



SELF STUDY REPORT

FOR

3rd CYCLE OF ACCREDITATION

P. T. SARVAJANIK COLLEGE OF SCIENCE

MTB COLLEGE CAMPUS, JAWAHARLAL NEHRU MARG, ATHWALINES,

SURAT

395001

ptscience.ac.in

SSR SUBMITTED DATE: 07-06-2022

Submitted To

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BANGALORE

June 2022

1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

P. T. Sarvajanik College of Science is one of the oldest colleges in India. It is managed by the Sarvajanik Education Society (SES) – a philanthropic trust, which was established more than a century ago in 1912 in Surat. SES has survived and thrived, solely on basis of the charity of benevolent institutions and individuals and has grown into one of the largest philanthropic institution of the country, where more than 35,000 students take quality education.

The Institution is affiliated to Veer Narmad South Gujarat University (VNSGU) and has grant-in-aid status. The Institute is recognised under the sections 2(f) and 12(B) of the UGC Act, 1956.

This iconic Institution which was established during the colonial times, has unwaveringly committed itself to provide affordable quality education to public at large since its inception. The majestic main building with gothic architecture stands tall amidst a sprawling lush green campus which spreads over 3.5 acres in the heart of the city of Surat. The College campus offers the best and congenial environment to all the students and therefore learning has become an enjoyable activity for all.

The Institute runs UG (B. Sc.), PG (M. Sc.) as well as the Certificate Courses which are a rich value addition to the UG and PG programs. It offers B. Sc. in Chemistry, Physics, Mathemaics, Zoology and Botany. It runs PG centres of VNSGU in Organic Chemistry, Nuclear Physics and Botany. All of its UG and PG programmes are offered under the CBCS system.

The Institute has already gone through two cycles of accreditation by NAAC. In the last cycle it was accredited **‘A’ grade with 3.03 CGPA**. The Institute was recognized as the **“College with Potential for Excellence”** by the UGC in 2016.

The Institute has received a grant of Rs. 2 crores under the RUSA 2.0 component - 9 scheme.

The Institute has been rated as Five Star College by the Government of Gujarat during the GSIRF rankings for the two consecutive years 2019 and 2020.

Vision

- To promote experimental scientific pursuit and to provide conducive environment for students to develop aptitude and to sharpen skills of the students to meet the challenges of rapidly changing world.
- To instill a spirit of camaraderie amongst the students and to sensitize them regarding their role and duty towards Nation building.

Mission

To make the Education of Core Science subjects “Sarvajanik” in true sense to create scientific thrust and to make the students explore new horizons of science through research.

Objectives

- To provide affordable quality education to one and all without any discrimination of caste and creed
- To bring about overall development of the students
- To build up strong character amongst the students
- To nurture the students to be responsible and loyal citizens of the country
- To create awareness about the rich cultural heritage
- To inculcate scientific temper

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

- A century old management which has committed itself to the cause of education
- The brand of the Institution painstakingly built over the years
- Spacious well lit classrooms with ICT facilities
- State-of-the-art laboratory facilities
- Lush green, Eco-friendly campus with rain water harvesting, solar lights, underground water storage facility, waste disposal mechanism etc.
- Vermicompost facility for eco-friendly waste management
- Reserved space for botanical garden
- Five specializations in UG in the core subjects of science
- A well-qualified motivated staff
- The Nobel Lecture Series to keep students abreast of the path-breaking research
- Provides platform to students to interact with prominent scientists from premier institutes
- A separate building for library which is RFID enabled with INFLIBNET facility
- Excellent sports facilities
- Barrier free campus for persons with disabilities
- Boys and Girls Hostels
- Experiential learning for students with regular arrangement of education tours, visits to industrial units and laboratories, field trips etc.
- A unit of 5 Guj Bn NCC with commissioned Associate NCC Officer
- Three active units of NSS which train students to work for societal issues
- The publication of “SPECTRUM” magazine by the Physics Department to nurture scientific writing skills among students and staff
- Different clubs and committees which provide the right platform for students for co-curricular activities
- One of its kind a “Bicycle Club” to raise ecological awareness, to develop physical fitness and to promote the “Fit India” initiative of the GOI
- A robust and vibrant Alumni Association
- An active Placement Cell

Institutional Weakness

- Shortage of teaching and non-teaching staff because of state government’s policies
- Lack of flexibility in the courses taught because the Institute is an affiliated college
- Lack of courses offered which are interdisciplinary in nature

- Lack of courses offered which are applied in nature
- Not able to offer PG course in all the subjects
- Lack of flexibility in conducting exam and evaluation
- Lack of exchange programs with national and international institutes
- Unable to implement CBCS to the full extent

Institutional Opportunity

- To become an Autonomous college
- To establish a strong Academia-Industry collaboration through MoU's because the South Gujarat region is an industrial belt primarily consisting of Chemical industries
- To develop research in collaboration with industries and premier institutes
- To develop intensive training programs for different competitive exams

Institutional Challenge

- To implement CBCS system in full
- To motivate talented students for research
- To keep pace with the rapidly changing scenario in imparting education
- To implement NEP 2020
- To increase the placement ratio

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

The Institute offers 5 UG programmes in the subjects of Chemistry, Physics, Mathematics, Zoology and Botany. It also has 3 PG centres of VNSGU - Organic Chemistry, Botany and Nuclear Physics. Since 2011, CBCS has been implemented. The Institute faculty who are BOS members have proactively contributed in designing and giving final shape to the syllabi through their ardent participation in the syllabus-framing committees of VNSGU.

The Institute prepares its own term planner, which incorporates academic activities with internal exams, co-curricular, extra-curricular activities as well as the celebration of days of national importance in accordance with the Academic Calendar of VNSGU.

To be in tune with the advancements in ICT, the Institute has installed LCD projectors in all the classrooms. To add to this, the Institute has state-of-the-art laboratory facilities with latest equipment.

Faculties prepare power point presentation (ppt) of their lectures. Apart from the use of ICT tools, the pedagogy also includes class room discussions, assignments, seminars, presentation by students etc.

The Institute offers certificate courses whose contents have been developed by the faculty members. The courses help the students to strengthen their fundamentals and prepares them for the competitive exams such as NET, SLET, GATE, JAM etc.

The Institute provides an ideal platform for experiential learning by organizing educational visits to the reputed institutes such as IITs, TIFR, BARC, PRL, MIRO etc., arranging industrial visits, field trips, project work at Kakrapar Atomic Power Station (KAPS). To keep the students abreast with cutting edge research, the Institute organizes a Lecture series on the Nobel prizes – a flagship program, every year. The students are encouraged to participate in the internship programs during summer and winter vacations.

The NCC unit has played a pivotal role in inculcating patriotic fervour, disciplined life style and physical fitness amongst the students.

The NSS units have sensitized the students towards societal problems by organizing different awareness programs which highlight the plight of the downtrodden and deprived sections of the society.

The Institute collects feedback from different stakeholders and the feedback received is analysed. The analysed feedback is uploaded on the Institutional website.

