaluations as well as commencement date of end semester examinations.
- Course allotment is done well in advance, for faculty to prepare course plan, and for effective planning and preparation by the faculty for fruitful curriculum delivery. Before the commencement of the semester a detailed course plan has to be prepared for each course by the concerned faculty and duly approved by the Head of the Department and the Principal. The concerned teachers prepare their subject-wise lesson plans. The lesson plan incorporates topics to be covered and, the number of hours needed for completing each topic.
- The timetable committee prepares time table in adherence to the requirements specified by APJAKTU based on which teachers conduct classes. For ensuring adherence to academic calendar, course diary is prepared and maintained for each course by the respective faculty.
- Meetings are arranged periodically to review the coverage of syllabus in the respective departments and suitable corrective measures are adopted to complete the syllabus within the stipulated time. The adherence to academic calendar is also verified in course committee/class committee meetings and during academic audits done internally and externally. Internal academic auditing committee monitors the adherence to academic calendar and all the academic activities. This is followed by an external audit by the University.

- Continuous Internal Assessments (CIE) are conducted in accordance with the university academic calendar. For the effective transmission and delivery of curricula, departments integrate classroom teaching with various ICT tools, laboratory practical, field projects, students' seminars, tutorials, question papers solving etc.
- Special classes and remedial classes are conducted for students lagging in understanding concepts and to bring them at par with the rest of the class. Bright students are encouraged and assisted to improve upon the academic grades. For enhancing subject knowledge invited talks, workshops, seminars, conferences etc. are organised.

File Description	Document
Upload Additional information	View Document
Link for Additional information	View Document

1.1.2 The institution adheres to the academic calendar including for the conduct of CIE

Response:

- The affiliating University provides an academic calendar every year including details such as semester start and end dates and date within which internal tests are to be completed, dates for theory/practical End Semester Examination.
- Based on this, the Institution prepares an academic schedule detailing the dates of internal assessments, following the timelines stipulated by the University allowing teachers and students to space out their teaching learning planning and enabling proper preparation.
- Examination cell with representatives from all departments is responsible for effective conduct of internal tests. A question paper scrutinizing committee is formed at the commencement of the semester in all departments, consisting of subject faculty, course chairman and programme coordinator. Answer scripts are valued in a time bound manner and returned to the students. Parents are kept updated on their ward's performance.
- Based on the CIEs internal marks are awarded by each subject teacher. The internal marks and attendance are entered in the university portal by the corresponding subject faculty prior to the University Examination.
- The university examinations dates are scheduled by the university. Examination Cell with a senior professor as convener and acting as the Chief Superintendent of Examinations assisted by Senior Assistant Superintendent and a group of faculty members is responsible for conduct of end semester examinations, as per guidelines published by University in the Examination Handbook.
- The available invigilator list is collected from each department through the exam cell members. Invigilation schedule, seat allocation for the students, downloading of the question papers and distribution to classes, uploading the absentees list etc. are done by members of the examination cell. For the university exam, the invigilator to student ratio is 1:30.
- IQAC monitors the process and ensures the proper execution of this process by providing timely guidance in the preparation of timetable, issuing necessary guidelines for conduct of exams adhering to the norms issued by the University from time to time, providing question paper formats

etc.

- With the outbreak of the pandemic the planning was disrupted towards the end of the even semester in March 2020. After the initial chaos of few days, SSET resumed the teaching/learning process and evaluations remotely. SSET, as a dynamic community, embraced the new normal quickly. In addition to following the University guidelines scrupulously the IQAC laid out guidelines to ensure that class tests, quizzes etc. are undertaken in an effort to ensure students are evaluated to ensure effectiveness of online learning. At the same time except for a single session of examinations all the end semester examinations by the University were conducted by institution in offline mode taking into due consideration all the norms laid out by the University.
- All these ensures, provision for planning and preparing course plans for the semester by faculty, proper execution of course plans by faculty members and completion of syllabus on time, keeping students & faculty aware of various events, keeping students aware of the various modes of CIE and further helping them in early planning and preparation for internal assessments /university examinations.

File Description	Document
Upload Additional information	View Document
Link for Additional information	View Document

1.1.3 Teachers of the Institution participate in following activities related to curriculum development and assessment of the affiliating University and/are represented on the following academic bodies during the last five years

1. Academic council/BoS of Affiliating university
2. Setting of question papers for UG/PG programs
3. Design and Development of Curriculum for Add on/ certificate/ Diploma Courses
4. Assessment /evaluation process of the affiliating University

Response: B. Any 3 of the above

File Description	Document
Institutional data in prescribed format	View Document
Details of participation of teachers in various bodies/activities provided as a response to the metric	View Document
Any additional information	View Document
Link for Additional information	View Document

1.2 Academic Flexibility

1.2.1 Percentage of Programmes in which Choice Based Credit System (CBCS)/ elective

course system has been implemented**Response:** 92.86**1.2.1.1 Number of Programmes in which CBCS / Elective course system implemented.**

Response: 13

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document
Link for Additional information	View Document

1.2.2 Number of Add on /Certificate programs offered during the last five years**Response:** 6**1.2.2.1 How many Add on /Certificate programs are offered within the last 5 years.**

2020-21	2019-20	2018-19	2017-18	2016-17
1	3	0	1	1

File Description	Document
List of Add on /Certificate programs	View Document

1.2.3 Average percentage of students enrolled in Certificate/ Add-on programs as against the total number of students during the last five years**Response:** 12.23**1.2.3.1 Number of students enrolled in subject related Certificate or Add-on programs year wise during last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
213	84	0	421	506

File Description	Document
Details of the students enrolled in Subjects related to certificate/Add-on programs	View Document

1.3 Curriculum Enrichment

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

Response:

The Institution devotes much of its time to render value education to students through various courses like **Life skills, Professional Ethics and Constitution of India**. Institution also offers education related to environmental sustainability preparing them to create an awareness of ecological balance without depleting natural resources. The courses like **Introduction to Sustainable Engineering, Environment and Pollution, Air Quality Management, Environmental Engineering I, Environment Impact Assessment, Environmental Engineering II, Municipal solid waste management, Disaster Management, Environment Impact Assessment, Sustainable Engineering**.

- The course **Life skills** enables students to learn competencies related to mind and people that provide the means for an individual to be resourceful and positive while taking life's vicissitudes. It includes being aware of the self, connecting with others, leading and generating change and most importantly, staying rooted in time tested values and principles.
- The course **Professional Ethics** is a study of ethical principles and of ethical problems in personal and professional life. The course includes lectures, discussions, case analyses and also the study of code of ethics. The students are able to analyse a philosophical argument on a specific problem or question in professional ethics. They are able to apply specific ethical theories to current issues using the case study method. The course helps students to prepare for what to do when they are faced with ethical dilemmas throughout their life. The course discusses about the understanding of harmony in human beings, with nature and its co-existence.
- The course **Constitution of India** focuses on the themes of human values and ethics. It teaches general awareness about the Union and State, Public Services and Administrative Tribunals imparting Human values in the budding professionals.
- **Environment and Pollution** helps learners to know about various types of environmental and industrial pollution, pollutants, related diseases and their causes, also various management techniques available for pollution abatement.
- **Air Quality Management** deals with various forms of air pollutants and their effects on human and environment and various methods of controlling air pollutants.
- **Environmental Engineering I** teach designing of water supply networks by minimizing the use of natural resources leading to the development of the society in a sustainable manner.
- **Environment Impact Assessment** deals with the impact due to various types of pollutants and their assessment technique.
- **Environmental Engineering II** deals with treatment of water sources thereby establishing a good relationship with sustainable development and maintaining the quality of the environment for a long term.
- **Municipal Solid Waste Management** helps learners to gain knowledge on different types of solid waste generated in our environment and their ill effects various methods of collection, processing and disposal of solid wastes.
- **Disaster Management** provides an overview of environmental hazards and disasters, its impact and various controlling measures to protect the society in a sustainable way.

- **Introduction to Sustainable Engineering & Sustainable Engineering** deals with the various aspects of engineering technology and engineering decisions on environmental, societal, and economic problems for sustainable development.

File Description	Document
Upload the list and description of courses which address the Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum.	View Document
Any additional information	View Document

1.3.2 Average percentage of courses that include experiential learning through project work/field work/internship during last five years

Response: 45.49

1.3.2.1 Number of courses that include experiential learning through project work/field work/internship year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
208	235	233	233	234

File Description	Document
Programme / Curriculum/ Syllabus of the courses	View Document
MoU's with relevant organizations for these courses, if any Average percentage of courses that include experiential learning through project work/field work/internship	View Document
Any additional information	View Document

1.3.3 Percentage of students undertaking project work/field work/ internships (Data for the latest completed academic year)

Response: 31.97

1.3.3.1 Number of students undertaking project work/field work / internships

Response: 444

File Description	Document
List of programmes and number of students undertaking project work/field work/ /internships	View Document
Any additional information	View Document

1.4 Feedback System

1.4.1 Institution obtains feedback on the syllabus and its transaction at the institution from the following stakeholders 1) Students 2)Teachers 3)Employers 4)Alumni

Response: A. All of the above

File Description	Document
Any additional information (Upload)	View Document
URL for stakeholder feedback report	View Document

1.4.2 Feedback process of the Institution may be classified as follows: Options:

1. Feedback collected, analysed and action taken and feedback available on website
2. Feedback collected, analysed and action has been taken
3. Feedback collected and analysed
4. Feedback collected
5. Feedback not collected

Response: B. Feedback collected, analysed and action has been taken

File Description	Document
URL for feedback report	View Document

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1 Average Enrolment percentage (Average of last five years)

Response: 54.84

2.1.1.1 Number of students admitted year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
406	294	335	495	577

2.1.1.2 Number of sanctioned seats year wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
645	735	744	846	852

File Description

Document

Institutional data in prescribed format

[View Document](#)

Any additional information

[View Document](#)

2.1.2 Average percentage of seats filled against reserved categories (SC, ST, OBC, Divyangjan, etc. as per applicable reservation policy) during the last five years (exclusive of supernumerary seats)

Response: 26.1

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

2020-21	2019-20	2018-19	2017-18	2016-17
31	21	17	54	85

File Description

Document

Average percentage of seats filled against seats reserved

[View Document](#)

Any additional information

[View Document](#)

2.2 Catering to Student Diversity

2.2.1 The institution assesses the learning levels of the students and organises special Programmes for advanced learners and slow learners

Response:

Students are classified into various groups based on their performance and competence in the Continuous Internal Assessments and end semester examinations.

Advanced learners

- Bright students are motivated and given guidance to improve their CGPA
- Toppers from each class are awarded with prize in a public meeting
- Advanced learners are motivated and guided to present papers in seminars and conferences, participate in technical fests/ quiz/ research level projects, and get involved in R&D activities of the institution.
- Bright students are motivated to participate in competitive exams such as GATE

Slow Learners

- Students with academic performance lesser than 45% are identified as weak students. They are further monitored and mentored to improve their academics.
- Slow learners are given personal attention by the faculty.
- The faculty advisors and subject teachers provide the slow learners and students at the risk of drop out psychological Support and counselling when the situation demands for the same.
- Remedial classes are conducted. They are also asked to stay back after class for extra hours. Peer partnership is also practiced.
- Parents are kept updated on wards performance
- Representatives from weak students are included in class committee to share their opinions
- Simplified study materials and question banks are prepared to improve their academic performance

File Description	Document
Upload any additional information	View Document

2.2.2 Student- Full time teacher ratio (Data for the latest completed academic year)

Response: 10.07

File Description	Document
Any additional information	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:

WORK BASED LEARNING

- Work based learning strategy is adopted for providing students with real life experiences where they can apply their academic and technical skills. Students develop the habit of working in groups through such exercises.

INNOVATIONS IN INSTRUCTIONAL DELIVERY AND METHODS

- Faculty members use working models which can be carried into classrooms and demonstrate the working in an effective manner to the students
- Concept oriented activities are planned in classroom with the participation of students

PEER LEARNING PROCESS

- Students are given the opportunity of peer learning wherein they can learn in group or as part of the group. The categorization of students is done by the class coordinator in consultation with other faculty members and HOD based on their performance in CIE.

Some of the other innovative teaching methods adopted in the department are:

- **Online courses:** NPTEL videos/ MOOC courses/webinar sessions are made available for students for the purpose of progressive learning. Faculty members also enroll for NPTEL courses, wherein they are also designated as mentors for the students. The students are made to complete courses successfully and finally earn a certificate with the mentorship provided by the faculty. The institution also serves as local chapter of NPTEL. Webinar sessions are also arranged by faculty for an in-depth study of some topics of their subject. Video lectures are also made available to students for enhancing their subject knowledge.
- **Site Visits:** The college has signed MOUs with various industries. The students are also given opportunity to work collaboratively with the industries. Students gain technical knowledge through experiential learning.
- **Question Banks:** Based on the previous university question papers, subject teachers prepare module wise question bank which are made available to students. The Question bank is updated every six months after the conclusion of university exams.
- **Google Classrooms:** Faculties use google classrooms for sharing of notes and assignments. The students can view, download and use notes from the online platform.
- **Group Assignments:** In order to cultivate collaborative learning among students, group assignments as well as group discussions are carried out. The students develop peer support skills as well as communication skills through these activities.
- **Knowledge sharing programs by faculty members:** Faculty members share their knowledge on latest innovative topics related to the stream as well as on latest ICT tools.
- **Kinesthetic learning:** Students are made to work in small groups to get a hands-on experience.

They are made to develop posters, models of topics related to subject. The faculty then address the gaps in the learning.

- **Inquiry based learning:** Open ended questions of students are addressed by this approach. The faculty encourages students to take up a case studies and then to address it using evidence-based approach. The students have to prepare a detailed report on case study using valid proofs.
- **Competency based learning:** Students are made to answer quizzes or made to do small projects on certain topics which demand more attention to follow-up their understanding of the subject,

File Description	Document
Link for additional information	View Document

2.3.2 Teachers use ICT enabled tools for effective teaching-learning process.

Response:

Information and Communication Technologies or ICTs enables users to participate in a rapidly changing global system of information exchange. ICT tools can be used to find, discover, analyse, exchange and present information responsibly and without bias.

SCMS School of Engineering and Technology (SSET) has always been encouraging its faculty members to use ICT enabled tools for the best outcome of the Teaching-Learning process.

Devices and Technologies in ICT at SSET includes:

- **Access of course materials through remote devices**

The educators are encouraged to provide the course materials in the form of pdfs, videos and documents through cloud platforms like Google Classroom and Learning Management System (<https://sset.linways.com/>). This enhances the availability of the materials and students can learn at their own space and pace.