Teaching-learning and Evaluation

The admissions to the Sem I of UG and PG are carried out through a centralized admission process by the VNSGU. The admissions are given based on the merit list prepared using the marks scored in the last qualifying examination.

A special orientation/induction programme is arranged for the new entrants to the Institute. In this program, the HOI impresses upon the students, the ethos of the Institute, its work culture, code of conduct on campus and its deep-rooted commitment to quality. All HODs or representatives of the departments give presentation on their respective departments, highlighting the activities carried out at the departmental level, the facilities available in the departments, career prospects in the particular subject etc.

The faculty assesses different levels of learning abilities of the students during classroom interactions which involves discussions, presentation by the students, marks scored in the previous qualifying examination etc. The advanced and slow learners are identified. A special effort is made to help differently abled students so that they are brought to the level of other students.

For advanced learners, faculties conduct extra classes for preparing them for competitive examinations. As a result of these concerted efforts, many students have cleared competitive exams such as JAM, NET, SLET, GATE etc.

For the slow learners, faculties conduct extra classes and arrange special sessions after regular classes. The faculty discusses previous years question papers and guides them in preparing for exams.

A notable feature is the help provided to visually impaired students of the Institute. Faculty have taken training from Xavier's Resource Centre for the Visually Challenged (XRCVC), St. Xavier's College, Mumbai, to deal with visually impaired students, how to teach them practical, how to prepare their study material etc.

The traditional chalk and talk method adopted by faculty is supplemented by the generous use of different ICT tools which makes learning pleasant and lectures become more meaningful and efficacious.

Internal examinations and evaluation are carried out as per the rules and regulations of the VNSGU. The

procedure is transparent with a robust mechanism to address any grievances that a student may have.

Research, Innovations and Extension

Promoting research activity in the college is one of the main thrust areas of the Institute. The Institute has a few modern analytical instruments for research. The Institute takes special interest in promoting research by encouraging the faculty to participate in National/International conference, workshops/seminars etc.

The Institute provides full support in terms of administrative, academic and human resources to enable faculty to submit research proposals to various funding agencies. The Institute has received grants for minor and major research projects from the funding agencies like UGC, ISRO etc.

The faculty have published their research papers in different peer reviewed journals which feature in the UGC CARE list.

For the benefit of the students, some of the faculty have written a number of books with a few being in vernacular language.

The Institute is registered with INFLIBNET. All staff members, research students and students have been provided the passwords individually so that they can access quality journals, ebooks and other relevant material.

The Institute has a wide range of extension and outreach programmes. Under the aegis of NSS and NCC, the Institute organizes motivational talks, blood donation camps, the mass awareness campaigns such as AIDS awareness, awareness for traffic rules, Anti-tobacco campaign, save environment campaign, the unity run, the fit India movement, the movement for “Vocal for Local”, the “Swachhata Pakhwada” etc.

The last two years have been horrific for humanity at large because of the Covid-19 pandemic. The Institute organized a series of programs such an awareness program on COVID-19 via All India Radio (through radio interviews by the faculty members), safety measures for corona, digital campaign on “Stay home, stay safe”, poster making competition on corona etc.

The Institute frequently organizes various educational field trips to research organization/institutions like SAC (ISRO), KAPS, MIRO, PRL, IPR etc. and industries such as Laxmipati Sarees etc. to give them field exposure.

The faculty of the Institute give invited talks at various research and educational institutions.

The Institute has done several MOUs with Educational Institution, NGOs and Industries to promote environmental awareness and educational exchange.

Infrastructure and Learning Resources

An up-to-date infrastructure always plays a key role in the effective implementation of educational programmes. The Institute has an excellent infrastructure with roomy, well-ventilated and ICT enabled classrooms, well-equipped laboratories, a classic library with two storey building, a big, elegant Taramoti Hall with central AC system, a computer laboratory, NSS room, NCC room, Boys’ room, Girls’ room, a spacious

Principal office and an Admin office, a strong room, a canteen, a botanical garden and a health centre. The Institute has a huge playground for outdoor games such as football, cricket, volleyball, tennis etc. It also has two separate pavilions for playing indoor games such as badminton and table tennis.

The Institute campus is fully Wi-Fi enabled. The Institute has one lease line and eleven broadband connections. Every Department of the Institute has its own computers and printers with scanning facility. The Institute has reprographic machines, color printers, etc.

A classic library building houses a wide spectrum of books and is an ideal tranquil place for voracious readers. The Institute library is RFID enabled and provides accesses to the INFLIBNET facility to all the staff members and the students by giving them individually user IDs. The library database is shared across the country via DELNET and ADINET. The library has "Einstein Corner" which houses books written on and by Einstein.

The boys' hostel of the Institute is located in the precincts of the campus with a capacity to accommodate 240 students. The hostel has a recreation centre with TV facility for the students. Efforts are made to provide safe and secure accommodation to the students so that they feel just like being at home. The Institute also has girls hostel with a capacity to accommodate 100 girls on twin sharing places.

A Health Centre with a full time doctor is available on campus during the working hours. The students as well as the staff members are given treatment at a nominal fee.

Student Support and Progression

Over the years the Institute has made concerted efforts to support the students. The Institute ensures that most of the students from the reserved categories take benefit of the government scholarships/freeships. The meritorious students are encouraged to apply for INSPIRE scholarships. It organizes special training classes for the NET/SET, JAM exams.

Career Counselling Cell is doing a commendable job for the placement of the students in industries/firms/companies. It organizes campus interviews by communicating with their HR departments. It also sends the list of final year students with different specialization to various industries regularly so that they can invite students as per their requirement. Due to the untiring efforts of this cell, the Institute has developed an excellent rapport with some of the industries/firms/companies. The cell organizes talks by persons from industry regarding how to face interview?, what does industry expect from a graduate etc.

Students are encouraged to participate in the Youth Festival of the VNSGU, which helps in bringing out their hidden talents. The Institute organizes inter-college and intra-college competitions such as elocution competition, essay writing competition etc. When students participate in such extracurricular activities, a special case is taken to reschedule their practical, so that, their study is not interrupted.

Student's council, representing student community, plays the role of bridging the gap between the HOI and the students. The IQAC and Sexual harassment have students' representations.

The Institute also utilises its sports facilities to organize inter-college tournaments in different sports and its cricket ground is utilized for Inter-University Zonal tournaments.

The Alumni of the Institute take keen interest in the development of the Institute. They provide freeships to the

needy students, donate books to the Poor Boys Library and provide financial support for organizing seminars, workshops etc.

The overall development of the students achieved through engaging and rewarding practices, gives ample proof of the students' optimal progression right from the time they enter the Institute.

Governance, Leadership and Management

The Management of the Institute (SES) is visionary and forward-looking which works incessantly towards achieving its goals. The Institute works in a completely decentralized manner which gives ample freedom at different levels of hierarchy, so that the innovative ideas could be seamlessly implemented, yet making one accountable for their actions. SES forms a Local Administrative Committee (LAC) which acts as a bridge between the Management and the Institute.

The HOI, in consultation with the HODs, prepares an annual budget at the beginning of the academic year which is approved by the LAC. Meetings of the LAC are held regularly in which different issues faced by the staff are discussed and resolved amicably.

The IQAC, the linchpin of the Institute, steers it along the path of quality sustenance in both academics and administration. The IQAC presents and deliberates with the HODs on the perspective plan and its effective implementation. It plans out the entire academic calendar allotting sufficient time for carrying out extracurricular and co-curricular activities and closely monitors how exams are conducted. It also ascertains that all the ICT facilities are working well.

The IQAC arranges seminars/workshops, guest lectures and encourages the faculty to attend those at other Institutes.

Under the supervision and guidance of the IQAC, a SSIP cell under Student Startup and Innovation Policy (SSIP) initiative of the Government of Gujarat has been established. The SSIP cell received a grant approval of Rs. 5 lakhs. Using the SSIP grant, two patents have been filed with the Office of the Controller General of Patents, Designs & Trade Marks (CGPDTM).

The Institute encourages the office staff to improve their professional competence. It has procured an ERP system which has reduced the time taken to issue documents, certificates, helped in proper maintenance of office records etc. The fees are also collected online.

The HOI and the Estate department work closely with different committees for cleanliness and maintenance of campus premises.

The IQAC collects feedbacks from various stakeholders regarding the syllabus taught and welcomes suggestions for any further improvement. The feedback is analysed and appropriate corrective steps are taken.

Institutional Values and Best Practices

The Institute has recognised following two best practices for the overall development and growth of the student:

- Bicycle Club
- Nobel Lecture Series and Invited talks

The First one addresses the physical fitness of the student while the other relates his mental fitness.

Objective of the Bicycle Club

- To sensitize the students towards environmental consciousness
- To contribute towards sustainable environment
- To reduce the dependence on fossil fuel
- To contribute to the nation building by reducing the dependence on foreign import of fuel
- To imbibe a spirit of adventure
- To develop physical fitness

In 2016, a one of its kind, the Bicycle Club was set up by the Institute with 24 cycles, purchased from the Institute fund and donation given by the alumni and well-wishers. After running the activity successfully for a year, in 2017-18, the demand for additional bicycles was received by the Institute office. As a result, 6 new bicycles were procured bringing the total to 30.

Objective of the Nobel Lecture Series and Invited talks

- To expose students to the cutting-edge developments in the field of sciences
- To inculcate research culture amongst the students
- To develop scientific temper
- To acquire research skills
- To develop critical thinking amongst the students
- To develop problem solving and analytical skills amongst the students
- To adopt "Catch them young" policy which identifies talented students and provide them the necessary guidance and give them a platform to interact and to learn the top most scientist from the premier institutes
- To motivate students to opt for higher education in research institutes

It was long - felt need that mere bookish knowledge was not sufficient for the overall development of graduating students. It was necessary that they be motivated to take up higher studies, acquire research skills, develop scientific temper and also think about research as a career. So, it was decided to invite speakers to give talks on Nobel Prize from premier research institutes like IIT, BARC, TIFR etc. The speakers give talks on the Nobel prize given for that year in the fields of Physics, Chemistry and Physiology/Medicine.

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the College	
Name	P. T. SARVAJANIK COLLEGE OF SCIENCE
Address	MTB COLLEGE CAMPUS, JAWAHARLAL NEHRU MARG, ATHWALINES, SURAT
City	SURAT
State	Gujarat
Pin	395001
Website	ptscience.ac.in

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Principal	Pruthul Ramesh Desai	0261-2240028	9426854713	-	principal@ptscience.ac.in
IQAC / CIQA coordinator	Kileen J. Mahajan	091-7863808109	9825072063	-	kjm@ptscience.ac.in

Status of the Institution	
Institution Status	Grant-in-aid

Type of Institution	
By Gender	Co-education
By Shift	Regular

Recognized Minority institution	
If it is a recognized minority institution	No

Establishment Details	
Date of establishment of the college	01-01-1935

University to which the college is affiliated/ or which governs the college (if it is a constituent college)				
State	University name		Document	
Gujarat	Veer Narmad South Gujarat University		View Document	
Details of UGC recognition				
Under Section	Date		View Document	
2f of UGC	28-08-2004		View Document	
12B of UGC	28-08-2004		View Document	
Details of recognition/approval by stationary/regulatory bodies like AICTE,NCTE,MCI,DCI,PCI,RCI etc(other than UGC)				
Statutory Regulatory Authority	Recognition/Approval details Institution/Department programme	Day,Month and year(dd-mm-yyyy)	Validity in months	Remarks
No contents				

Details of autonomy	
Does the affiliating university Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges?	Yes autonomydoc_1651545397.pdf
If yes, has the College applied for availing the autonomous status?	Yes

Recognitions	
Is the College recognized by UGC as a College with Potential for Excellence(CPE)?	Yes
If yes, date of recognition?	22-07-2016
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	MTB COLLEGE CAMPUS, JAWAHARLAL NEHRU MARG, ATHWALINES, SURAT	Urban	3.56	5047.11

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	BSc,Chemistry	36	HSC in Science Stream	English	180	158
UG	BSc,Physics	36	HSC in Science Stream	English	60	49
UG	BSc,Botany	36	HSC in Science Stream	English	30	17
UG	BSc,Zoology	36	HSC in Science Stream	English	30	21
UG	BSc,Mathematics	36	HSC in Science Stream	English	150	150
PG	MSc,Chemistry	24	BSc in Chemistry	English	41	38
PG	MSc,Physics	24	BSc in Physics	English	32	32
PG	MSc,Botany	24	BSc in Botany	English	25	25

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	1				13				25			
Recruited	1	0	0	1	10	3	0	13	8	3	0	11
Yet to Recruit	0				0				14			
Sanctioned by the Management/Society or Other Authorized Bodies	0				0				12			
Recruited	0	0	0	0	0	0	0	0	0	12	0	12
Yet to Recruit	0				0				0			

Non-Teaching Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				52
Recruited	13	1	0	14
Yet to Recruit				38
Sanctioned by the Management/Society or Other Authorized Bodies				22
Recruited	17	5	0	22
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	0	0	0	0
Yet to Recruit				0

Qualification Details of the Teaching Staff

Permanent Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt/LLD	0	0	0	0	0	0	0	0	0	0
Ph.D.	1	0	0	7	2	0	6	3	0	19
M.Phil.	0	0	0	0	1	0	0	0	0	1
PG	0	0	0	3	0	0	2	0	0	5

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

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

Details of Visting/Guest Faculties				
Number of Visiting/Guest Faculty engaged with the college?	Male	Female	Others	Total
		11	2	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	634	0	0	0	634
	Female	583	0	0	0	583
	Others	0	0	0	0	0
PG	Male	66	0	0	0	66
	Female	114	0	0	0	114
	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	12	15	31	17
	Female	11	17	19	23
	Others	0	0	0	0
ST	Male	42	41	41	29
	Female	46	42	40	50
	Others	0	0	0	0
OBC	Male	90	83	83	87
	Female	91	81	69	86
	Others	0	0	0	0
General	Male	113	115	93	130
	Female	117	111	88	112
	Others	0	0	0	0
Others	Male	11	10	3	0
	Female	5	9	1	5
	Others	0	0	0	0
Total		538	524	468	539