- **Online digital repositories for lectures, course materials, and digital library.**

The SSET library is one of the best Libraries among self-financing engineering college libraries in the state of Kerala. The library named as Dr. Pradeep P. Thevannoor Learning Resource Centre (https://www.scmsgroup.org/sset/ppt_learning_center) dedicates 15 high end systems to access the e-Resources. Full text online databases like IEEE Explore (ASPP), ASCE, ASME, J-GATE of famous Learned Societies of the World comprising of more than 4000 journals are subscribed to and freely accessible, EBSCO E-books collection (Engineering Core) having more than 6000 books are also added to our collection and freely available to the users. NPTEL (National Programme on Technology Enhanced Learning), DELNET (Developing Library Network), NDL (National Digital Library) are the other Digital Library Resources accessible by our users. Also, the access is provided with the repositories Shodh Ganga: A Reservoir of Indian Thesis and Shodhgangotri: Repository Of Indian Research In Progress. Students can access these resources through their portal <https://sset.linways.com/student/> and Staff members can access it through their user login window <https://sset.linways.com/staff/> respectively. The entire listing of the e-

Resources is available at the link https://scmsgroup.org/sset/e_Resources

- **Online/ cloud based academic management systems.**

The campus management system <https://sset.linways.com/> is a full-fledged system with facility to share learning materials with students and also to receive the assignment works from the students. Apart from these educators also use tools such as Google Forms, Classroom, Kahoot, Mentimeter for conducting online quizzes. Google Colab, GitHub etc. are promoted for interactive project-based learning process.

- **Employing the flipped classroom concept.**

Flipped Classroom concept is employed in the courses. The materials and handouts are shared through cloud platform. Students are instructed on how to use the materials. Detailed discussions are carried out in the classroom based on the materials and its contents.

- **Making use of computers, projector devices etc.**

In the classroom mobile phone usage is restricted. But the internet-enabled computer laboratories are utilized by the educators for carrying out interactive quizzes and hands-on sessions. The entire classrooms at SSET are enabled with projector devices which are used by the educators to enhance visual communication with the students. The seminar halls are utilized by the educators to address multiple batches/ branches of students for in-house or invited knowledge sharing programs.

File Description	Document
Upload any additional information	View Document
Provide link for webpage describing the ICT enabled tools for effective teaching-learning process	View Document

2.3.3 Ratio of students to mentor for academic and other related issues (Data for the latest completed academic year)

Response: 12.63

2.3.3.1 Number of mentors

Response: 110

File Description	Document
Upload year wise, number of students enrolled and full time teachers on roll.	View Document
mentor/mentee ratio	View Document
Circulars pertaining to assigning mentors to mentees	View Document

2.4 Teacher Profile and Quality

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

Response: 100

File Description	Document
Year wise full time teachers and sanctioned posts for 5years(Data Template)	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. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt. during the last five years (consider only highest degree for count)

Response: 10.65

2.4.2.1 Number of full time teachers with *Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt.* year wise during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
17	17	17	17	15

File Description	Document
List of number of full time teachers with Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt. and number of full time teachers for 5 years (Data Template)	View Document
Any additional information	View Document

2.4.3 Average teaching experience of full time teachers in the same institution (Data for the latest completed academic year in number of years)

Response: 8.44

2.4.3.1 Total experience of full-time teachers

Response: 1165

File Description	Document
List of Teachers including their PAN, designation, dept and experience details(Data Template)	View Document

2.5 Evaluation Process and Reforms

2.5.1 Mechanism of internal assessment is transparent and robust in terms of frequency and mode

Response:

The evaluation reforms of the university are followed strictly by faculty and the same is monitored by Dean Academics and Principal. A system of continuous evaluation is in place, and is done in a fair manner and the whole process is transparent. At the beginning of semester, faculty members prepare the course plan which includes the internal evaluation components for each course. These components are in adherence to those specified by the university. Details of various assessments like assignments, class tests, internal exam etc, are included in course plan. A right combination of assessments is chosen by the faculty in order to achieve the outcomes stated in course plan. Suitable rubrics are also planned for evaluation of each assessment. Various modes of assessment including the weightage of each is made known to the students. Academic schedule indicating the dates of internal and end semester examination is published at the beginning of the semester. Internal examinations are conducted under the supervision of a senior faculty in charge. Answer papers are to be valued by the faculty and the progress reports made available to the parents within a stipulated time as directed by the principal. After evaluating each assessment, hard copies of the scripts are returned to the students. Any clarification required by the students is attended to. The evaluation marks are visible in Linways portal (LMS) to the parents and students. On completion of the semester the internal assessment marks are published and hard copies are filed.

Attendance is displayed on the notice boards and LMS regularly. Any grievances reported are recorded and addressed immediately. A systematic report of the internals, duly signed by the faculty member, HoD and Principal is maintained in the Department. Final internal attendance and marks is then uploaded in the university portal, before the commencement of university examinations.

Institute conducts two internal tests per semester as per the regulations of APJ Abdul Kalam Technological University (KTU). The process followed for ensuring the quality of question paper is highlighted below.

- A question paper scrutinizing committee is formed at the commencement of the semester, consisting of subject faculty, course chairman and programme coordinator.
- Question paper, scheme and evaluation key for the internal examinations are prepared by the subject faculty in-charges and finalized after getting consent from the question paper scrutinizing committee.
- Question paper cognitive level is determined by the committee, and the paper will be accepted if the level of the question paper is 100 or above as per the evaluation standards of Bloom's taxonomy. On finding satisfactory standard of the question paper, scrutinizing committee gives the final approval after reviewing the quality, course outcomes and levels.
- If quality of the question paper is not satisfactory, the committee gives it for re-work and the corrected question paper is verified by the course chairman.
- Examination schedule is prepared one week before the commencement of the examination. Faculty

collects the answer papers after the examination from the internal examination cell and values it within the time allotted usually 7 days.

File Description	Document
Any additional information	View Document

2.5.2 Mechanism to deal with internal/external examination related grievances is transparent, time-bound and efficient

Response:

The institution deals with utmost concern any issues related to the Grievances regarding examinations.

The following are the Mechanisms at **Institution Level**:

Ensuring transparency in internal assessment Process: Internal assessment is broken component-wise into Written Tests, Assignments, and Attendance totalling to 50 marks. The number of written examinations/assignments etc. and weightage of each component is let known to the students before the start of the semester.

Time Bound valuation of Answer Scripts and its Distribution: The answer papers of internal tests are valued and returned to the students on time.

Publication of Internal Marks and Attendance: This allows the students to locate errors, and identify discrepancies. Students can raise their objections and grievances if any.

Progress Reports: Progress reports are made available to the parents through the LMS and also periodically updated personally by the faculty advisors.

Compiled Internal Marks Publication: Once the internal assessment is completed, the compiled internal marks of all courses of the semester are published in the notice board. A minimum notice period is given to students before it is finalized and uploaded in the university portal. The notice period provides enough time for the students to redress their grievance, if any.

Examination Monitoring Cell: This cell with a senior professor as convener and acting as the Chief Superintendent of Examinations assisted by Assistant Superintendent and a group of faculty members are responsible for conduct of university examinations. The examination motoring cell is also entitled to receive any complaint from students regarding issues like out-of syllabus questions, printing mistakes, etc. of End Semester Examinations. The cell investigates such complaints and if necessary, forwards it to university with specific comments.

In general, any grievance related to internal exams are resolved by the respective faculty. When the students are not satisfied with the response from the faculty, they may represent it to DAC (Disciplinary Action Committee) through the HOD, but such instances are nil.. In any case, all such representations are taken positively.

The following are the Mechanisms at the **University Level**:

Controller of Examinations, APJAKTU: The students can apply for redressal of grievance regarding the semester end University Examinations to the Controller of Examinations. The following are the avenues available through the University system.

Scrutiny of Answer Scripts: The students, on application, have also the right to personally view the evaluated answer scripts, which will be received by mail.

Revaluation of Answer Scripts: In case the students feel that the valuation was not justifiable (lower marks than expected), the students can apply to the University for revaluation.

Review of Revaluation: There is also an option for review of revalued paper.

Court of Justice: Students, after exhausting all the possibilities with the university system, may also approach the appropriate court of justice for remedy.

File Description	Document
Any additional information	View Document

2.6 Student Performance and Learning Outcomes

2.6.1 Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students.

Response:

Program Outcomes as defined by the National Board of Accreditation (NBA) has been adopted and is common for all UG programs. In 2019 curriculum university has stated and provided the course outcomes. For 2015 curriculum the course outcome for each course were stated and defined by faculty within the institution and vetted and approved in Program assessment committee meetings.

Every department has its Program Educational Objectives, Program Specific Outcomes, Program outcomes, and Course Outcomes stated clearly and the same is disseminated in the following ways:

- Institution website
- Department notice boards
- HOD Rooms
- Laboratories
- Classrooms and corridors.
- Faculty cabins
- Course Plan

File Description	Document
Upload COs for all Programmes (exemplars from Glossary)	View Document
Upload any additional information	View Document

2.6.2 Attainment of programme outcomes and course outcomes are evaluated by the institution.

Response:

The course outcomes are defined at start of the Academic Year for each course and are reviewed by the Programme Assessment Committee (PAC) and modifications, if any, are discussed and approved. For the 2015 scheme of B.Tech degree, the Course Outcomes are mapped to the Program Outcomes (POs) and Program Specific Outcomes (PSOs) by the faculty member with proper justification for each mapping, according to the best of their knowledge and ability which are further reviewed by the PAC. This mapping forms the basis of the Articulation Matrix (Target Matrix) for the POs. From the 2019 scheme of B.Tech degree onwards, the Course Outcomes and Mapping of Course Outcomes with Program Outcomes are provided by the affiliating university (APJ Abdul Kalam Technological University, Thiruvananthapuram) as part of the standardisation of the teaching learning process in all institutes affiliated to the university. Once the mapping of COs to POs and the respective justifications are approved by the PAC, the assessment of COs is carried out by various assessment methods viz. internal exams, assignments, class tests, rubrics, and selected topic presentations. Assessment is done through more than one process, carried out by the institution that identifies, collects, and prepares data to evaluate the attainment of course outcomes (COs). The assessment method displays the student's knowledge and skill for their performance in internal tests, individual assignments, group assignments, tutorials, Presentations, seminars, laboratory tests, viva, quizzes, semester examinations etc. These methods provide a sampling of what students know and/or can do and provide strong evidence of student's attainment of the Course Outcome. The end semester examination (ESE) is conducted by the affiliating university common to all the affiliating institutes. The ESE is conducted in a three-hour written examination where the student can score a maximum mark out of 100. The final marks awarded for a course is out of 150 out of which 100 marks is from the ESE and 50 marks from internal assessment. Therefore, for the Course Outcome evaluation 67 percent weightage is given for University Exams 33 percent weightage is given to the Internal Assessments. The final CO attainment is calculated using this weightage calculation which forms the direct assessment. The indirect assessment for each course is calculated from the course exit survey conducted among the students for each course. The CO attainment is then used to calculate the Course Level PO Attainment. The PO attainment of all the courses for a graduating batch is consolidated for the calculation of overall PO/PSO attainment in the program level. For the assessment of PO/PSO in the program level, PO/PSO attainment through indirect methods is also to be assessed. For this assessment, various surveys such as 1) Course Exit Survey, 2) Program exit survey, 3) Alumni survey and 4) Employer survey. Program level PO/PSO attainment through indirect method is calculated as the average of the attainment obtained through various surveys and Co-Curricular and Extra-Curricular Activities. Finally, the overall PO/PSO attainment in program level is calculated as weighted sum of 80% direct PO attainment and 20% indirect PO attainment.

File Description	Document
Upload any additional information	View Document
Paste link for Additional information	View Document

2.6.3 Average pass percentage of Students during last five years

Response: 69.01

2.6.3.1 Number of final year students who passed the university examination year-wise during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
0354	461	451	418	386

2.6.3.2 Number of final year students who appeared for the university examination year-wise during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
0537	597	655	641	569

File Description	Document
Upload list of Programmes and number of students passed and appeared in the final year examination (Data Template)	View Document
Upload any additional information	View Document
Paste link for the annual report	View Document

2.7 Student Satisfaction Survey

2.7.1 Online student satisfaction survey regarding teaching learning process

Response: 3.34

File Description	Document
Upload database of all currently enrolled students (Data Template)	View Document

Criterion 3 - Research, Innovations and Extension

3.1 Resource Mobilization for Research

3.1.1 Grants received from Government and non-governmental agencies for research projects, endowments, Chairs in the institution during the last five years (INR in Lakhs)

Response: 44.49

3.1.1.1 Total Grants from Government and non-governmental agencies for research projects , endowments, Chairs in the institution during the last five years (INR in Lakhs)

2020-21	2019-20	2018-19	2017-18	2016-17
9.28	29.23	2.03	3.7	0.25

File Description

Document

List of endowments / projects with details of grants

[View Document](#)

e-copies of the grant award letters for sponsored research projects / endowments

[View Document](#)

3.1.2 Percentage of teachers recognized as research guides (latest completed academic year)

Response: 6.52

3.1.2.1 Number of teachers recognized as research guides

Response: 9

File Description

Document

Institutional data in prescribed format

[View Document](#)

Any additional information

[View Document](#)

3.1.3 Percentage of departments having Research projects funded by government and non government agencies during the last five years

Response: 20

3.1.3.1 Number of departments having Research projects funded by government and non-government agencies during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
1	2	1	1	1

3.1.3.2 Number of departments offering academic programmes

2020-21	2019-20	2018-19	2017-18	2016-17
6	6	6	6	6

File Description	Document
List of research projects and funding details	View Document
Any additional information	View Document
Paste link to funding agency website	View Document

3.2 Innovation Ecosystem

3.2.1 Institution has created an ecosystem for innovations and has initiatives for creation and transfer of knowledge

Response:

SSET aspires to be renowned as a leader in high-quality technical education, trailblazing research with a focus on innovative solutions to meet global challenges. Following this comprehensive need, fostering an innovative culture among faculty and students is our prime priority, and several activities have been debuted to promote this.

FAB Lab, IOT Lab, and the Centre for Robotics have always reiterated the goal of developing technologies and products for benefit of society by incorporating multidisciplinary engineering principles. To instil start up culture among students, seminars, workshops, hackathons, idea pitching competitions are organised/ hosted.

Our annual global event, **Dr. Pradeep P Thevannoor Innovation Awards (PPTIA) since 2015**, and other national-level innovation challenges and projects from various external agencies, provides opportunities for students and faculty to enhance their new skill sets and knowledge into practice. Also, through the PPTIA platform the institution nurtures & honours the innovative culture of school and college students. The **Creativo** is an in-house competition open to all the students conducted annually to identify, promote and celebrate outstanding talents whose innovative ideas can be demonstrated and commercialized.

Library resources beyond the basic requirements are made available to the staff and students to support their innovation efforts and bring life to their ideas. The faculty members are awarded by research

incentives considering research projects and publications which has enhanced the morale, productivity and innovation culture of faculty at SSET.

The Ideation & Prototyping centre at SSET enables students to hone their innovation skills. The entrepreneurial culture at SSET is facilitated through **SSET Innovation & Entrepreneurship Development Centre (IEDC) supported by the Kerala Start-Up Mission** with a funding of Rs. 7,65,447 in last five years other than handholding the IEDC centre in its various activities to foster the growth of technology entrepreneurship within the institution.