Institutional preparedness for NEP

<p>1. Multidisciplinary/interdisciplinary:</p>	<p>As the Institute is currently affiliated to Veer Narmad South Gujarat University(VNSGU) Surat, it is mandatory for it to follow prescribed curriculum of VNSGU. To make students aware about the current environmental crisis, the syllabus offers a paper of environmental studies to F. Y. BSc students in both the semesters as a compulsory subject. To make them more competent in job market, they are being taught English as mandatory subject in all six semesters. In subjects like Botany and Zoology, students are encouraged to take part in field trips to increase their practical knowledge. Students in subjects like Physics and chemistry are also encouraged to visit research laboratories like, PRL, IPR, Observatory, Chemical industries to increase their knowledge base. Moreover, to make students more powerful in fundamentals and competent, the Institute offers a University recognized certificate course in chemistry, physics and biology. To improve multidisciplinary approach of the students, the Institute college strives to arrange invited talks on various topics including Nobel lecture series since many years. These lectures not only provides them novel research taking place but also pursue them to opt for higher studies in various fields.</p>
<p>2. Academic bank of credits (ABC):</p>	<p>The Institute will apply for the Academic Bank Credits as soon as the current accreditation process is over. We have also applied for the status of Autonomous College so that we become automatically eligible for ABC.</p>
<p>3. Skill development:</p>	<p>The Institute is already running a few certificate courses which enhance the skills of the students. We have planned to introduce few more courses in future so that students can develop different skill sets in different subject which will eventually make them more likely to be absorbed in the job market with handsome salaries. The Institute constantly pursue activities related to soft skill, patriotism, social responsibility and overall development. This activities boost their moral, increases their potential and channelize young generation. College offers opportunity to opt for NCC, NSS, Physical training, arranges finishing schools, course in Arduino. The Institute has SSIP centre which not only encourages the students to dream but also guide them to channelize their ideas leading to patent their design/</p>

	product. The Institute also arranges talks to celebrate National / International days, which inculcate morality, ethics, positivity, humanity, value of life etc.
4. Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course):	The Institute encourages its students to adopt Indian culture and value system while studying. It encourages the students to join different online course to improve their fundamental knowledge.
5. Focus on Outcome based education (OBE):	Currently it has become a need to introduce outcome based courses. Even NEP also emphasizes on this. Hence the Institute has prepared Program outcome(PO), Program specific outcome(PSO) and Course outcome(CO) for each course and is displayed on college website . It is the routine practice of our teachers to discuss PO, PSO and especially CO in the first lecture of the concerned semester.
6. Distance education/online education:	Currently, VNSGU has not made any provision for providing distance education program in science faculty and as an affiliated college it applies to us too. During COVID-19 pandemic, we have procured Microsoft team and Google classroom software. Our faculty members are techno savvy and have prepared their all lectures in power point and have conducted their online classes smoothly. Even internal exams were also conducted in online mode during this pandemic. More over to keep students busy and away from any psychological pressure, college has also arranged webinar series in all subjects during this crucial time.

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
272	272	272	272	260
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
8	8	8	8	8

2 Students

2.1

Number of students year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
1438	1413	1321	1416	1345
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
269	271	239	269	239

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
502	488	486	500	436

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
33	40	41	42	41

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
39	39	39	39	39

File Description	Document
Institutional data in prescribed format	View Document

4 Institution

4.1

Total number of classrooms and seminar halls

Response: 16

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
91.50	117.22	157.70	146.39	55.99

4.3

Number of Computers

Response: 108

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:

P T Sarvajanic College of Science is permanently affiliated to the Veer Narmad South Gujarat University (VNSGU), Surat. The syllabi of the courses leading to the graduate and post graduate degrees are designed by the Board of Studies of the respective subjects. The University brings out its academic calendar at the beginning of the year. The Institute conducts its routine teaching work and term end assessments in line with the VNSGU calendar.

The HOI conducts a meeting of all the HODs at the beginning of every semester to chalk out the strategy to implement the academic calendar and other activities for the upcoming year. The IQAC provides valuable inputs from the previous years' experience and guides all the HODs how to implement it. The special requirements like classroom availability, enhancement of laboratory facilities, introduction of new courses, conduction of seminars and workshop etc are all discussed and decisions are taken accordingly.

Subsequently, the HODs arrange departmental meetings where the discussion with the HOI and IQAC coordinator are shared with the departmental faculty. The HODs also distribute the topics amongst the faculty and assign the syllabus along with the plans of the departmental activities. The faculty are encouraged to use ICT tools wherever possible, for effective curriculum delivery. The faculty prepare teaching plan at the beginning of the semester. The teaching work and the students' attendance is monitored by the individual faculty. Any shortcomings or discrepancies are brought to the notice of the concerned HOD and the HOI.

In order to assess the effectiveness of teaching and curriculum delivery, evaluation is carried out in the form of internal and external examinations as per the guidelines of VNSGU. Seminars, group discussions, power point presentations, tutorials and unit tests, MCQ tests etc. are conducted periodically.

In order to provide experiential learning to the students, the Institute arranges expert lectures by eminent scientist from premier institutes like IISc, TIFR, BARC, IITs, seminars/workshops, field projects, student seminars, tutorials, solving previous year question papers, research projects, practical and demonstration, industrial and study tours etc.

Extra classes are also conducted for preparing advanced learners for competitive exams.

The Institute library plays a pivotal role in dissemination of knowledge by providing individual user IDs to all the students including research students and the faculty for INFLIBNET access.

Add on/certificate courses are designed by the faculty with the aim to bridge the gap between the syllabus and the industrial requirements. In subjects like Physics, the students are given training to think analytically and solve problems which ultimately help them crack competitive exams.

File Description	Document
Upload Additional information	View Document

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

Response:

The academic calendar is prepared by the VNSGU in the beginning of the academic year and the Institute strictly follows the same. Since each subject is distinct and mandates its own unique approach in the teaching-learning process, different departments of the Institute chalk out their own teaching plans. However, the evaluation methodology is as per the guidelines of VNSGU.

The students are also informed about the internal and external evaluation methods of the VNSGU in the beginning of the academic year in the orientation program. The faculty discusses previous years' question papers during regular/remedial lectures for the benefit of the students.

A general time table of the Institute, prepared by the Time Table Committee, is circulated amongst all the departments and displayed on the notice board as well as uploaded on the college website for easy access by the students. The HODs allots individual workload to the respective faculty and classes are conducted accordingly.

The internal examination for all the theory subjects is conducted centrally for all the departments by preparing a common time table. It is prepared by the Examination Committee as per the VNSGU guidelines. Each faculty gives assignments to the students who are asked to submit it within stipulated time limit. The total internal assessment marks are summed up from the marks awarded for written test, attendance and assignments. The internal marks are displayed on the notice boards and students are given an opportunity to raise their queries against the marks given, if they desire to do so. Any grievances are brought to the notice of the respective HODs. The HOD consults the concerned faculty and discusses the query. Finally, the student is informed about the decision taken in the matter. If required, the student is given an explanation and the query is thus resolved to the satisfaction of the student.