SSET has always had an innovative culture, which has become even more prevalent in the last five years. A new learning culture fostered by online courses such as NPTEL, Coursera, edX improved students' subject knowledge and acquainted them with modern trends and technologies. The majority of faculty and students praised this innovative culture, though some tweaks may be needed in areas where quality trumps quantity. The **award-winning and funded projects** like A De addictive coil for drug addicts, Muscle to Machine Interface for Paralyzed Person (MMIPP), Brain wave nerve excitation for physically disabled, A non-invasive anti-depression E-M stimulator, Dynamic brake lighting emergency system, Shopping Assistance For Blind, Home management using IoT, Life Detection and Rescue System Using Snake Robot, Vehicle Load Monitoring System, Bionic Haptic Arm, Smart switching toilet system, Strawable Machine, Bug-bot with Mosquito attracter, Smart mop with infrared thermography, International Centre for Free and Open Source software-POSS grant, Brain Signal Project, Wheelchair controlled with Android Device, Eco friendly, energy efficient traffic junctions, Wearable device for detection and prevention of heart failure etc. are significant shreds of evidence of this culture. There are a minimum of 5 ongoing sponsored projects at any given point of time and the number is going up. Fab Lab's projects also have received numerous national and international awards & recognitions including the Gandhian Young Technological Innovation Award twice in 2018 & 2020 & AICTE-ECI Chhatra Vishwakarma Awards, IIT Delhi in 2017.

File Description	Document
Upload any additional information	View Document
Paste link for additional information	View Document

3.2.2 Number of workshops/seminars conducted on Research Methodology, Intellectual Property Rights (IPR) and entrepreneurship during the last five years

Response: 34

3.2.2.1 Total number of workshops/seminars conducted on Research Methodology, Intellectual Property Rights (IPR) and entrepreneurship year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
12	12	3	2	5

File Description	Document
Report of the event	View Document
List of workshops/seminars during last 5 years	View Document

3.3 Research Publications and Awards

3.3.1 Number of Ph.Ds registered per eligible teacher during the last five years	
Response: 2	
3.3.1.1 How many Ph.Ds registered per eligible teacher within last five years	
Response: 18	
3.3.1.2 Number of teachers recognized as guides during the last five years	
Response: 9	
File Description	Document
List of PhD scholars and their details like name of the guide , title of thesis, year of award etc	View Document
Any additional information	View Document

3.3.2 Number of research papers per teachers in the Journals notified on UGC website during the last five years											
Response: 0											
3.3.2.1 Number of research papers in the Journals notified on UGC website during the last five years.											
<table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table>		2020-21	2019-20	2018-19	2017-18	2016-17	0	0	0	0	0
2020-21	2019-20	2018-19	2017-18	2016-17							
0	0	0	0	0							
File Description	Document										
List of research papers by title, author, department, name and year of publication	View Document										
Any additional information	View Document										

3.3.3 Number of books and chapters in edited volumes/books published and papers published in

national/ international conference proceedings per teacher during last five years**Response:** 0.16**3.3.3.1 Total number of books and chapters in edited volumes/books published and papers in national/ international conference proceedings year-wise during last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
10	4	0	2	10

File Description	Document
List books and chapters edited volumes/ books published	View Document
Any additional information	View Document

3.4 Extension Activities**3.4.1 Extension activities are carried out in the neighborhood community, sensitizing students to social issues, for their holistic development, and impact thereof during the last five years.****Response:**

SSET is ever keen to promote institute-neighbourhood-community network and student engagement. Active citizenship and social responsibility is promoted among students, faculty, and staff members. The institution recognizes relevance and importance of Service-learning which has potential to make classroom learning more meaningful. Community issues are tackled, taking them seriously, as well as forcing the students to apply, acclimatize, and reflect on ideas and theories found in the classroom. As an engaged institution SSET envisages to better prepare students by developing in them a strong sense of civic responsibility, accompanied by a better understanding of self, one's own resources, the links between individual and community, and relevance of classroom concepts and theories.

National Service Scheme (NSS)

The NSS Unit was started in 2007 and with the concerted efforts of committed student volunteers and program officers from among the faculty, several community developments services have been undertaken. The college is situated in Palissery and NSS unit has adopted this Panchayath for revitalization and community development. Nearby Gandhigram Skin Diagnosis Centre also has been adopted by NSS unit. There two units, viz., 182 and 584 each with 100 members. NSS units at SSET has established tie ups with Haritha Keralam Mission, Govt. of Kerala & Suchitwa Mission, Govt. of India and a large of of programmes to protect preserve environment is being carried out.

Helping Hands Organisation (H2O)

A visit to an orphanage or an old age home became a regular practice of the SSET students, spending quality time with them, serving lunch to the inmates and having food with them. Making them happy is one of the most sought out activities looked forward by students. The participation for this noble cause increased and need to come together in form of a voluntary organisation was felt, Helping Hands Organisation - a hand of help for needy was born. The efforts also gave students and faculty a perspective into lives of less privileged, imbibing a sense of communal service and charity. Help in form of money, materials and services are offered to the underprivileged members of society.

Other than the above in 2018 & 2019 when Kerala faced the worst ever floods and State was in need to huge man power to reinstate the habitats of people 80% of students of the college were deployed in various areas for a week. Some of the students worked in areas near their hometown while others guided by staff worked in regions in and around college. Technical help was provided in form of preparing flood maps, assessing damages of houses, roads and its reinstating which is still ongoing other than manpower which was immediately required after flood to remove huge quantities of debris carried by floods. During this devastating times Paravur municipality was adopted by NSS units of SSET as per directives of Ernakulam District Administration and student and staff volunteers spent a month there to lend a hand in distribution of resources sourced from various places to the havoc affected people.

File Description	Document
Upload any additional information	View Document
Paste link for additional information	View Document

3.4.2 Number of awards and recognitions received for extension activities from government/ government recognised bodies during the last five years

Response: 2

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

2020-21	2019-20	2018-19	2017-18	2016-17
0	0	1	1	0

File Description	Document
Number of awards for extension activities in last 5 year	View Document
e-copy of the award letters	View Document
Any additional information	View Document

3.4.3 Number of extension and outreach programs conducted by the institution through NSS/NCC, Government and Government recognised bodies during the last five years**Response:** 53**3.4.3.1 Number of extension and outreached Programmes conducted in collaboration with industry, community and Non- Government Organizations through NSS/ NCC/ Red Cross/ YRC etc., year-wise during the last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
9	12	13	9	10

File Description	Document
Reports of the event organized	View Document
Number of extension and outreach Programmes conducted with industry, community etc for the last five years	View Document
Any additional information	View Document

3.4.4 Average percentage of students participating in extension activities at 3.4.3. above during last five years**Response:** 10.48**3.4.4.1 Total number of Students participating in extension activities conducted in collaboration with industry, community and Non- Government Organizations such as Swachh Bharat, AIDs awareness, Gender issue etc. year-wise during last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
196	182	202	208	142

File Description	Document
Report of the event	View Document
Average percentage of students participating in extension activities with Govt or NGO etc	View Document
Any additional information	View Document

3.5 Collaboration

3.5.1 Number of Collaborative activities for research, Faculty exchange, Student exchange/ internship per year

Response: 9

3.5.1.1 Number of Collaborative activities for research, Faculty exchange, Student exchange/ internship year-wise during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
1	3	2	2	1

File Description

Document

e-copies of related Document

[View Document](#)

Details of Collaborative activities with institutions/industries for research, Faculty exchange, Student exchange/ internship

[View Document](#)

3.5.2 Number of functional MoUs with institutions, other universities, industries, corporate houses etc. during the last five years

Response: 0

3.5.2.1 Number of functional MoUs with Institutions of national, international importance, other universities, industries, corporate houses etc. year-wise during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
0	0	0	0	0

File Description

Document

e-Copies of the MoUs with institution/ industry/corporate houses

[View 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 infrastructure and physical facilities for teaching- learning. viz., classrooms, laboratories, computing equipment etc.

Response:

Spread over 22 acre the campus is also located in an idyllic location among lush green rubber plantations. The institution provides adequate infrastructure and physical facilities as per the norms of AICTE and the University. The infrastructure planning and upgrading are done taking into consideration the priorities and requirements of various departments. The resource requirements like staff, library books, computers and laboratory equipments are also planned and resourced as per AICTE/KTU norms.

The institution has 55 classrooms of which 46 classrooms are provided with ICT facilities. Tutorial rooms are present in all blocks for conduct of tutorial classes, remedial classes, minor and honours classes. There are 8 seminar halls with 6 of them provided with ICT facilities. There is an auditorium 1550 m2 area with a seating capacity of 2500. An open-air amphitheatre, 705 m2 area and an atrium is also present.

There are 36 Laboratories in the institution and the laboratories are equipped with adequate number of equipments and machines. Centre for Robotics houses Fablab, Robotics lab and an IoT lab where students from various disciplines carry out innovative projects. Students are allowed to carry out design projects and major projects other than the normal laboratory classes in different time slots in the laboratories. A language laboratory has been set with the software Learn Soft to provide self-paced, interactive learning environment. New enhancements are made to existing infrastructure as and when need arises.

The library is well stocked and subscribes to 124 hard copy Journals and 5 e – journal data base with access to around 10000 e -journals and has 37840 books. The library remains open for twelve hours on all working days (from 8am to 8 pm). On holidays, the library remains open from morning 8.45 am to evening 3.45 pm. Several e- resources are also made available.

The Central Computing Facility forms an integral component of the Institute's infrastructure, providing a wide spectrum of services to the students as well as faculty and staff involved in research and other academic activities. The institution encourages the students and faculty to utilize the laboratories, library, computer centres and software for carrying out their research projects. Special care is given to the upkeep of sensitive equipments, lab equipments, LCD projectors, etc. Annual maintenance and timely servicing of equipments and infrastructure ensure their upkeep.

File Description	Document
Upload any additional information	View Document

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

Response:**a) Sports:**

Sports facility for students has been made available in the campus. A dedicated Assistant Director, Physical Education is available to take cater to the interest of the students.

b) Outdoor and indoor games:

Outdoor games available for students are football, cricket, cricket net practice, badminton, volley ball, hand ball and basketball. The indoor games provided by the college are carroms, chess and table tennis, which are separately facilitated for boys and girls.

Facilities for outdoor games:

1. Indoor badminton stadium with 4 badminton courts each of 6.1m x 13.4m dimension and 2 outdoor badminton courts.
2. Indoor Auditorium also comprises of 2 Table Tennis courts each of 1.5m x 2.7m dimension. Practices for Kabaddi Men's and Women's team are also being conducted inside the Auditorium.
3. A Basketball court 15.2m x 28.7m in which both Men's and Women's team can practice in each half.
4. High-quality Cricket nets of 22m x 5m where students can practice regularly.
5. SCMS is famous for its rich culture in the sports of volley ball. An outdoor volleyball court of 18m x 9m which is made of mud, ensures good practice sessions.
6. College football ground is located within 1km radius of the institution. Our football ground is a 9's football ground with a dimension of 60m x 40m.
7. The total 22 acres of campus grounds provide enough space where athletics and other games can be conducted.

c) Health Club:

There is a modern health club 123m² area in the campus for the benefit of the students and staff. Gymnasium with modern fitness equipment. Sports treadmills, Elliptical trainers, Sports recumbent bike, Sports upright bike, Multi Gym 4 station, Sports trident challenger, Weight bench etc. are provided for use by students and staff.

File Description	Document
Upload any additional information	View Document

4.1.3 Percentage of classrooms and seminar halls with ICT- enabled facilities such as smart class, LMS, etc. (Data for the latest completed academic year)

Response: 85.71

4.1.3.1 Number of classrooms and seminar halls with ICT facilities

Response: 54

File Description	Document
Upload Number of classrooms and seminar halls with ICT enabled facilities (Data Template)	View Document
Paste link for additional information	View Document

4.1.4 Average percentage of expenditure, excluding salary for infrastructure augmentation during last five years(INR in Lakhs)

Response: 0

4.1.4.1 Expenditure for infrastructure augmentation, excluding salary year-wise during last five years (INR in lakhs)

2020-21	2019-20	2018-19	2017-18	2016-17
0	0	0	0	0

File Description	Document
Upload Details of budget allocation, excluding salary during the last five years (Data Template)	View Document
Upload 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 Central Library of SCMS School of Engineering and Technology known as Dr.Pradeep P Thevannoor Learning Resource Centre (Dr. PPTLRC has a carpet area of 2309 m2 with 1200 m2 earmarked as reading space with a seating capacity of 190.. The library is available for the use of the students and staff for 12 hours on all working days and 7 hours during Saturdays and vacation. All library functions are automated using the Linways Library Management module of our campus software. Some major services and facilities provided to users through our Library Management systems are:

- library book check in / check out facilities,
- book search facility (OPAC service),
- subscribed e-resources database links and remote access details,
- links of other important e-resources for the benefit of students and staff are available through the 'E-Journal links' of our LMS.

- The users can also access the previous year question papers, syllabus etc. through the 'Digital Library' link of the Library Management System.
- Online resources like IEEE, ASME, ASCE, J-Gate, EBSCO E-Books, DELNET, NPTEL, NDL (National Digital Library) of India, SSET-NDLI CLUB. SWAYAM, MIT Open Courseware, etc. are available.

As the e-journals access is IP based, the stakeholders can take benefit of this facility from anywhere in the campus at any time. All these resources are available for access to the students/staff through the library module in a single window. Remote access facility to access all subscribed e-resources is also provided through the Linways portal. These facilities support the students for their self-learning activities. To enhance the quality of publishing, library provides plagiarism detection and prevention service using TURNITIN software. Separate Reference, Periodical, Circulation, Digital Library section, reading area, and new arrivals and library rules display system facilities are available in the library. Open Wi-Fi access facility and separate computer systems are provided for e-resources access and document scanning at library. Library is also equipped with closed-circuit television (CCTV) surveillance system.

Links for accessing resources

- Library Website access - https://www.scmgroup.org/sset/ppt_learning_center
- Students and staff log in portal - <https://sset.linways.com/staff/> ,
<https://sset.linways.com/student/>
- Library OPAC access - <https://sset.linways.com/public/opac/library/index.php?menu=book>
- IEEE Xplore- ASPP package - <https://ieeexplore.ieee.org/Xplore/home.jsp>
- ASCE - <https://ascelibrary.org/>
- ASME - <https://asmedigitalcollection.asme.org/>
- J- GATE - <https://jgateplus.com/search/index/>
- DELNET - <http://www.delnet.in/> OR <http://164.100.247.26/>
- EBSCO E BOOKS: Engineering Core - <http://search.ebscohost.com/>
- MAT JOURNALS - <http://matjournals.in/index.php/index/user>
- INVENTI JOURNALS - <http://www.inventi.in/>
- National Digital Library of India (NDLI) - <https://ndl.iitkgp.ac.in/>
- SSET – NDLI CLUB - <https://club.ndl.iitkgp.ac.in/club-home>
- National Programme on Technology Enhanced Learning (NPTEL) - <https://nptel.ac.in/>
- SWAYAM - <https://swayam.gov.in/>
- SHODH GANGA: A RESERVOIR OF INDIAN THESIS -<https://shodhganga.inflibnet.ac.in/>

File Description	Document
Upload any additional information	View Document
Paste link for Additional Information	View Document

4.2.2 The institution has subscription for the following e-resources

- 1.e-journals
- 2.e-ShodhSindhu

- 3.Shodhganga Membership**
- 4.e-books**
- 5.Databases**
- 6.Remote access to e-resources**

Response: A. Any 4 or more of the above

File Description	Document
Upload any additional information	View Document
Details of subscriptions like e-journals, e-ShodhSindhu, Shodhganga Membership , Remote access to library resources, Web interface etc (Data Template)	View Document

4.2.3 Average annual expenditure for purchase of books/e-books and subscription to journals/e-journals during the last five years (INR in Lakhs)

Response: 14.87

4.2.3.1 Annual expenditure of purchase of books/e-books and subscription to journals/e- journals year wise during last five years (INR in Lakhs)

2020-21	2019-20	2018-19	2017-18	2016-17
19.28	15.09	5.04	18.66	16.28

File Description	Document
Details of annual expenditure for purchase of books/e-books and journals/e- journals during the last five years (Data Template)	View Document
Audited statements of accounts	View Document
Any additional information	View Document

4.2.4 Percentage per day usage of library by teachers and students (foot falls and login data for online access) during the latest completed academic year

Response: 8.06

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

Response: 123

File Description	Document
Details of library usage by teachers and students	View Document
Any additional information	View Document

4.3 IT Infrastructure

4.3.1 Institution frequently updates its IT facilities including Wi-Fi

Response:

IT facilities of SCMS School of Engineering and Technology have been updated on regular basis. Also, new IT equipments have been purchased as per the requirements.