The practical evaluation is conducted by the respective departments separately. The practical internal assessment marks are based on practical examination, attendance in the regular laboratory work and journal submission.

The advanced learners are encouraged to put in extra efforts to strengthen his/her fundamentals by reading and problem solving of some advanced topics.

Each department conducts a special supplementary exam just before the final semester end university exam in order to cater to those students who could not appear in the internal tests. Before allowing them to appear for the extra test, the reasons for absence are verified. In other words, the Institute takes ample care to ensure that a student's progress is not adversely affected due to genuine circumstances.

The VNSGU announces the dates of conducting the external examinations and the necessary arrangements for conducting them at the Institutional level are made.

Many of the faculty members are assigned duty of setting of question papers and assessment work which is carried out in a time bound manner.

The IQAC monitors the process on a regular basis and gives suggestions whenever found necessary.

File Description	Document
Upload 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: A. All 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

1.2 Academic Flexibility

1.2.1 Percentage of Programmes in which Choice Based Credit System (CBCS)/ elective course system has been implemented

Response: 100

1.2.1.1 Number of Programmes in which CBCS / Elective course system implemented.

Response: 8

File Description	Document
Minutes of relevant Academic Council/ BOS meetings	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document

1.2.2 Number of Add on /Certificate programs offered during the last five years

Response: 11

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
2	4	2	2	1

File Description	Document
List of Add on /Certificate programs	View Document
Brochure or any other document relating to Add on /Certificate programs	View Document
Any additional information	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: 7.19

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
121	175	98	63	44

File Description	Document
Details of the students enrolled in Subjects related to certificate/Add-on programs	View Document
Any additional information	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 Institute is affiliated to the VNSGU, Surat and we meticulously follow the curriculum prescribed by the university. Some cross-cutting issues relevant to Gender, Environment, Sustainability, Human values and Professional Ethics are already integrated into the curriculum. Over and above, to sensitize the students towards these issues, the Institute organizes a number of programs such as invited talks, seminars, awareness programs etc.

Professional Ethics: The Institute has placed on its website a code of conduct for the students which is implemented in letter and spirit during regular discourse. Issues such as human behaviour, plagiarism policy, prevention of sexual harassment, anti-ragging etc. are discussed at different forums.

Gender and Human values: The Institute organizes seminars/invited talk under the NSS and NCC to sensitize the students about gender equality and human values. The Institute celebrates the International Women's Day to highlight gender issues.

Some of the relevant cross-cutting issues which are integrated into our curriculum are mentioned below:

- **Environmental Studies:** The students of B. Sc. Sem I and Sem II learn environmental studies as one of the compulsory subjects. It brings awareness among the students about the current environmental issues. Not only this, but they also learn how to develop sustainable practices which can protect and preserve environment. It also trains the students how to look for the remedy of these challenging issues which threaten the very existence of life.
- **Non-renewable Energy Sources:** The students of B. Sc. Sem III learn about the non-renewable energy sources such as coal and oil which are the backbone for human progress on the Earth. The students learn about the limitations of the non-renewable resources and why should we be worried about incoherent use of these resources. They also learn about the greenhouse effect which arises because of the unbridled use of the non-renewable resources and why moderate use of them is imperative for sustainable environment.
- **Renewable Energy Sources:** The students of B. Sc. Sem IV learn about the renewable energy sources, how to increase their use to offset the greenhouse effect. The challenge involved in using these resources is also discussed.
- **Marine Science:** The students of B. Sc. Sem IV (Zoology) come to know the underwater world of living organism which can make them aware of conserving and protecting the marine environment.
- **Horticulture:** The students of B. Sc. Sem IV (Botany) learn Horticulture which helps them grow flowers, fruits, vegetables, herbs, ornamental plants etc. Such plants enrich our homes, community and society and imbibe the sense of well-being. Such activities not only provides nutritious fruits and vegetables, but also promotes recreational ideas.
- **Catalysis and Green Chemistry:** The students of B. Sc. Sem VI and M. Sc. Sem II (Chemistry) are trained to efficiently use renewable raw materials, eliminating wastes and avoiding the use of toxic and hazardous reagents.

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: 28.19

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
74	78	80	76	72

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
Minutes of the Boards of Studies/ Academic Council meetings with approvals for these courses	View Document

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

Response: 95.97

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

Response: 1380

File Description	Document
List of programmes and number of students undertaking project work/field work/ /internships	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
Action taken report of the Institution on feedback report as stated in the minutes of the Governing Council, Syndicate, Board of Management (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: A. Feedback collected, analysed and action taken and feedback available on website

File Description	Document
Upload any additional information	View 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: 97.47

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

2020-21	2019-20	2018-19	2017-18	2016-17
538	524	468	539	487

2.1.1.2 Number of sanctioned seats year wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
548	551	488	548	488

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: 97.32

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
253	264	239	266	230

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:

The Institute has developed its own method to determine the slow and advanced learners. The assessment is carried out using the following pointers:

- Performance at XII / UG level
- Interaction during orientation program, class room teaching, in the laboratories and with the mentor.
- Performance in Internal Evaluation.

Once the identification of the slow and advanced learners is done, the Institute meticulously implements activities specially curated for them.

For Advanced Learners:

They are encouraged to

- Maximize their score at the University examination and secure University ranks.
- Utilize library resources and provided the option to borrow additional books from the departmental libraries or even from faculty.
- Prepare for the competitive exams like JAM, JEST etc.
- Access ICT facilities like YouTube Videos, NPTEL lectures and educational material available on SWAYAM portal, etc and maximize the use of the INFLIBNET.
- Apply for Summer Internship in premier institutes.
- Join “Finishing School Program” – an initiative of Knowledge Consortium of Gujarat (KCG) which helps in enhancing the employability of the students.
- Attend Workshops/seminars organized by our Institute and other institutes.
- Present papers/projects at various state/national seminars/exhibitions.

To develop higher order thinking skills, valuable exposure is provided through invited talks, Group Discussion (GD), visits to Industry, handling of sophisticated instruments, etc.

These special initiatives have resulted in an exceptional performance of the students at both the competitive and University exams.

For slow learners:

A slow learner is one who is unable to keep pace of learning with his peers. In order to bridge this gap, the Institute has taken following measures:

- Remedial classes are conducted by the faculty for the slow learners in which the difficult topics are discussed at a customized pace. Sometimes, peer learning is encouraged by asking brighter students

to group discuss the topics.

- Additional study material is provided to the students which helps them to learn and improve.
- The faculty discusses with the student previous year question papers giving them valuable tips which improves their performance in exams.

Because of the special initiatives, the slow learners have shown marked improvement and have scored respectable grades in the University Exam.

Efforts for Specially Challenged Students:

- Online training sessions for the faculty and Content Creation Training session for the student volunteers were conducted in collaboration with Xavier's Resource Centre for the Visually Challenged (XRCVC), St. Xavier's College, Mumbai.
- One group – "Helping Hands"- has been formed. The faculties and students who are ready to be volunteers for this noble cause are the members of this group.
- Audio notes and tactile diagrams under the guidance of the teachers.
- Extra sessions are conducted for the visually challenged student in which the prepared tactile diagrams and models are used for better understanding of topic.
- Peer learning is encouraged by involving students for GD.
- Laboratory instruments are also modified according to the need of the students.

Due to the rigorous efforts put in by "Helping hands" duly helped by committed faculty a conducive and congenial environment has been created on campus which has helped the visually impaired students to excel.

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: 44:1

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:

The Institute has pledged to commit towards overall holistic development of the students through student-centric teaching. It has consciously adopted the following measures to effectuate student –centric learning:

Experiential Learning:

Science subjects involve practical which forms a very important component of scientific learning. Each practical course has an integrated component like demonstration, hands-on experience, training for proper maintenance of records, developing skills to handle advance instruments. Thus the Institute with its well-furnished laboratories provides an Ideal platform for experiential learning through individual participation. The Institute also arranges field visits, industrial visits, NSS, NCC camps, excursion, tour & group discussion which helps students in learning life skills, soft skills, communication techniques through a process of self-learning.

- Well-equipped laboratories are available to get a hands-on approach and practical exposure to the concepts taught in the classroom. The experimental procedure is recorded by the students and is continuously assessed based on the University scheme
- Dissertation Projects involving data collection, analysis, interpretation of results and conclusions help in widening the knowledge, developing scientific temper
- Department-level educational trips, Industry visits, etc. are organized to nurture the subject interest and learning experience
- The students are encouraged to take part in various extra and co-curricular activities carried out by different clubs such as Physics Club, intra/interdepartmental, inter/intra college events which brings to fore their latent talents
- Sky gazing activity is held on a regular basis in which the students are given an opportunity to gaze the night sky through the 12" reflecting telescope
- All rare celestial events are observed through the telescope and the event is kept open for public at large to view. Such observations of different celestial events are carried out in collaboration with the Science Center of Surat Municipal Corporation
- Students are taken to remote places free from background lights and pollution to observed and get enthralled by the beauty of the night sky
- Students are given freedom to organize different competitions such as ppt presentation, poster making, celebrate national days etc.
- Students are encouraged to showcase their talents by participating in the Youth Festival organized by VNSGU
- Sessions involving hands-on training are organized
- The Institute invites prominent scientists, professors, eminent persons in other walks of life so that the students learn by interacting with them
- During regular classes the faculty encourages the students to develop necessary analytical skills, problem solving skills etc. Advance learners are given extra problems to hone their problem solving techniques which has help them perform well in various competitive examinations

Participative learning

The students are encouraged in the participative learning process such as given below:

- Classroom discussions
- Activities such as seminars, quizzes, and projects
- Analysis of research papers
- Wall magazines

- Participation in national and cultural festivals
- Participation in workshops/seminars etc.

File Description	Document
Upload any additional information	View Document

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

Response:

The Institute recognizes the importance of ICT enabled tools in enhancing teaching-learning process. Towards this aim, all the classrooms have been equipped with LCD projectors, internet facility, multimedia speakers and the entire campus is Wi-Fi enabled. All the departments are IT-enabled with internet, Wi-Fi and LAN connectivity. Conference hall and auditorium are well-equipped with the latest audio-video technology. Laptops and desktop computers are also provided by the Institution to the departments.

For effective curriculum delivery and to boost teaching-learning experience, the faculty has gleefully adopted a blended approach of using chalk and talk method and ICT enabled tools method. Entire faculty is technology savvy. Open Educational Resources such as YouTube Videos, Wikipedia etc. are accessed by teachers while preparing their teaching materials. The faculty regularly prepares their lectures in ppt presentation which is embellished using videos and animations. The Institute has purchased a license copy of GSuite which is generously used by the faculty. The Government of Gujarat has also given the Institute a license copy of MS Teams and online classes/seminars are conducted using MS Teams and Google Meet.

Online Quizzes and other activities are also conducted through GSuite/MS Teams. During COVID-19 when the students were not allowed on campus, online sky gazing program was organized by the faculty using the CCD camera and the telescope available with the Institute.

The central library of the Institute is equipped with various e-learning resources such as DELNET and ADINET. For extensive access of the INFLIBNET facility, individual user IDs of faculty and the students is created. The students are encouraged to watch NPTEL video lectures to clear their doubts and improve their fundamentals.

Educational CDs and DVDs are made available as learning material in the central library.

The concerted use of ICT enabled tools has improved the course content delivery and the teaching has become more interactive and satisfying. It has positively impacted the learning ability of the students making them more confident and assured about themselves. A paradigm shift has been observed in the understanding of the students.

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: 44:1

2.3.3.1 Number of mentors

Response: 33

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: 101.03

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
Any additional information	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: 55.52

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
20	21	22	23	23

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: 13.61

2.4.3.1 Total experience of full-time teachers

Response: 449

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

One of the cornerstones of the teaching-learning process is a robust assessment system. The assessment and evaluation needs to be transparent and objective. For the internal evaluation of both theory and practical, the Institute follows the rules and regulations laid down by VNSGU. The process of conducting internal assessment and examination is conveyed to students during the orientation program at the beginning of every academic year. The announcement of the schedule of the internal tests is made well in advance for the students to prepare. The time table for the internal test is displayed on the Institute website and also on the notice board. The faculty members also inform students about the upcoming internal test during regular classes. The syllabus for the test is also communicated to students in the class by the subject teachers one week in advance.

To ensure transparency, students are required to write internal exams in answer-book provided by the Institute. The HODs check the standard of the question paper and scheme of evaluation prepared by the

subject teachers. Apart from the theory examination, the students have to appear for the internal practical examination. The total internal marks are given based on the performance in theory, practical, assignments, attendance. The assignments and project topics, aimed at bringing out the best from the students, are given by the faculty. A student who fails to fulfill the minimum attendance rules of VNSGU is disallowed to appear in the final examination.

Marks for both theory and practical exam are displayed on the notice board and website. Those students who remained absent during the internal exams are given the option of appearing for additional test as per VNSGU rules. The exam committee examines the reasons for remaining absent and on veracity, allows the student to appear for additional test. Those who fail to give convincing and valid reasons are disallowed and their forms are withdrawn thus preventing them from appearing in the University exams. Poor performance due to frequent absenteeism is dealt with by informing parents.

In case a student has any grievance in the marks scored in the internal examination, he contacts the HOD. The HOD discusses with the respective faculty about the grievance and then calls the student in person. He shows the answer book and clears whatever doubt the student has. If required, he calls the faculty and the student both together to resolve the issue. The revised marks if any, are once again displayed on the notice board and website. Thus the Institute has established a robust and transparent grievance redressal system which is displayed on the Institute website.