- In session 2015-16, 8 new Acer Projectors were purchased for the classrooms. As an upgradation to the existing campus network, the institute purchased Wi-Fi ACCESS POINT D-LINK DWL-2360 (7 nos.), Cannon LBP2900 printers (10 nos.), Switch 28 Port Gigabit (4 nos.). The services were improvised by an addition of 5 speakers.
- In the session 2016-17, 150 I3 Machines were brought for the faculty members. An HP Network printer, 38 headphones, 6 more ACCESS POINT D-LINK DWL-2360, 5 KVA UPS along with batteries also were added to the facility. Towards the software repository, Language Software (Learn SOFT) was purchased and the upgradation of latest version SAP 2000 Ver 19 & future upgrades were done. A 100 Mbps leased line by BSNL, and another additional 100 Mbps back up leased line by Tata teleservices were installed in the campus.
- In 2017-18, K-Fi which is the Wi-Fi service provided by the Govt. of Kerala was installed in the campus. Two HP Laser jet Printers were added to the facility. An addition of MAT Lab (R2017B) & Tool box was done in 25 machines in the computer laboratory.
- In 2018-19, 5 Core i5 Processors were added to the lab facility. Also, scanners, (one Cannon Lide 110) and printers (three Cannon LBP 2900) were installed in the computer lab. The Bentley Academic Perpetual offering for 10 users were installed with 3 years renewal period.
- In 2019-20, 5 Toner-HP laser jet M605 was added in Examination Cell. More access points and 7 switches were added to the networking facility. The ZOOM software was purchased for efficiently organizing online meetings and classes.
- In 2020-21, a smart board was installed in the conference hall (Newline Interactive Display RS86+). In addition to this, more switches and CCTV Camera accessories were purchased and updated with the systems. An enhancement of internet speed to 200mbps leased line by BSNL was procured to facilitate a faster internet facility. In this session the re-installation support for Ansys-15 Software for 10 users was done. The Autodesk AutoCAD 2021 which is eligible for free 1-year educational access to Autodesk products through Autodesk Education Community.
- In 2021-22, the internet facility is being updated by the procurement of BSNL Internet with 200Mbps network bandwidth and an additional 100 Mbps internet facility from Kerala Vision, also has been added as a back-up internet facility. 2 Cannon LBP 2900 have also been added to the facility.
- Throughout the past five years the institution has also continuously upgraded the Windows License and other system as well as application software.

File Description	Document
Upload any additional information	View Document

4.3.2 Student - Computer ratio (Data for the latest completed academic year)

Response: 1.79

File Description	Document
Upload any additional information	View Document
Student – computer ratio	View Document

4.3.3 Bandwidth of internet connection in the Institution

Response: A. 750 MBPS

File Description	Document
Upload any additional Information	View Document
Details of available bandwidth of internet connection in the Institution	View Document

4.4 Maintenance of Campus Infrastructure

4.4.1 Average percentage of expenditure incurred on maintenance of infrastructure (physical and academic support facilities) excluding salary component during the last five years(INR in Lakhs)

Response: 5.27

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

2020-21	2019-20	2018-19	2017-18	2016-17
20.635	55.56	43.54	45.46	106.08

File Description	Document
Details about assigned budget and expenditure on physical facilities and academic support facilities (Data Templates)	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 Institution has an excellent infrastructure with well-defined guidelines for maintaining and utilizing physical, academic and support facilities. The upkeep and maintenance of physical and support facilities are ensured by Maintenance department. Regular suggestions are being taken from faculty and staff which is reviewed periodically. There is a provision for students to raise such grievances through grievance cell as well. Budget is allotted annually for maintaining physical and academic support facilities. The infrastructure planning and upgrading invariably takes into consideration the priorities and requirements of various departments. Learning resources like library books, journals, computers and laboratory equipment are planned and procured as per AICTE/KTU norms.

Classrooms

Neat and clean classrooms are allotted for every batch. During pandemic times, the classrooms are kept sanitised at the end of each day. Furniture, electrical fittings and whiteboards and ICT facilities are periodically maintained to ensure their upkeep.

Laboratories and Equipment

Every lab is assigned with a faculty-in-charge and a lab staff-in-charge. Lab staff-in charge is responsible for proper upkeep of stock on a day-to-day basis. Stock verification is done by this team at the end of every semester as well when there is a change of person-in-charge. Minor repairs if any during the course of semester are done by using the facilities and expertise available within the campus. For major urgent repairs the same is brought to notice of Purchase Manager, which is dealt with immediately.

Computer Laboratories and System Maintenance

The Institution has a total of 774 computers in administrative offices, faculty rooms and laboratories, hostels of which 516 is for use by students in laboratories. They are maintained by in – house laboratory staff of the Institution under the guidance of System Administrator. Up gradation of software and hardware are regularly done depending on the recommendations received on the basis of the curriculum/ need for replacement. In the campus, the entire network is protected by a Firewall Fortinet 300 C which prevents unauthorized use and access to intranet and provides restricted access for students to internet.

Library

The Institutional libraries are well maintained and systematic efforts are taken in procuring books by identifying, evaluating, and selecting them from catalogues relating to the University syllabus and recommendations by faculty. Measures are taken for updation by adding collection of books, journals and other publications yearly. Weeding of outdated books, newspapers and journals are done on a regular basis. Pest management measures are carried in order to preserve books.

Air Conditioners

There is a AC system in campus meant for laboratories, faculty rooms, seminar hall, conference rooms are

maintained by Blue Star & Ambient Systems Pvt. Ltd.

Water Supply

For water supply the college has its own sources; 4 bore-wells with adequate yield, rainwater harvesting installations and one open well, which completely caters to the water needs of campus and hostels. A reliable system of pumping and distribution network ensures round the clock unhindered supply of water. Our own full-time electrical and plumbing technicians keep vigil over all electrical and water supply systems.

File Description	Document
Upload any additional information	View Document
Paste link for additional information	View Document

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 last five years

Response: 16.55

5.1.1.1 Number of students benefited by scholarships and free ships provided by the institution, Government and non-government bodies, industries, individuals, philanthropists during the last five years (other than students receiving scholarships under the government schemes for reserved categories)

2020-21	2019-20	2018-19	2017-18	2016-17
240	265	292	377	362

File Description

Document

upload self attested letter with the list of students sanctioned scholarship

[View Document](#)

Upload any additional information Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years (Data Template)

[View Document](#)

5.1.2 Average percentage of students benefitted by scholarships, freeships etc. provided by the institution / non- government agencies during the last five years

Response: 32.33

5.1.2.1 Number of students benefited by scholarships and free ships provided by the institution, Government and non-government bodies, industries, individuals, philanthropists during the last five years (other than students receiving scholarships under the government schemes for reserved categories)

2020-21	2019-20	2018-19	2017-18	2016-17
620	531	526	570	663

File Description	Document
Upload any additional information	View Document
Number of students benefited by scholarships and freships institution / non- government agencies in last 5 years (Date Template)	View Document

5.1.3 Capacity building and skills enhancement initiatives taken by the institution include the following

1. Soft skills
2. Language and communication skills
3. Life skills (Yoga, physical fitness, health and hygiene)
4. ICT/computing skills

Response: B. 3 of the above

File Description	Document
Details of capability building and skills enhancement initiatives (Data Template)	View Document
Link to Institutional website	View Document

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

Response: 12.85

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

2020-21	2019-20	2018-19	2017-18	2016-17
261	204	243	113	328

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

5.1.5 The Institution has a transparent mechanism for timely redressal of student grievances including sexual harassment and ragging cases

1. Implementation of guidelines of statutory/regulatory bodies
2. Organisation wide awareness and undertakings on policies with zero tolerance
3. Mechanisms for submission of online/offline students' grievances
4. Timely redressal of the grievances through appropriate committees

Response: B. 3 of the above

File Description	Document
Upload any additional information	View Document
Minutes of the meetings of student redressal committee, prevention of sexual harassment committee and Anti Ragging committee	View 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: 41.4

5.2.1.1 Number of outgoing students placed year - wise during the last five years.

2020-21	2019-20	2018-19	2017-18	2016-17
249	202	240	187	347

File Description	Document
Upload any additional information	View Document
Self attested list of students placed	View Document
Details of student placement during the last five years (Data Template)	View Document

5.2.2 Average percentage of students progressing to higher education during the last five years

Response: 39.66

5.2.2.1 Number of outgoing student progression to higher education during last five years

Response: 213

File Description	Document
Details of student progression to higher education (Data Template)	View Document
Any additional information	View Document

5.2.3 Average percentage of students qualifying in state/national/ international level examinations during the last five years (eg: IIT-JAM/CLAT/ NET/SLET/GATE/ GMAT/CAT/GRE/ TOEFL/ Civil Services/State government examinations, etc.)

Response: 52.33

5.2.3.1 Number of students qualifying in state/ national/ international level examinations (eg: IIT/JAM/ NET/ SLET/ GATE/ GMAT/CAT/GRE/ TOEFL/ Civil Services/ State government examinations, etc.) year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
11	28	8	22	0

5.2.3.2 Number of students appearing in state/ national/ international level examinations (eg: JAM/CLAT/NET/ SLET/ GATE/ GMAT/CAT,GRE/ TOFEL/ Civil Services/ State government examinations) year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
20	35	15	30	15

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 (Data Template)	View Document

5.3 Student Participation and Activities

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

Response: 8

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

2020-21	2019-20	2018-19	2017-18	2016-17
0	2	1	0	5

File Description	Document
Number of awards/medals for outstanding performance in sports/cultural activities at university/state/ national/international level during the last five year	View Document
e-copies of award letters and certificates	View Document

5.3.2 Institution facilitates students' representation and engagement in various administrative, co-curricular and extracurricular activities following duly established processes and norms (student council, students representation on various bodies)

Response:

The student council provides opportunities for the students to develop their social and cultural life and focuses on their overall development. This Council is a non-political forum. Student council with its elected student representatives is ably guided by teaching faculty members will be from various departments. The student representatives will be given the post of Chairman, Vice chairman, General Secretary, two University Union Councillors, Editor College Magazine, Sports Secretary, Arts Club Secretary, a 4th year Representative, a 3rd year Representative, a 2nd year Representative, a first year Representative, two lady Representatives and representatives from PG. The constitution is as per the Statutes of APJAKTU. The student council is responsible for the conduct of celebrations like Onam, Christmas etc. and also conducts various technical, cultural and sports meets under the guidance of faculty members.

There are also student representatives in the following academic/ administrative bodies of the institution. · Class Committees and Course Committees · ICI Students' Chapter · IQAC · Hostel committee · Mess committee · Students' Welfare Committee · Students' Grievance Redressal Committee · SC/ST Monitoring Committee

Students are also part of various chapters of professional bodies and department associations which play a pivotal role in the development of students as engineers by various out-of-curriculum and extra-curricular activities. They aim to introduce among its members an awareness and appreciation of the various disciplines of not just Engineering but also other relevant fields.

- Innovation and Entrepreneurship Development Cell (IEDC)
- Institution of Electronics and Telecommunication Engineers (IETE) Chapter

- Institute of Electrical and Electronics Engineers (IEEE) Chapter
- Blockchain Academy Innovation Clubs
- CycGen/Innovative Software Cell
- ACM Chapter
- CSI Students' Chapter
- IIW (Indian Institute of Welding) Chapter
- ISHRAE (The Indian Society of Heating, Refrigerating and Air Conditioning Engineers) Chapter
- SAEINDIA Collegiate Club of SCMS
- ASME (American Society of Mechanical Engineers) Chapter
- Indian Concrete Institute Students' Chapter
- IGBC Chapter
- Association of Core Electricals- Department Association of EE
- Synergy - Department Association of CS
- ARiME - Department Association of ME
- Frames - Department Association of CE
- Explora - Department Association of EC
- Torque – Department Association of AU
- ASAP Cell

File Description	Document
Upload any additional information	View Document
Paste link for additional information	View Document

5.3.3 Average number of sports and cultural events/competitions in which students of the Institution participated during last five years (organised by the institution/other institutions)

Response: 8.4

5.3.3.1 Number of sports and cultural events/competitions in which students of the Institution participated year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
2	8	8	12	12

File Description	Document
Report of the event	View Document
Number of sports and cultural events/competitions in which students of the Institution participated during last five years (organised by the institution/other institutions (Data Template)	View Document

5.4 Alumni Engagement

5.4.1 There is a registered Alumni Association that contributes significantly to the development of the institution through financial and/or other support services

Response:

SSET has always taken pride in the wide network of alumni who are occupying coveted positions in various esteemed organisations in India and abroad. Since the inception of the institution, the role of alumni through its growth and development is quite significant. As the institution prospered, the association also grew in size with a formal structure.

SCMS Alumni Association was formally registered in 2017 covering all the institutions under the SCMS Group. It is an umbrella organization, coordinating many alumni chapters both national and international. The purpose of the SCMS Alumni Association is to support its members throughout the world with a comprehensive and wide range of professional and social activities to nourish the network and to promote SCMS Group of Institutions. The administration of the SCMS Alumni Association is vested with the Executive Committee consisting of the President, Secretary, Treasurer, Vice President and Joint Secretary and six members. The Committee is responsible for the affairs of the Association. The registered office of the Association is SCMS Campus, Prathap Nagar, Muttom, Aluva.

Alumni meets are conducted regularly at Bangalore, Chennai, Delhi, Dubai, Hyderabad, Kochi and Mumbai. During covid times these were held online. Such meets provide a great opportunity for alumni to reconnect with classmates, network with fellow alumni and meet their faculty members which in turn strengthen the ties between SCMS and alumni across different parts of the globe. In addition, alumni also deliver guest lectures, is part of IQAC, take the role of external examiners and also facilitates placement activities.

File Description	Document
Upload any additional information	View Document

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

Response: D. 1 Lakhs - 3 Lakhs

File Description	Document
Upload 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 and in tune with the vision and mission of the institution

Response:

SSET upholds the **Vision** to be a centre of excellence in providing technical education in harmony with the changing global order and a **Mission** to offer technology related education of exceptional quality to students by developing their total personality with due emphasis on ethical values and preparing them to meet the growing challenges of the industry and human society.

Qualified, experienced and motivated faculty, excellent infrastructure facilities, clearly defined teaching and learning strategies, state of the art laboratories, modern teaching aids, firm policy on academic discipline, avenues for knowledge up gradation of faculty and students, industry institute interactions, fulfillment of societal responsibilities are some of key factors identified for accomplishment of stated mission.

In pursuit of our “Vision” and “Mission” SSET aims to:

- To evolve in the long term into a centre of excellence in providing quality education in engineering.
- To discover the full potential of the students and endeavor for commitment and personal excellence in their learning journey
- To promote creativity and innovation to develop a generation of Job Creators rather than Job Seekers.
- To achieve holistic development of stakeholders through extension and community involvement.
- To imbibe human values in all activities and impart value based education.
- To promote research.

Top management has adopted a participatory role in efficiently and effectively achieving the well formulated vision and mission of the institution. The systematic planning process for effectively translating the institution’s vision into specific goals and objectives is kept transparent to achieve positive results in improving the overall functioning of the institution. Broad action plans and related operational instructions derived for the purpose is incorporated into the institutional strategic plan.

Faculty have their representation in administrative and academic bodies of the institution. Besides, all committees constituted by the Principal are mandated to have teacher-representatives to foster collaborative administration. Periodical meetings at Department level, meeting of Principal with the Heads of Departments, with faculty of various departments and entire faculty of the institution are held to review the planning from time to time. Reviews and feedbacks from various stakeholders; students, parents, employers, industry, and alumnae are considered for evaluating the effectiveness of the policy decisions. For smooth administration of the college various committees have been formed. The committees meet at regular intervals to take decisions accordingly. Heads of the departments are given free hand to control their academic activities in coordination with the principal.

Internal Quality Assurance cell (IQAC) at SSET is constituted and functions to ensure the continuous

improvement in quality of all the activities of the institution. IQAC does the planning and evaluation of the quality assurance of the institution and the members meet quarterly for review of the progress.

File Description	Document
Upload any additional information	View Document
Paste link for additional information	View Document

6.1.2 The effective leadership is visible in various institutional practices such as decentralization and participative management

Response:

SSET practices a participative management approach by empowering the faculty members and operational staff in various governing administrative roles. Head of the Institution is assisted by Deans and HODs with specific role functions for the assisting the principal and other functionaries in their respective domain.

Academics: The heads of various departments have been delegated the authority to take administrative decisions for their respective department after consulting the Principal and Deans for smooth functioning of the Institution. For the various programs to be conducted by the institute all the staff members will meet, discuss, share their opinion and plan for the event and form various committees involving students and coordinate the same. Faculty members are also involved in deciding academic activities and examinations to be conducted by the college. The management through the Head of the Institution encourages and supports the involvement of the staff in improving the effectiveness and efficiency of the institutional process as also in the overall development of the students and the college. Various committees for ensuring academic ambience and discipline in the campus is comprised of and headed by faculty members. Individual faculty is empowered through decentralized functioning mechanism. Formal/Informal gatherings with the management is held where faculty members are free to give their suggestions and opinions.

Administration: The overall administration is carried out by the principal with the assistance of office assistants as who are in-charge of affairs related to hostels, transportation, admissions, establishments, scholarships etc. The principal, Deans, HODs and staff members are involved in defining the policies and procedures, framing guidelines and rules regulations pertaining to admission, placement, discipline, grievance, counseling, training development, and library services etc., and effectively implementing the same to ensure smooth and systematic functioning of the institute.

6.2 Strategy Development and Deployment

6.2.1 The institutional Strategic / Perspective plan is effectively deployed

Response:

The Institute's quality policy is well conveyed from its vision and mission statements. The Institution has

strategic action plan aimed at providing guidelines to ensure achievement of predetermined goals of the institution. Both short term and long-term goals are identified. Short-term goals are set at department level focusing on admissions and selection, academic system, faculty excellence, student outcome and institutional sustainability. The management give strategic direction for the growth and development of long-term strategies.

Academic excellence, consultancy, research, innovation and extension activities had been among the thrust areas identified and received significant impetus during the last five years.

Key Indicators:

- APJAKTU to which the college is currently affiliated was established in 2015 and all engineering colleges in the state became under this University. The institution has been able to consistently remain among the top 15 colleges in all semester results published by the university.
- Increased consultancy activities carried out for local self-governments and government organisations
- National & International awards received for innovation
- 3 Patents published during the period
- Faculty pursuing and completing Ph. D
- Increase in number of paper publications
- Extension activities carried out for and with support of Government organisations and recognitions received

File Description	Document
Upload any additional information	View Document
strategic Plan and deployment documents on the website	View Document

6.2.2 The functioning of the institutional bodies is effective and efficient as visible from policies, administrative setup, appointment, service rules and procedures, etc.

Response:

The institution has always strived to provide quality and inclusive education with the help of its stakeholders. The College practices a participative management, which enables development of directives and guidelines with specific plans for implementation by aligning the academic and administrative aspects to improve the overall quality of the College.

The governing body has a participative decision-making process and functions through its executive arm, the Board of Management (BoM).

The role of the BoM is

- Scrutinizing suggestions from Principal and give approval for implementation of action plans and

various activities supporting the realization of strategic objectives.

- Identifying and mobilizing resources required for program implementation.
- Approval of budget and budgetary allocation for various programmes and activities.
- Scanning of environmental changes affecting the functioning and progress of the institution and assessing market potential for new opportunities.

There is a well-designed organizational structure which delineates the roles and scope of work at various levels and acts as the conduit for communication and effective and efficient management of the institution. Qualities of leadership and administrative efficiency transcend to every level of the institution's management. Emphasis is given to collective leadership and transparency in communication. Both formal and informal meetings are held periodically.

Routine activities are under the jurisdiction of the HoDs and Principal. This is reviewed in the monthly faculty meetings and non-routine activities are put up for the perusal and approval of the Board of Management which assesses the feasibility, resource availability, and budgetary allocation and expenditure. Monthly Activity reports covering the progress on the activities (academic and nonacademic) and plans for the coming month are prepared by the Principal and submitted to the Board of Management for their perusal and review. Budgets are prepared and reviewed before resource allocations are made for each activity. Reviews are held on completion of various planned activities, opportunities for improvements are identified and corrective and preventive actions are initiated if any. Departmental meetings are organized every month by the Principal and Head of the Department (HoD) with the faculty team for the review of progress of the monthly activities of each department. Feedback and suggestions are taken from faculty members on course implementation, co-curricular activities, session management, internal assessment, placement. This is then presented before the management for further decision making on the required areas. The progress/achievement of students and faculty members are also reported to management for ensuring effective 360-degree communication.

File Description	Document
Upload any additional information	View Document
Link to Organogram of the Institution webpage	View Document

6.2.3 Implementation of e-governance in areas of operation

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

Response: B. 3 of the above

File Description	Document
Screen shots of user interfaces	View Document
ERP (Enterprise Resource Planning) Document	View Document
Details of implementation of e-governance in areas of operation, Administration etc	View Document

6.3 Faculty Empowerment Strategies

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

Response:

SSET has effective welfare measures for teaching and non-teaching staff with avenues for career development.

The institution has an excellent team of well qualified and experienced faculty to facilitate the comprehensive learning process for students ably supported by efficient supporting staff. The HR department of SCMS recognizes the need for a balance between academic knowledge and practical experience that is ensured through a fair mix of faculty with industry and teaching experience. During recruitment emphasis is also given for candidates with research orientation, research qualification, experience and research output.

The institution has well defined HR policies incorporating progressive and transparent approach systems and procedures for recruitment, training, career progression and employee benefits. The recruitment of the faculty and staff has a definite procedure which is transparent. The faculty recruitment policy strives to select people belonging to different age groups, experience and linguistic with ability to integrate a broad range of subjects, thereby ensuring work diversity amongst the faculty team. The institution follows a compensation policy which is in line with the guidelines of AICTE.

The guidelines of AICTE norms are broadly followed for the career path progression. The institution follows a structured system for appraising the performance of the faculty members/ staff. Every faculty on recruitment is clearly apprised of the role functions as well as our expectations on his or her contribution in running the institution during the induction. The annual performance appraisal comprises of different levels- Self appraisal, appraisal by HOD, appraisal by Principal, followed by the review by BoM. Every effort is taken to ensure that qualified candidates are appropriately designated in suitable pay scales. The key points considered for the promotion are - Contributions and performance of faculty, length of service etc. The severance of service is as per the terms mentioned in the appointment letter/service rules specified.

For teaching faculty: Ph. D leave, Course work leave, travelling allowance, Employees Provident Fund, reservation in admission for eligible wards of employees and concession/fee waiver for meritorious students, one month of vacation every year, Onam & Christmas vacation 10 days each, Incentive for research publication; 180 days maternity leave with pay are provided.

For the staff members: Employees Provident Fund, 12 earned leave per year and if not availed can be carried forward to next year, reservation in admission eligible wards of employees and concession/fee

waiver for meritorious students are provided.

A family get together is arranged annually on 23rd January, our Founder's Day. Management ensured full salary on time to faculty and staff during lock down period. Work from home facility was provided during pandemic times to keep faculty and staff safe. Vaccination drives were organised to provide free covid protection vaccines to staff, spouse and their children above 18 years.

File Description	Document
Upload 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: 1.93

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

2020-21	2019-20	2018-19	2017-18	2016-17
1	6	1	2	5

File Description	Document
Upload any additional information	View Document
Details of teachers provided with financial support to attend conference, 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: 3.4

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

2020-21	2019-20	2018-19	2017-18	2016-17
7	3	3	3	1

File Description	Document
Details of professional development / administrative training Programmes organized by the University for teaching and non teaching staff	View Document

6.3.4 Average percentage of teachers undergoing online/ face-to-face Faculty Development Programmes (FDP)during the last five years (Professional Development Programmes, Orientation / Induction Programmes, Refresher Course, Short Term Course).

Response: 16.26

6.3.4.1 Total number of teachers attending professional development Programmes viz., Orientation / Induction Programme, Refresher Course, Short Term Course year-wise during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
58	18	28	4	13

File Description	Document
Details of teachers attending professional development programmes during the last five years	View Document

6.3.5 Institutions Performance Appraisal System for teaching and non-teaching staff

Response:

The appraisal system implemented in the year 2016 aims to appraise the faculty performance

on their specific roles viz, the Teaching Role, Research and Scholarship Role, Service Role and the Administrative Role together with HOD/Principal Review and also the overall performance review by the Corporate Office. The annual performance appraisal specifies that each faculty member completes the self-evaluation and continues through the evaluation of the HOD/ Principal/ Director –SSET. Annual Performance Appraisal of faculty is done every year in the month of June to review the performance during the previous year. For a faculty on probation, the appraisal period will be from the date of joining to date of confirmation i.e. the completion of one year.

When the confirmation / annual increment becomes due to a faculty member, a performance appraisal is carried out. A faculty member should be able to justify himself / herself by activities such as innovation in teaching methods, involvement in co-curricular / extracurricular activities, academic support to the HOD/ Principal, participation in research projects, and development of case studies and publication of articles / books.

Annual Performance Appraisal comprises of four levels:

Part I – Self Assessment/Self-Appraisal: The faculty members themselves rate their performance for the appraisal year.

Part II. Appraisal by HOD: HOD evaluates the performance of the faculty based on the self-appraisal done by the faculty members and their own evaluation of the performance of the faculty.

Part I and Part II of FPADS is designed to match the UGC PBAS system. This enables a better mode of evaluating department faculty members as well as to quantify the performance. The appraisal form is divided into three main categories.

- . Teaching, Learning & Evaluation related Activities
- . Co-curricular, Extra-curricular, Professional development related Activities
- . Research, Publication related Activities

Part III. Appraisal by Principal: The Principal /Director appraise the performance of the faculty member based on the self-appraisal, comments of HOD and students' feedback and also contributions in service and administrative areas.

Part IV. Corporate Office Review/ Director SSET - Final review is done at the Corporate Office.

This formal evaluation assesses the improvement of individual professional performance and personal development. The appraisal by HOD and Principal is face to face. During this appraisal, the student feedback is also shared with the concerned faculty. Faculty development programs, advanced training, participation in seminars are planned for the faculty members based on the remarks of the HOD and the Principal's evaluation of performance.

The faculty review is based on a composition of self-appraisal, student feedback, and HOD/Principal /Director reviews. The Institution specific roles and parameter values along with the role component weights and their relative impact are worked out based on a list of detailed activities and the respective time spent on each item by the faculty members.

File Description	Document
Upload any additional information	View Document

6.4 Financial Management and Resource Mobilization

6.4.1 Institution conducts internal and external financial audits regularly

Response:

SCMS Group has a centralised finance department which manages the finances of each institute. The finance department reports directly to the management. SSET maintains separate accounting for internal control purpose. The institute has the system of internal / concurrent auditing and the internal auditors

perform the audits of accounts regularly. They submit the internal audit report to the management regularly and management will initiate corrective and preventives steps to ensure the effectiveness of accounting and the systems in operation.

The institute has a mechanism of external audit carried out by the external auditor once in every year. In case of external audit, accounts of the institution are audited by chartered accountant. The auditor verifies all the receipts, expenses bills, payments of the institute for each financial year. Any queries, in the process of audit is attended immediately along with the supporting documents within the prescribed time limits. The auditor ensures that all payments are duly authorized after the audit and the report submitted to the management for review. No major any major audit objection has been raised during the preceding years. Finance department ensures utmost confidentiality at the same time transparency in governance and fund management mechanisms.

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

Response: 1.65

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

2020-21	2019-20	2018-19	2017-18	2016-17
0.19	0.150461	0.33	0.64500	0.33100

File Description	Document
Details of Funds / Grants received from of the non-government bodies, individuals, Philanthropers during the last five years	View Document
Any additional information	View Document

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

Response:

The institution meets most of its financial requirements from fee receipts and accumulated surplus. Apart from this bank loan taken by the SCMS group is also a source of fund for additional requirements where ever necessary especially in capital investment. The institution also undertakes research and consultancy projects which are self-reliant in its funding. The fee collection is done by the finance department as a centralized function. The management team will validate the resource request received from the functional heads and ensure the adequacy of allocated funds.

Budget Allocation and adequacy

Before the commencement of every financial year, principal submits a budget proposal, by considering the recommendations made by the heads of all the departments, and various units to the management. Recurring expenses such as salary, electricity, internet charges, bottled drinking water, maintenance cost, stationery, other consumable charges, transportation, security, etc., and non – recurring expenses or fixed assets expenses like lab equipment purchases, furniture and other development expenses. are considered. Previous year's income & expenditure, business environment, previous and current bottlenecks, availability of funding, department expenditure forecast, revenue forecast and capital expenditure forecast are also taken into consideration while finalising the budget. The forecasted funds are distributed against expenditure head based on the functionality and necessity.

Budget allocation is done by the management and the expenses are monitored by the accounts department. Depreciation costs of various assets are also worked out. The expenses incurred under different heads are thoroughly checked by verifying the bills and vouchers by the finance section at SSET.