Once the evaluation of internal test is over, the faculty discusses the general performance of the class and share his/her overall observations highlighting the ways to improve further. Thus the students become aware of their shortcomings which helps them to improve their score in the University exam.

The final marks are uploaded into the University Enterprise Resource Planning (ERP) platform for further process.

File Description	Document
Any additional information	View Document
Link for additional information	View Document

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

Response:

The students are the main stakeholders in any institution imparting education, and naturally, it is the responsibility of the Institution to ensure transparency in dealing with matters related to student activities. The Institute ensures the secrecy of the examination work at all levels. Grievances associated with the internal and external examination are taken up immediately and redressed appropriately.

Internal Examination:

The Institute has established a Local Examination Committee (LEC) whose specific task is to address the

grievances related to examinations. In case a student has any grievance related to the evaluation in the internal examination, he has to write an application to the HOD of the concerned subject. The HOD collects all the applications and tries to resolve it at his level. The HOD consults the concerned faculty who has evaluated the paper. He discusses the complaint at length with the faculty and tries to get to the bottom of the problem. After the discussion with the faculty, he calls the student in person and shows him his answer sheet. If required, he asks the concerned faculty to also remain present. An explanation to the query is given to the student by the HOD. In most of the cases the student returns back fully satisfied. In a rare situation, if the student is not satisfied with the explanation and refuses to budge, the matter is brought before the LEC. The LEC takes the stock of the situation and on consulting the HOD gives the decision. If required, it calls the parents of the concerned student and convinces him about the decision taken by LEC. The LEC's decision in the matter is final and binding for everybody.

University Examination:

The common grievances brought to the notice of the Local Exam Committee are:

- Change of language opted by the student
- Change of name or name misspelled in the admit card
- Wrong allotment of subjects
- Results withheld without giving any reason by the University
- Answer Scripts undervalued (reevaluation)
- Questions asked in the paper are out of the syllabus

All the applications related to any grievances are forwarded to the University by the college office. In case a student is caught using unfair means, the LEC looks into the matter and recommends its findings to the University for further actions. The entire process is carried out in time bound manner as required by the University.

File Description	Document
Any additional information	View Document
Link for 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:

The Institute places a high focus on providing learners with outcome-based education in order to instil numerous skills, values, aptitudes, and competences such as critical thinking, problem-solving ability, in-depth knowledge, experiential learning, and life-long learning, to name a few. The Institute recognises the relevance of learning outcomes in achieving these objectives (PO, PSO and CO).

As the Institute is an affiliated college, it follows the affiliating university's course syllabus as well as the teaching, learning, and assessment mechanisms. As a result, the Institute has used the affiliating university's syllabus to express the required learning goals for the various programmes and courses provided at the undergraduate and graduate levels. The Institute makes an attempt to construct relevant and learner-centric learning outcomes to address multiple components of excellent teaching-learning such as experience learning, skill development, critical thinking, and analysis when producing these learning outcomes.

The HODs along with the respective teaching faculty, discuss the syllabi prescribed by the affiliating university to prepare the learning outcomes at the start of each session. As a result, they have a department-wide conference attended by all faculty members to debate and finalise the learning outcomes for the topic for the department's programmes and courses. In addition, when establishing the learning outcomes, alumni input is taken into account. If the affiliating university makes any changes to the syllabi, they are given proper consideration in order to alter the learning outcomes for a specific programme or course. This guarantees that learning results are familiarised and understood on a regular basis, as and when necessary.

The learning results are then widely disseminated on the college website. The Instituteal website contains the specified learning outcomes for all UG and PG courses and programmes. The college also hosts an orientation event for first-year students during which the principal and staff members share the learning goals with students. Furthermore, if needed, faculty members communicate these learning results via other venues.

The intended learning objectives serve as a guide for curriculum planning and development, as well as the design, implementation, and evaluation of academic programmes throughout the year.

They also offer general assistance on identifying the necessary steps to make teaching and learning more learner-centric, as well as assessment of student learning levels using various methodologies and approaches.

This has made a significant contribution to the instillation of desirable abilities, values, aptitudes, and competences in learners as well as the enhancement of college academic standards.

File Description	Document
Upload COs for all Programmes (exemplars from Glossary)	View Document
Past link for Additional information	View Document

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

Response:

Preparing the program outcomes (POs) and course outcomes (COs) and displaying them on the institutional website is one aspect, but evaluating and analysing them at the end of the academic year is another and perhaps more important aspect that any institute should look into, and we are no exception to

it. It provides valuable inputs for the further improvements of the Institute in the coming academic year. It also reflects our strengths and shows our weaknesses which can be focussed on for further improvement and quality assurance.

In view of this, all the departments of the Institute, under the guidance of IQAC, strive to achieve the POs and COs by organizing various academic, co-curricular and extra-curricular activities for the learners on a regular basis.

A comprehensive mechanism for the evaluation process is based on the performance of the student in both internal as well as external examinations, assignments, performance in the practical viva, his/her attendance in both the theory classes and the laboratory, participation in various co-curricular and extra-curricular activities etc. Remedial classes for slow learners and special classes for advanced learners are conducted based on this analysis. One of the bench marks as far as the COs and POs are concern is the number of Students clearing National level aptitude test in their respective subject. Since these test are based on checking the fundamental knowledge of the students. It can work as a reliable indicator of how far conceptual understanding of the students has been achieved at the end of the program. The Institute boast of a good number of students clearing such competitive test.

The degree of attainment of POs and COs can be assessed based on the following parameters:

- The number of University toppers of our Institute during the last five years
- Number of students qualifying in the National/State Level competitive examinations such as NET, GATE, SLET, JAM, JEST, GPSC etc.
- Number of students getting enrolled for their higher studies after completing their graduation/post-graduation from our Institute
- Number of students getting admissions in the Institutes of repute abroad
- Their employability and employment
- The salary they receive in their jobs
- Their overall earning etc.

The data of last five years vindicates the efforts of the Institute in providing quality education and attaining the promised goals in the POs and COs.

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: 92.75

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
481	463	443	452	399

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
502	488	486	500	436

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:

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: 25.13

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
2.60	4.0	0	0	18.53

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
Any additional information	View Document

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

Response: 33.33

3.1.2.1 Number of teachers recognized as research guides

Response: 11

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: 12

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	1	0	0	1

3.1.3.2 Number of departments offering academic programmes

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

File Description	Document
Supporting document from Funding Agency	View 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:

In order to support innovations and ideas of young students and provide a conducive environment for optimum harnessing of their creative pursuit, the Student Startup & Innovation Policy-SSIP- of Government of Gujarat has designed an integrated, state-wide, university-based innovation ecosystem.

The Institute has registered itself under the SSIP scheme of Phase VI and an MOU was signed with the Gujarat Knowledge Society (GKS) on 22nd May, 2020.