Utilisation of Allocated funds

Adequate financial management control system is practised to ensure the utilisation of allotted funds. Budgetary control techniques are used to monitor the proper utilisation of funds. Actual expenditure against the allocated funds is monitored on a periodic basis and the reasons for variance are evaluated by the top management. In case of necessity the value of allocated funds is amended and the functional heads are intimated accordingly. The salary, incentives and grants, are transferred to the individual routed through finance department. Finance department ensures the collection of fees and other receivables on time. Finance department maintains proper books of accounts and ensures the smooth financial management of the institution.

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:

Significant contributions made by IQAC

2016-17

- Streamlining and standardizing for KTU academic audits
- NAAC First Cycle Accreditation – peer team visit from 3 – 5 October 2017
- Strengthening the mentoring system.
- ISO 9001-2015 certification
- NBA accreditation work initiated

2017-18

- MHRD approved Institutional Innovation Council.
- Participation in NIRF.
- Institute visibility by participation and winning in innovation projects competitions.
- Transition to ISO-9001:2015 from ISO-9001:2008
- Tie ups with Central Govt. organizations, LSGD's, municipalities etc. (Life mission, Guruvayur Municipality, Kochi Metro Rail Ltd.) to undertake projects enabling societal service and opening up avenues for service learning to our students.

2018-19

- Improved outreach activities in association with government agencies
- Greater number of MoUs with International Universities for academic and research excellence
- NPTEL local chapter (LC ID: 1813) formed in Feb 2018 and received top 100 achievement certificate in July-November 2018 semester.
- Preparing for NBA Accreditation for three B. Tech. programmes.
- Orientation sessions arranged to staff for accreditation process
- Timely conduct of academic audits and other academic activities. ISO periodic audits were undertaken and documents prepared and submitted for external audit by the affiliating university.
- Participation in NIRF Ranking & ARIIA.
- Various outreach activities were organized in association with Government agencies.
- Recommendations for revising the service rules and procedures to encourage and enable faculty to undertake and complete Ph.D as well as incentives for publications.

2019-20

- Increased number of consultancy for government organisations.
- Increased participation of faculty in technical consultancy, projects and socio-cultural activities to enhance the teaching quality and student learning.
- Consistent academic results among all the engineering colleges affiliated to KTU.
- Mentor mentee system made more robust.
- Conduct of tutorial, remedial and special classes to be improved to address the specific needs of students.
- The IQAC regulates the arrangements for holding seminars, workshops, knowledge sharing programmes etc. by individual departments to enhance the knowledge base and professional skills of students.

2020-21

- Online classes and continuous internal assessments were taken up online without in any way affecting the quality of education.
- Mentoring was taken up online to ensure constant support to the students.
- Research projects and consultancy activities continued unhindered.
- Significant human centric innovative projects were carried out.
- Extension activities were carried out when the pandemic subsided.
- Conferences/ workshops/ seminars/ alumni interactions were held online

File Description	Document
Paste link for additional information	View Document

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 and recorded the incremental improvement in various activities (For first cycle - Incremental improvements made for the preceding five years with regard to quality For second and subsequent cycles - Incremental improvements made for the preceding five years with regard to quality and post accreditation quality initiatives)

Response:

Post Accreditation initiatives are listed below

2016-17

- NBA accreditation work initiated with implementation of OBE
- Initiated work for transitioning from ISO-9001:2008 to ISO-9001:2015
- Improve in areas of consultancy and research & innovation
- Establishment of Fablab
- SSET one among top 15 engineering colleges in the state in academic performance

2017-18

- NPTEL local Chapter formed
- Consultancy projects for local bodies and Government organisations
- Establishment of Robotics lab
- SSET continues as one among 15 engineering colleges in the state in academic performance

2018-19

- Meaningful collaborations with international universities facilitating internship, placement, student faculty exchanges
- Establishment of IoT lab
- Promoting culture of research, innovation leading to product development
- Continued top academics performance

2019-20

- Activities under Unnat Bharat Abhiyan
- Establishment Ideation and Prototyping Centre
- Active Local Chapter of NPTEL
- Significant Funding obtained for R &D projects including funding from the Federal Ministry of Higher Education & Research, Germany for German Academic Exchange Programme (DAAD) for conducting their Alumni Seminar on "Efficient Water Use - Water & Waste Water Management" in collaboration with SCMS Water Institute.

- Three programmes accredited by NBA

2020-21

- Increased number of funded research
- Shift to online education and hybrid education was done in an effective and smooth manner
- Two new UG programmes started

Plan of action chalked out by the IQAC in the beginning of the academic year towards Quality Enhancement and outcome achieved by the end of the academic year for all years are included as attachment.

File Description	Document
Upload any additional information	View Document

6.5.3 Quality assurance initiatives of the institution include:

- 1.Regular meeting of Internal Quality Assurance Cell (IQAC); Feedback collected, analysed and used for improvements**
- 2.Collaborative quality initiatives with other institution(s)**
- 3.Participation in NIRF**
- 4.any other quality audit recognized by state, national or international agencies (ISO Certification, NBA)**

Response: B. 3 of the above

File Description	Document
Upload e-copies of the accreditations and certifications	View Document
Upload details of Quality assurance initiatives of the institution	View Document
Upload any additional information	View Document
Paste web link of Annual reports of Institution	View Document

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

7.1.1 Measures initiated by the Institution for the promotion of gender equity during the last five years.

Response:

SSET has always ensured equal concern for girls and boys in all the curricular, co-curricular and extra-curricular activities within the institution. Women's empowerment and gender equality are among our top priorities, and we advocate for gender equity both within the institute and through our outreach. We appreciate talent diversity and share values and principles such as equality, fairness, and justice for all. We are committed to teaching and serving as role models for future generations, as well as combating any existing inequalities.

Through the **NSS units**, we organize public awareness campaigns about anti-discrimination and mechanisms of protection against gender-based discrimination with our students, thereby connecting the neighbourhood as well. Promoting activities related to health and nutrition, blood donation camps, aids awareness, eye donation awareness campaigns have always been encouraged to stimulate social responsibility among students. Every year, institute organizes seven days camp in which male and female students attend and equally participate in various activities. During these camps LGBT+A members also address the students in an effort from the NSS unit to create among students respect and acceptance towards all genders.

Seminars and workshops on the latest advancements in science and technology are encouraged to initiate **women entrepreneurship**. Awareness programs and campaigns with interactive sessions on women rights and gender equality are organized.

To ensure **safety and security** we have girls' hostel inside the campus itself that too with three full time wardens and security round the clock. Programs within and outside the institution are always overseen by female and male faculty, ensuring that they continue beyond the normal working hours. First Year Men's hostel is separate from senior men's hostel to ensure a sense of

For students' **moral development and mental support**, we have staff advisors and counselors on hand. Girls common room and Infirmary is available for use to students with any discomforts and unhealthiness. We have always focused on conducting workshops that promote diversity and gender sensitive communication for students and staffs alike.

A sense of equality and privacy is maintained in cultural and sporting events, as well as in the canteen and gymnasium.

Well-lit corridors and classrooms with CCTV cameras that plays a significant role in ensuring the overall safety of students on campus. One of the important ways to achieve gender equality is to have a safe space that will not represent injustice and violence against women.

Deliberating on this fact, the **Women's forum, Anti-sexual harassment committee, Internal complaints committee** had been formed and works to promote women's empowerment and gender equality.

Considering the student's indulgence in social media and challenges they face; the committee organizes informative sessions to create awareness about dangers associated with use of social media and awareness about increasing cyber-crimes.

File Description	Document
Link for specific facilities provided for women in terms of: a. Safety and security b. Counselling c. Common Rooms d. Day care center for young children e. Any other relevant information	View Document
Link for annual gender sensitization action plan	View Document

7.1.2 The Institution has facilities for alternate sources of energy and energy conservation measures

1. Solar energy
2. Biogas plant
3. Wheeling to the Grid
4. Sensor-based energy conservation
5. Use of LED bulbs/ power efficient equipment

Response: B. 3 of the above

File Description	Document
Geotagged Photographs	View Document
Any other relevant information	View Document
Any other relevant information	View Document

7.1.3 Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste (within 500 words)

- Solid waste management
- Liquid waste management
- Biomedical waste management
- E-waste management
- Waste recycling system
- Hazardous chemicals and radioactive waste management

Response:

Solid waste management

- An Effluent Treatment Plant (ETP) based on MBBR technology capable of treating about 1 lakh

litre of waste water is operational. Treated waste water is effectively used for irrigation inside the campus.

- A portion of the treated water undergoes further treatment using reverse osmosis and UV as a demonstration unit for students to understand how waste water can be treated to drinking water standards.
- Food waste of 200 kg and vegetable waste of about 30 kg are generated daily from the canteen and are sent to a neighbouring pig farm.
- Mixed paper wastes and recyclable plastics that amount to a total of about 4.5 ton per year are sent to a company named Plan@India for recycling.

Hazardous waste management

- Hazardous waste generated is almost nil.
- In case of chemicals used in practical classes disposal to drains is done in dilute form and that too is kept in minimum.
- Chemicals are purchased after proper calculation of required quantity to save expiry and subsequent disposal.

e-waste management

- Old computers and other wastes generated from the electronic equipments are sold as scrap to authorised vendors. Old computers are also exchanged with new computers.

File Description	Document
Any other relevant information	View Document
Link for Relevant documents like agreements/MoUs with Government and other approved agencies	View Document
Link for Geotagged photographs of the facilities	View Document

7.1.4 Water conservation facilities available in the Institution:

1. Rain water harvesting
2. Borewell /Open well recharge
3. Construction of tanks and bunds
4. Waste water recycling
5. Maintenance of water bodies and distribution system in the campus

Response: A. Any 4 or all of the above

File Description	Document
Geotagged photographs / videos of the facilities	View Document
Any other relevant information	View Document

7.1.5 Green campus initiatives include:

- 1.Restricted entry of automobiles**
- 2.Use of Bicycles/ Battery powered vehicles**
- 3.Pedestrian Friendly pathways**
- 4.Ban on use of Plastic**
- 5.landscaping with trees and plants**

Response: A. Any 4 or All of the above

File Description	Document
Geotagged photos / videos of the facilities	View Document
Any other relevant documents	View Document

7.1.6 Quality audits on environment and energy are regularly undertaken by the Institution and any awards received for such green campus initiatives:

- 1.Green audit**
- 2.Energy audit**
- 3.Environment audit**
- 4.Clean and green campus recognitions / awards**
- 5.Beyond the campus environmental promotion activities**

Response: C. 2 of the above

File Description	Document
Reports on environment and energy audits submitted by the auditing agency	View Document
Certificates of the awards received	View Document
Any other relevant information	View Document

7.1.7 The Institution has disabled-friendly, barrier free environment

- 1.Built environment with ramps/lifts for easy access to classrooms.**
- 2.Divyangjan friendly washrooms**
- 3.Signage including tactile path, lights, display boards and signposts**
- 4.Assistive technology and facilities for Divyangjan accessible website, screen-reading software, mechanized equipment**
- 5.Provision for enquiry and information : Human assistance, reader, scribe, soft copies of reading material, screen reading**

Response: C. 2 of the above

File Description	Document
Policy documents and information brochures on the support to be provided	View Document
Geotagged photographs / videos of the facilities	View Document
Any other relevant information	View Document

7.1.8 Describe the Institutional efforts/initiatives in providing an inclusive environment i.e., tolerance and harmony towards cultural, regional, linguistic, communal socioeconomic and other diversities (within 500 words).

Response:

The institution believes in the equality of all cultures and traditions and is striving to make an inclusive environment a reality. The initiatives are designed for imparting better education, economic upliftment of the needy and fostering communal harmony.

As part of this initiative, 75 of our employees attended an AICTE-sponsored FDP on **Inculcating Universal Human Values** in Technical Education from August 2020 to October 2021 as part of imbining these into our students. Human value education is a planned educational programme that aims to provide quality of life and sustained development in society by providing direction and firmness to life, bringing behavioural changes toward positivism, and promoting peace and harmony in individuals and society.

SSET's Automobile Engineering students along with Young Indians which is a part of CII, organises **HNOP CAMPAIGN** – Horn Not Ok Please, a community driven campaign against unnecessary Vehicle Honking.

Save a Tree, a campaign to nurture and protect trees, is organized regularly by the NSS unit.

At Thiruvairannikulam Temple, the NSS unit launched the **Green Protocol** campaign, which aimed to clean the premises and make it a plastic-free zone. Students from various cultures and beliefs, as well as residents, initiated the activity with great enthusiasm.

The Institute provides ample opportunities for faculty and staff also to showcase their talents. During Onam, Christmas Celebrations staff and students put forward their programs in singing and dancing.

Every year on November 1st, students and staff members dress up in traditional attire and celebrate **Kerala Piravi Day** to promote religious harmony and secularism.

File Description	Document
Link for supporting documents on the information provided (as reflected in the administrative and academic activities of the Institution)	View Document

7.1.9 Sensitization of students and employees of the Institution to the constitutional obligations: values, rights, duties and responsibilities of citizens (within 500 words).

Response:

SSET enlightens the students and employees about constitutional obligations regarding citizens' beliefs, rights, duties, and responsibilities, by empowering them to act responsibly as citizens. We equip students with the knowledge, skill and values that are necessary for sustaining one's balance between a livelihood and life by providing an effective, supportive, safe, accessible and affordable learning environment.

Every year on 26th November, we celebrate **Constitution Day**. It marks the Constituent Assembly's adoption of India's Constitution post-independence and the Preamble is read aloud in class to encourage student's comprehension of their constitutional rights.

Every year on January 23rd, the SCMS Group of Institutions honours our founder, Dr. G.P.C Nayar, as "**Founder's Day**" with a day-long celebration that includes a cultural extravaganza, and we disperse after dinner. With utmost respect we have been organizing the "Dr. Pradeep P Thevannoor Commemorative Annual Lecture Series" since 2019 on the same day. Hon'ble Governor of Kerala Shri. Justice (Retd.) P. Sathasivam, and Hon'ble Justice Mr. Devan Ramachandran (Judge, High court of Kerala) on two occasions delivered lecture on 'Youth – The Architects of The Future' and 'The Rule of Law'. The lawmakers instilled in us the importance of the constitution, over which no other law in India can act, and the history of making the constitution, as a result of which the Indian constitution is regarded as the best in the world.

SSET's **NSS and H2O** units gears up many activities and projects to instill constitutional obligations among students by enriching their values, rights, duties and responsibilities as citizens. There are several activities initiated like Punarjani (repairing the damaged and out-of-use furniture and other health-care facilities at government hospitals across the State), visit to old age homes, orphanages, nearby government school's upgradation. Flood Relief Work-Electrification work (The technical skills of students were used in a productive way to produce great results), Thai Veru (more than 50 bamboo saplings were planted at Konnakuzhy in Pariyaram Grama panchayat near Athirapilly), Make My Floor (post rehabilitation works in Santipuram Divine colony after the devastating floods).

File Description	Document
Link for details of activities that inculcate values necessary to render students in to responsible citizens	View Document

7.1.10 The Institution has a prescribed code of conduct for students, teachers, administrators and other staff and conducts periodic programmes in this regard.

1. The Code of Conduct is displayed on the website
2. There is a committee to monitor adherence to the Code of Conduct
3. Institution organizes professional ethics programmes for students, teachers, administrators

and other staff

4. Annual awareness programmes on Code of Conduct are organized

Response: C. 2 of the above

File Description	Document
Details of the monitoring committee composition and minutes of the committee meeting number of programmes organized reports on the various programs etc in support of the claims	View Document
Code of ethics policy document	View Document
Any other relevant information	View Document

7.1.11 Institution celebrates / organizes national and international commemorative days, events and festivals (within 500 words).

Response:

National/International memorial days are commemorated and recognized on a regular basis at SSET to promote unity and a healthy working environment, as well as to educate students about their country's pride and rich cultural history. Celebration of cultural and constitutional festivals has become an integral part of college co-curricular activities, which has become instrumental in developing today's youth. Staff and students gather in the college to commemorate these days, and students learn about various cultures, which aids their cognitive perception of India.

Republic day, Independence Day, Constitution Day, Gandhi Jayanti, Rashtriya Ekta Diwas are celebrated to decode the spirit of patriotism, ethics and moral values, duties and responsibilities where all staff members and students share their thoughts about the importance of the day in history of our nation and pay tribute to all freedom fighters who sacrificed their lives in order to gain the freedom for the Nation.

As a secular institution we inculcate tolerance, communal harmony and inclusivity among the students and staff by celebrating all the religious festivals like **Onam, Christmas** etc.

Earth Day, Water Day, and Environmental Day are observed to promote a sustainable way of life and a sense of belonging. This day is celebrated to encourage awareness and environmental protection.

Yoga Day is observed to increase awareness of the various advantages of practicing yoga and to create awareness of the importance and impacts of yoga on people's health.

Teacher's Day is observed every year on September 5th to commemorate Dr. Sarvepalli Radhakrishnan's birth anniversary and to promote the values and attributes of a true educator. The significance of celebrations and events serves to remind us of our country's cultural heritage and history.

File Description	Document
Link for Geotagged photographs of some of the events	View Document
Link for Annual report of the celebrations and commemorative events for the last five years	View Document

7.2 Best Practices

7.2.1 Describe two best practices successfully implemented by the Institution as per NAAC format provided in the Manual.

Response:

BEST PRACTICE 1

Title of the Practice: The paradigm shift in teaching-learning to cope with the new normal

Goal

This report is intended to discuss the procedure followed by the SCMS School of Engineering and Technology (SSET) to cope with the challenges posed by the dangerous pandemic outbreak, COVID-19. After the closure of physical classrooms, the institution shifted to online platforms, the course delivery, assessment, extra and co-curricular activities have been conducted. With periodic responses from the stakeholders, especially students, the system is in a positive feedback loop for the betterment of the students.

The Context

The outbreak of the pandemic demanded social distancing, and the Government has also been forced to close educational institutions temporarily. The U.G. and P.G. courses were in the middle of 2019-20 even semester. The classes were at the height of their activity when the temporary closure was announced. After the initial chaos of few days, SSET decided to resume the teaching/learning process remotely. The announcement was made through the official website and communicated with the students and parents through the class coordinators. SSET, as a dynamic community, embraced the new normal quickly.

The Practice

1. Academic Activities: As the initial step towards remote learning, it is decided to create digital learning resources, both textual and visual, for the course contents to continue the previous classes. These course contents were communicated to the students through Google Classroom. The academic council took care of the whole procedure, ensuring all courses are assigned with Google Classroom and the entire students of the respective classes can access the learning resources. After posting the contents, teachers carried out discussion sessions with the students through different online conferencing platforms, including Google Hangouts Meet, Google Meet, Microsoft Team, WebEx, Zoom, etc. This flipped mode of teaching/learning is adopted for a while, and later teachers started presenting the course content through the conferencing platforms and then posted

the resources in the Google Classrooms. Student satisfaction on the remote teaching/learning process is evaluated, and corrections are made wherever necessary. Project guidance and evaluations, remedial classes, and mentoring sessions were also conducted through the online conferencing platforms. University entrusted the institutions to complete the final year examinations. At SSET, Heads of Departments monitored the exam procedure, and teachers posted question papers through Google Classroom, monitored students through live meets, and later collected answer scripts through Google Classroom.

2. As it's found that Google Meet is a more secure, adaptable, and popular platform among students for conducting classes, it is used to run 2020-2021 odd semester courses. With a proper timetable, SSET took the entire classes to run online and completed the studies and internal examination in the time frame advised by the university. Google Classrooms and Google Meets were made accessible by the heads of departments, and continuous monitoring is done to ensure the quality of course delivery. Periodic Class Committee Meetings helped to align the teaching/learning process with student needs. Now, the ongoing 2020-2021 even semesters are also running in a blended learning model.
3. The practical sessions are conducted live for all laboratories where there is a possibility of online/offline simulator tools. Otherwise, the staff filmed the experiments done in the SSET laboratory, and the video is sent to the students. Virtual labs are also made use to teach skills to the students.
4. Co-curricular Activities: SSET became a part of the Coursera for Campus Campaign. With a catalogue of 4808 courses, students and faculty members sharpen their skills through a total of 3291 enrolments as of April 2021. In addition to Coursera, SSET encouraged students to do NPTEL courses as well. A good number of webinars, workshops, and talks have been conducted by all departments, where students get a medium to interact with the supporters from Academia and Industry. Students were also encouraged to be part of online- hackathons and other peer-driven activities to interact with the outside world.
5. The Student Chapters of Professional Bodies are also encouraged to conduct activities exploring the seamless opportunities opened through Internet and Communication Technologies.
6. Extra-Curricular Activities: The Onam celebrations of 2020 are conducted entirely in online mode through the Instagram platform. Students explored the online forum features to run all the events without any degradation in enjoyment as it is live on the campus. Several talks were done by the National Service Scheme of SSET to create public awareness on COVID-19 protocols, precautions, and treatments. Posters are also published for the same deed.

Evidence of Success

The live meet sessions for course delivery are always running with an attendance of >75%. The project works, and lab sessions are completed and submitted for evaluation on time. The examinations are conducted in total attendance, and the pass percentage is good. The placement percentage of 2020 and 2021 pass-out students is better. The feedback from students shows that they are satisfied with how the teaching/learning process is happening in the institution

Problems encountered and resources required

1. Extensive Course Content: The students found that the lengthy course content was complex for them to perform first-time learning. Also, the extensive learning resources are sometimes challenging to download with an unstable network. The contents were divided into small knowledge units of 5 to 8 minutes of studies using cropping and compressing tools.

2. Lack of Engagement: A significant problem encountered by students is distractions during live teaching sessions and lack of engagement. Break-out rooms, small quizzes, peer instructions, etc., helped to alleviate the issue to an extent. The mentoring sessions address this issue and motivate students to attend classes without much distraction.
3. Technical Issues: The humid tropical climate of Kerala is notorious for its rains. Power outage is typical here, and it heavily affects students to be part of live sessions. Issues with data bandwidth and internet blackouts also affect studies. To ease these issues, live sessions are backed up with learning resources, and recordings are posted in the Google Classroom.

BEST PRACTICE 2

HUMAN-CENTRIC INNOVATIONS

Title of the Practice: Human-Centric Innovations

Goal

To develop cost-effective & innovative inventions through a faculty-student partnership model using the existing facilities at SCMS School of Engineering & Technology, that could better equip the COVID-19 frontline workers to fight the pandemic. Regardless of the hurdles and restrictions faced by the global academic researchers, we focussed to invest time and technology to promote awareness and research on COVID-19 at institution level.

The Context

With India registering its first Covid-19 case in January 2020, it was clear that the pandemic had come knocking on India's doors when least expected. With the lack of pharmaceutical interventions to control the spread of the virus, vivid containment, isolation, tracking and other measures were brought into place to avert a community spread.

1. By March 2020, researchers had identified that the tiny virus-laden 'aerosols', which can linger in the air for long periods, played a major part in the transmission of the virus. In the absence of vaccines or treatments, the only way to contain the spread was mass testing, non-pharmaceutical interventions, such as lockdowns, and the use of personal protective equipment to maintain personal hygiene and impose physical distancing among individuals.
2. With public and personal hygiene being declared as a decisive factor to curb the spread of the virus, the country saw an all-time high demand for personal protective equipment such as surgical mask, N95 masks, face shields, etc.
3. A decision was quickly taken by the faculty members & management of SSET to develop cost-effective & innovative inventions through a faculty-student partnership model using the existing facilities at SCMS School of Engineering & Technology (SSET), that could better equip the COVID-19 frontline workers to fight the pandemic.

The Practice

SSET has witnessed the special flair of its faculty members towards active research. A proposed faculty-student partnership work model was approved by the management. An action plan complying with the lockdown & social distancing guidelines was formulated. The days that followed saw extensive virtual

brainstorming sessions and the following ideas were shortlisted and implemented at the FABLAB-SSET. 40 nos of Automatic Sanitizer dispenser were made available at different Health Care centers as a token of gratitude to the frontline workers.

1. Splash Protection Face Mask
2. Reusable N95 Compatible Face Masks
3. IR Based Automatic Door Openers
4. Ventilator Splitter
5. IR Based Hand Sanitizer Dispenser
6. SCMS Disinfecting Box
7. SCMS Biodegradable Disposal Unit for used Masks and Gloves
8. Automatic Respiratory Assistance for Ventilator

Evidence of success

The indigenous faculty student partnership has been the key ingredient in coming up with challenging solutions. The various supporting products related to COVID -19 has been made into a reality at the FABLAB-SSET.

File Description	Document
Link for Best practices in the Institutional web site	View Document

7.3 Institutional Distinctiveness

7.3.1 Portray the performance of the Institution in one area distinctive to its priority and thrust within 1000 words

Response:

SCMS Water Institute (SWI) was established in 2010 as part of a Memorandum of Understanding between University of Applied Sciences Ravensburg-Weingarten, Germany and SCMS Group of Educational Institutions to address the water related environmental problems affecting the society. Since water is one of the most important resource limitations of the century, it was the commitment from the SCMS to establish a research and consultancy centre on water for its effective management and sustainable development. The institute initially known as Centre for Sustainable Water Technology and Management (CSWTM) was renamed in 2015. SWI functions with a mission to address the water related issues through multidisciplinary efforts in order to achieve a sustainable and secure water future. SCMS Water Institute accomplishes its mission through research and development, technology incubation and application, education and training, demand driven consultancy and networking. In 2013, SWI was funded by Baden Wuttemberg Stiftung Germany for establishing an Indo-German centre of competence for water and waste water under the leadership of University of Applied Sciences Ravensburg- Weingarten.

SWI hold MoU's with many German companies working on water and waste water as well as with German Universities for Institutional strengthening, joint research and for faculty and student exchange. SCMS

Water Institute accomplishes its mission through research and development, technology incubation and application, education and training, demand driven consultancy and networking. Since its inception Water Institute have been working closely with local self-governments in Kerala to address their water related challenges.

SWI acts as a Centre of Excellence in water and provides enormous opportunities for the students of SSET to get involved in service learning, where the technological talents of students get upgraded by addressing the real time problems faced by the society. This helps to fill the common lacuna which used to appear in engineering education. It is an excellent platform for technological students to understand the true field level challenges while implementing engineering principles and tackling them skilfully, as SWI provide opportunities for applying academics they study in the classroom to the field. Further, SWI facilitates the students to confront and resolve unforeseen difficulties while implementing projects which make them more suited for industry and thus in turn more successful in their career. Engagement of engineering students in solving the society related problems help them to be more responsible technological citizens of the nation.

SWI focuses on the aspects related to urban water security & management through multidisciplinary efforts. SWI offered expertise on the areas like water quality monitoring & assessment; environmental modelling; water auditing; remote sensing & geographic information systems; policy development; eco restoration & watershed management; design of water & waste water treatment units; rainwater harvesting; water distribution network analysis; storm water management.

SWI has emerged as a technical support provider for local self-governments in Kerala. It provides continued support to Kochi Municipal Corporation, Thrissur Municipal Corporation, Guruvayur Municipality, Meloor Grama Panchayath, Koratty Grama Panchayath, Kochi Metro Rail Ltd (KMRL), Cochin International Airport Ltd (CIAL) and various academic institutions in Kerala to address their environmental challenges.

Some of the projects undertaken include:

- Study on urban flooding in Thrissur Municipal Corporation
- Water Audit & Rain Water Harvesting Feasibility Assessment for Kochi Metro Rail Limited (KMRL)
- City Water Audit for Guruvayoor Municipality
- Development of Flood Preparedness and Response Plan for Meloor Grama Panchayath
- Background Study done for Developing a Water Management Plan for Meloor Grama Panchayath
- Leak Detection for Cochin International Airport Limited (CIAL, Kochi)
- Survey of Thevara Perandoor Canal, Kochi Municipal Corporation
- City Water Audit and Water Policy formulation for Kochi Municipal Corporation
- Water quality analysis & Water Quality Atlas for Koratty Grama Panchayath
- Green audit and Water audit for various Educational Institutions and Apartment Complexes

Projects Underway include:

- Development of a Water Management Plan for Koratty Grama Panchayath
- Smart KWA Network (Kochi water Information system)
- Abatement of Pollution of Rivers in Kerala – Kadambayar and Kecheri
- Storm Water Management for Kalamassery

- Eco restoration of Bodi North Hills, Tamil Nadu

Students from various departments of SCMS School of Engineering & Technology choose to voluntarily work with SWI to get exposure on real life projects. A state of the science environmental engineering laboratory at SSET is currently facilitating the research and consultancy works of SWI.

File Description	Document
Link for appropriate web in the Institutional website	View Document
Link for any other relevant information	View Document

NAAC

5. CONCLUSION

Additional Information :

SSET's education transcends beyond the classroom, reiterating students' overall development through extracurricular activities, leadership roles, value-added projects, and course making it one among the KTU's top 15 colleges. NBA accreditation vindicates our endeavors as part of a holistic education to endorse our mission and vision. Collaborations with industries, networks with neighborhood agencies, and academic coalitions with several overseas universities are being established to prepare students to be innovative, creative, and entrepreneurial in their approach and to successfully face global challenges. The institution has strategic collaborations with Shimane University Japan, Hungkuang University, Taiwan, Daffodils International University, Bangladesh for faculty-student exchange in the field of Engineering and Technology. SSET has been elevated as a research potential through its consistent hard work, innovation, and cutting-edge research that creates an innovative ecosystem by incubating knowledge-based startups. Patents energize us to go above and beyond, and we now hold several patents to our credits and to name a few, performance analysis of solar still with carbon fiber composite and copper fins, sustainable development goals achieving using AI technology, monitoring and detection of covid-19 patients using Internet of Things, self-assistive brain body control physiotherapy device, De-Addicto (Non- Invasive anti-depression and drug rehab E-M stimulator) and Medicos (Medical kiosk: A Mini virtual hospital for villages). SSET provides rewarding future with a wide variety of employment prospects. Our strong industry links, state-of-the-art facilities and practical hands-on engineering degrees enable students to contribute ideas to tackle the real-world engineering problems. The Governing Body, the IQAC, the Academic Cell, and various committees all contribute in meeting stakeholders' perceptions. Faculty members share the Institute's desire to improve educational quality in order to accomplish the vision, mission, and values. Our long-standing partnership with various industries informs our teaching process, ensuring our education relevant and thereby developing the skills in each student that the employers want. Our industry links, external partners and alumni make the institution a diverse international community. At SSET, progressive innovation takes place amidst a rich history of excellence spanning more than two decades.

Concluding Remarks :

SSET endorse holistic and integrated student development by fostering ethical and moral values in their innate talents and intuitions, preparing them to be responsible citizens. Our initiatives and pursuits are consistent with the institution's vision and mission. SSET's guiding principles are compatible with NAAC accreditation framework as they prepare students to be innovative, creative, and entrepreneurial in their cognition, aiding them to contribute towards national development. Industry collaborations, community networks, and academic ties with many international universities have all been established, abetting them to successfully confront global challenges. Students are encouraged to participate in an array of different events and government-sponsored social development initiatives, as the institution places a strong emphasis on development of their social skills. Students are provided with adequate placement and skill development training in order to obtain a quality placement and a successful career. We believe that education should extend beyond classroom and focus on students' overall development through a variety of extracurricular activities, leadership roles, value-added programmes, and courses. Streamlined courses, well-equipped library, technologically updated laboratory, and an entrepreneurial culture, fosters a holographic learning experience and expose students to activities and programmes that prepare them to manage and lead in challenging environments. Renowned industry intellectuals are invited to train and improve students' employability skills, and Memorandums of Understanding with leading industries provide them with industry experience that enhances their career

prospects. Dr. Pradeep Thevannoor Innovation Awards (PPTIA), is one such initiative that focuses on development of innovative skills in students all over the world in order to achieve a global shift in startup culture that benefits human society. The faculty members team up with the institute's zeal to enhance quality of education for attainment of vision, mission and values by keeping pace with technological advancements and enriching their knowledge through various workshops, webinars, FDP's and online courses. A well-organized administration framework ensures the smooth functioning of the college by instilling values and moral beliefs in each and every educator. SSET is making concerted efforts to achieve rapid growth in academics, research, and extracurricular activities adhering to a well-defined vision and mission for the next generation.

NAAC

6.ANNEXURE

1.Metrics Level Deviations

Metric ID	Sub Questions and Answers before and after DVV Verification																				
1.2.1	<p>Percentage of Programmes in which Choice Based Credit System (CBCS)/ elective course system has been implemented</p> <p>1.2.1.1. Number of Programmes in which CBCS / Elective course system implemented. Answer before DVV Verification : 13 Answer after DVV Verification: 13</p> <p>Remark : Observation accepted & input Edited as per EP 1.2 excluding PhD program</p>																				
1.2.2	<p>Number of Add on /Certificate programs offered during the last five years</p> <p>1.2.2.1. How many Add on /Certificate programs are offered within the last 5 years. Answer before DVV Verification:</p> <table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>6</td> <td>3</td> <td>5</td> <td>1</td> </tr> </tbody> </table> <p>Answer After DVV Verification :</p> <table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>3</td> <td>0</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	2020-21	2019-20	2018-19	2017-18	2016-17	6	6	3	5	1	2020-21	2019-20	2018-19	2017-18	2016-17	1	3	0	1	1
2020-21	2019-20	2018-19	2017-18	2016-17																	
6	6	3	5	1																	
2020-21	2019-20	2018-19	2017-18	2016-17																	
1	3	0	1	1																	
1.2.3	<p>Average percentage of students enrolled in Certificate/ Add-on programs as against the total number of students during the last five years</p> <p>1.2.3.1. Number of students enrolled in subject related Certificate or Add-on programs year wise during last five years Answer before DVV Verification:</p> <table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>323</td> <td>259</td> <td>277</td> <td>421</td> <td>506</td> </tr> </tbody> </table> <p>Answer After DVV Verification :</p> <table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>213</td> <td>84</td> <td>0</td> <td>421</td> <td>506</td> </tr> </tbody> </table>	2020-21	2019-20	2018-19	2017-18	2016-17	323	259	277	421	506	2020-21	2019-20	2018-19	2017-18	2016-17	213	84	0	421	506
2020-21	2019-20	2018-19	2017-18	2016-17																	
323	259	277	421	506																	
2020-21	2019-20	2018-19	2017-18	2016-17																	
213	84	0	421	506																	
1.3.3	<p>Percentage of students undertaking project work/field work/ internships (Data for the latest completed academic year</p> <p>1.3.3.1. Number of students undertaking project work/field work / internships Answer before DVV Verification : 406</p>																				

Answer after DVV Verification: 444

Remark : Edited as per EP 2.3

2.3.3 Ratio of students to mentor for academic and other related issues (Data for the latest completed academic year)

2.3.3.1. Number of mentors

Answer before DVV Verification : 107

Answer after DVV Verification: 110

Remark : Edited as per document provided by HEI

2.4.2 Average percentage of full time teachers with Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt. during the last five years (consider only highest degree for count)

2.4.2.1. Number of full time teachers with Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt. year wise during the last five years

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
31	17	25	17	17

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
17	17	17	17	15

Remark : Edited considering Degree certificates provided for the session 2019-20

2.4.3 Average teaching experience of full time teachers in the same institution (Data for the latest completed academic year in number of years)

2.4.3.1. Total experience of full-time teachers

Answer before DVV Verification : 1174

Answer after DVV Verification: 1165

2.6.3 Average pass percentage of Students during last five years

2.6.3.1. Number of final year students who passed the university examination year-wise during the last five years

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
305	395	420	380	330

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
0354	461	451	418	386

2.6.3.2. Number of final year students who appeared for the university examination year-wise during the last five years

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
487	462	532	507	448

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
0537	597	655	641	569

Remark : Observation accepted & Input edited accordingly

3.1.1 Grants received from Government and non-governmental agencies for research projects, endowments, Chairs in the institution during the last five years (INR in Lakhs)

3.1.1.1. Total Grants from Government and non-governmental agencies for research projects , endowments, Chairs in the institution during the last five years (INR in Lakhs)

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
7.75	38.51	2.23166	3.9	0.25

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
9.28	29.23	2.03	3.7	0.25

Remark : Observation accepted & Input edited excluding grants received for FDP

3.1.3 Percentage of departments having Research projects funded by government and non government agencies during the last five years

3.1.3.1. Number of departments having Research projects funded by government and non-government agencies during the last five years

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
4	4	2	3	1

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
1	2	1	1	1

3.1.3.2. Number of departments offering academic programmes

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
6	6	6	6	6

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
6	6	6	6	6

Remark : Observation accepted & Input edited as par with 3.1.1 input

3.2.2 Number of workshops/seminars conducted on Research Methodology, Intellectual Property Rights (IPR) and entrepreneurship during the last five years

3.2.2.1. Total number of workshops/seminars conducted on Research Methodology, Intellectual Property Rights (IPR) and entrepreneurship year-wise during last five years

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
27	49	18	10	13

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
12	12	3	2	5

3.3.1 Number of Ph.Ds registered per eligible teacher during the last five years

3.3.1.1. How many Ph.Ds registered per eligible teacher within last five years

Answer before DVV Verification : 18

3.3.1.2. Number of teachers recognized as guides during the last five years

Answer before DVV Verification : 18

Answer after DVV Verification: 9

3.3.2 Number of research papers per teachers in the Journals notified on UGC website during the last five years

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

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
102	41	42	25	32

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
0	0	0	0	0

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

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

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
53	15	21	6	11

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
10	4	0	2	10

Remark : Edited excluding books & chapters without ISBN Numbers

3.4.2 Number of awards and recognitions received for extension activities from government/ government recognised bodies during the last five years

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

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
1	4	2	2	1

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
0	0	1	1	0

Remark : Observation accepted & Input edited accordingly

3.4.3 Number of extension and outreach programs conducted by the institution through NSS/NCC,

Government and Government recognised bodies during the last five years**3.4.3.1. Number of extension and outreach Programmes conducted in collaboration with industry, community and Non- Government Organizations through NSS/ NCC/ Red Cross/ YRC etc., year-wise during the last five years**

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
57	50	32	19	21

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
9	12	13	9	10

3.5.1 Number of Collaborative activities for research, Faculty exchange, Student exchange/ internship per year**3.5.1.1. Number of Collaborative activities for research, Faculty exchange, Student exchange/ internship year-wise during the last five years**

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
1	3	2	2	1

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
1	3	2	2	1

Remark : Observation accepted & Input edited accordingly

3.5.2 Number of functional MoUs with institutions, other universities, industries, corporate houses etc. during the last five years**3.5.2.1. Number of functional MoUs with Institutions of national, international importance, other universities, industries, corporate houses etc. year-wise during the last five years**

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
3	5	4	3	2

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
0	0	0	0	0

4.1.3 **Percentage of classrooms and seminar halls with ICT- enabled facilities such as smart class, LMS, etc. (Data for the latest completed academic year)**

4.1.3.1. Number of classrooms and seminar halls with ICT facilities

Answer before DVV Verification : 54

Answer after DVV Verification: 54

4.1.4 **Average percentage of expenditure, excluding salary for infrastructure augmentation during last five years(INR in Lakhs)**

4.1.4.1. **Expenditure for infrastructure augmentation, excluding salary year-wise during last five years (INR in lakhs)**

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
6.17	26.42	62.44	70.57	255.9

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
0	0	0	0	0

4.2.3 **Average annual expenditure for purchase of books/e-books and subscription to journals/e-journals during the last five years (INR in Lakhs)**

4.2.3.1. **Annual expenditure of purchase of books/e-books and subscription to journals/e-journals year wise during last five years (INR in Lakhs)**

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
20.05	15.86	8.87	23.90	17.62

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
19.28	15.09	5.04	18.66	16.28

Remark : Edited as per Income & Expenditure statement provided by HEI

4.4.1 **Average percentage of expenditure incurred on maintenance of infrastructure (physical and academic support facilities) excluding salary component during the last five years(INR in Lakhs)**

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

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
550.2	912.64	946.64	962.57	908.54

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
20.635	55.56	43.54	45.46	106.08

Remark : Observation accepted & Input Edited as per Income & Expenditure statement considering repair & maintenance expenditure

5.1.3 **Capacity building and skills enhancement initiatives taken by the institution include the following**

1. **Soft skills**
2. **Language and communication skills**
3. **Life skills (Yoga, physical fitness, health and hygiene)**
4. **ICT/computing skills**

Answer before DVV Verification : A. All of the above

Answer After DVV Verification: B. 3 of the above

Remark : Observation accepted & Input edited accordingly

5.1.5 **The Institution has a transparent mechanism for timely redressal of student grievances including sexual harassment and ragging cases**

1. **Implementation of guidelines of statutory/regulatory bodies**
2. **Organisation wide awareness and undertakings on policies with zero tolerance**
3. **Mechanisms for submission of online/offline students' grievances**
4. **Timely redressal of the grievances through appropriate committees**

Answer before DVV Verification : A. All of the above

Answer After DVV Verification: B. 3 of the above

5.2.1 **Average percentage of placement of outgoing students during the last five years**

5.2.1.1. **Number of outgoing students placed year - wise during the last five years.**

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
472	258	297	218	425

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17

249	202	240	187	347
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5.3.1 **Number of awards/medals won by students for outstanding performance in sports/cultural activities at inter-university/state/national / international level (award for a team event should be counted as one) during the last five years.**

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

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
0	8	14	10	10

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
0	2	1	0	5

Remark : Observation accepted & Input edited excluding inter collegiate awards

5.3.3 **Average number of sports and cultural events/competitions in which students of the Institution participated during last five years (organised by the institution/other institutions)**

5.3.3.1. Number of sports and cultural events/competitions in which students of the Institution participated year-wise during last five years

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
11	18	56	14	17

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
2	8	8	12	12

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**

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

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17

1	7	1	2	6
---	---	---	---	---

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
1	6	1	2	5

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**

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

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
55	9	13	10	9

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
7	3	3	3	1

6.3.4 **Average percentage of teachers undergoing online/ face-to-face Faculty Development Programmes (FDP)during the last five years (Professional Development Programmes, Orientation / Induction Programmes, Refresher Course, Short Term Course).**

6.3.4.1. **Total number of teachers attending professional development Programmes viz., Orientation / Induction Programme, Refresher Course, Short Term Course year-wise during the last five years**

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
118	44	68	39	34

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
58	18	28	4	13

Remark : Observation accepted & input edited considering 5 day FDP

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

6.4.2.1. Total Grants received from non-government bodies, individuals, Philanthropers year wise

during the last five years (INR in Lakhs)

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
1.74834	1.50461	1.86000	0.64500	0.43100

Answer After DVV Verification :

2020-21	2019-20	2018-19	2017-18	2016-17
0.19	0.150461	0.33	0.64500	0.33100

Remark : Observation accepted & Input edited excluding consultancy & project amount

7.1.10

The Institution has a prescribed code of conduct for students, teachers, administrators and other staff and conducts periodic programmes in this regard.

1. **The Code of Conduct is displayed on the website**
2. **There is a committee to monitor adherence to the Code of Conduct**
3. **Institution organizes professional ethics programmes for students, teachers, administrators and other staff**
4. **Annual awareness programmes on Code of Conduct are organized**

Answer before DVV Verification : B. 3 of the above

Answer After DVV Verification: C. 2 of the above

Remark : Observation accepted & Input edited accordingly

2.Extended Profile Deviations

ID	Extended Questions																				
1.1	<p>Number of courses offered by the Institution across all programs during the last five years</p> <p>Answer before DVV Verification:</p> <table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>495</td> <td>463</td> <td>539</td> <td>546</td> <td>468</td> </tr> </tbody> </table> <p>Answer After DVV Verification:</p> <table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>502</td> <td>469</td> <td>539</td> <td>546</td> <td>468</td> </tr> </tbody> </table>	2020-21	2019-20	2018-19	2017-18	2016-17	495	463	539	546	468	2020-21	2019-20	2018-19	2017-18	2016-17	502	469	539	546	468
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495	463	539	546	468																	
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1.2	<p>Number of programs offered year-wise for last five years</p> <p>Answer before DVV Verification:</p> <table border="1"> <thead> <tr> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> <th>2017-18</th> <th>2016-17</th> </tr> </thead> <tbody> <tr> <td>13</td> <td>13</td> <td>13</td> <td>13</td> <td>13</td> </tr> </tbody> </table>	2020-21	2019-20	2018-19	2017-18	2016-17	13	13	13	13	13										
2020-21	2019-20	2018-19	2017-18	2016-17																	
13	13	13	13	13																	

Answer After DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
14	14	14	14	14

2.1 **Number of students year-wise during last five years**

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
406	294	339	500	578

Answer After DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
1389	1519	1848	2211	2384

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

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
127	125	114	132	132

Answer After DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
130	158	149	169	170

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

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
434	478	525	452	418

Answer After DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
0537	597	655	641	569

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

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
135	141	168	167	175

Answer After DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
138	141	168	167	175

3.2 **Number of sanctioned posts year-wise during last five years**

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
135	141	168	167	175

Answer After DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
138	141	168	167	175

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

Answer before DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
940.82	1284.04	1362.35	1472.20	1588.74

Answer After DVV Verification:

2020-21	2019-20	2018-19	2017-18	2016-17
758.634	1054.164	1060.074	1144.389	1033.707