As per the MoU the Institute has agreed to pursue the following interventions:

- To scout best innovation/projects annually that have potential to be taken further
- To provide and create basic IPR and prototyping support to student projects
- To allow innovative students to utilise existing laboratories and workshops to develop proof of concept
- To setup miniature Do-It-Yourself Labs along with basic pre-incubation facility
- To facilitate showcasing of innovators and student start-ups through institute level events and activities such as cultural fests, tech fests, etc.
- To advance benefits provisioned under the Start-up India plan and other available benefits for

student innovators

- To promote agenda of innovation and start-ups as recommended in the policy through regular co-curricular activities
- To setup an IPR Cell

An annual grant of Rs. 5,00,000.00 was approved which was to be solely spent on SSIP activities for the students. An amount of Rs. 1,25,000.00 was disbursed as the first quarterly instalment.

Even though the time of the grant disbursement overlapped with the tough times of the pandemic, the Institute could identify two projects that were put up for proof of concept. Fortunately, both the projects were accomplished within the stipulated span and were so unique that a detailed patent search process was initiated.

One of the projects was regarding the design of instruments as an inclusion aid for the visually impaired students. A digital Vernier calliper was interfaced with a specially devised circuit that converted the readings into an audio signal that spoke out the readings. The overall design of the interface circuit is such that it can be used with ease by visually impaired students. The circuit was designed to have 3 languages on the device and the choice of language could also be done by the user. This is a big step towards providing inclusive support in STEM for visually impaired students.

It was found that the use of current insecticide in the form of Pyrethrin as a fogging agent was complicated to use and also poisonous. It was a non-biodegradable product so was environmentally harmful. The choice of carrier agent in normal fogging compounds is kerosene or diesel which again is irritating and harmful when accidentally inhaled. A novel compound was synthesized by a mixture of herbal oils and kerosene/diesel were substituted with bio diesel rendering the whole mixture to be an environment friendly and biodegradable fogging mixture. Trials showed a fatality rate of more than 60% for mosquitoes and was found to be nontoxic.

The uniqueness and worthiness of the projects lead to filing of **two patents**.

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: 0

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
0	0	0	0	0

File Description	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: 2.18	
3.3.1.1 How many Ph.Ds registered per eligible teacher within last five years	
Response: 24	
3.3.1.2 Number of teachers recognized as guides during the last five years	
Response: 11	
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
URL to the research page on HEI website	View Document

3.3.2 Number of research papers per teachers in the Journals notified on UGC website during the last five years				
Response: 0.84				
3.3.2.1 Number of research papers in the Journals notified on UGC website during the last five years.				
2020-21	2019-20	2018-19	2017-18	2016-17
3	5	7	15	3
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:** 1.27**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
12	11	12	12	3

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:**

To effectuate the stated vision of the Institute which comprises the prime goal of instilling a spirit of camaraderie amongst students and sensitize them regarding their role and duty towards nation building, the NSS and NCC cells were established. Various activities conducted by the NSS and NCC units provide an ideal platform to the students where they receive timely appropriate training to meet the real challenges. Keeping in mind holistic development, the Institute motivates the students to participate in co-curricular and extra-curricular activities which inculcate values of self-worth and societal responsibility. The Institute runs three NSS units and one NCC unit associated with 5 Gujarat battalion.

Environment: The Institute organises various programmes to spread environmental awareness which include Plastic Free Campus Campaign, Tree Plantation, Cleanliness Drive, Awareness Rally, Swachhha Bharat Abhiyaan, Poster competition, etc.

Blood Donation: Another imperative programme organised by the Institute is “Blood Donation Camp” in collaboration with the “Surat Raktdan Kendra.” Prior the camp NSS unit organises “Blood Donation Awareness Programme” to motivate students for this noble cause. Further, the Institute regularly organises programs on: Organ donation awareness, traffic awareness, swachhhta, voting awareness, a program on AIDS awareness, suicide prevention awareness, save birds during the kite flying festival, medical check-up camp, consumer awareness, etc.

Camp: The Institute focuses on community outreach that brings students and society on the common platform and sensitizes the students towards ordinary problems prevailing in the society. The NSS unit organises an annual camp at remote villages especially in residential schools, which helps the students to understand the struggles of the under privileged sectors of the society and there by developed empathy. During the camp, students interact with school students to understand their problems, motivate them and help them in studies, inculcate hygienic habits and moral values, create awareness programmes for local people, offer service at the local Primary Health Center and undertake cleanliness drive.

Thus, the NCC and NSS units provide an ideal platform to students in helping them bring out their latent leadership skills.

Women Empowerment: Being a co-educational Institute with increasing number of girl students, it is our primary responsibility to create empathy among students for gender and sensitive social issues and also to impart health and hygiene awareness. To address such issues, NSS conducts various activities like "**Beti Bachavo-Beti Padhavo Abhiyaan**" (Save the Girl Child), "**Self-defence Training**", organize invited talk on "**181-Abhayam**", "**Breastfeeding Awareness Week**", "**Women Empowerment Week**" etc.

Conclusion: Through various activities, the Institute strives to foster the values of nobility, compassion, camaraderie, social responsiveness, leadership qualities and empathy which complements their academic knowledge for holistic development. Sustainable development is the need of the hour and extension activities related to the environment increases awareness in general about the planet earth. The outreach programmes help to develop consciousness towards diverse social issues entrenched in the society.

File Description	Document
Upload any 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: 10

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	3	2	2	3

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: 126

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

2020-21	2019-20	2018-19	2017-18	2016-17
28	45	22	20	11

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

3.4.4 Average percentage of students participating in extension activities at 3.4.3. above during last five years

Response: 131.27

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
1104	2849	1832	1974	1343

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

3.5 Collaboration

<p>3.5.1 Number of Collaborative activities for research, Faculty exchange, Student exchange/ internship per year</p> <p>Response: 91</p>														
<p>3.5.1.1 Number of Collaborative activities for research, Faculty exchange, Student exchange/ internship year-wise during the last five years</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>14</td> <td>22</td> <td>19</td> <td>16</td> <td>20</td> </tr> </tbody> </table>					2020-21	2019-20	2018-19	2017-18	2016-17	14	22	19	16	20
2020-21	2019-20	2018-19	2017-18	2016-17										
14	22	19	16	20										
<p>File Description</p>		<p>Document</p>												
e-copies of related Document		View Document												
Details of Collaborative activities with institutions/industries for research, Faculty exchange, Student exchange/ internship		View Document												
<p>3.5.2 Number of functional MoUs with institutions, other universities, industries, corporate houses etc. during the last five years</p> <p>Response: 15</p>														
<p>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</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>7</td> <td>7</td> <td>0</td> <td>0</td> <td>1</td> </tr> </tbody> </table>					2020-21	2019-20	2018-19	2017-18	2016-17	7	7	0	0	1
2020-21	2019-20	2018-19	2017-18	2016-17										
7	7	0	0	1										

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

NAAC

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:

The campus of the Institute spans across an area of 3.5 acres. It has a Main building, a Biology building, a Library building, a Health center, a Canteen, Girls' and Boys' hostel. The physical infrastructure is adequate enough to conduct all the classes (UG and PG) simultaneously in a single shift. The facilities for curricular and co-curricular activities are as follows:

- **Classrooms:** Apart from laboratories and departmental common rooms, The Institute has fourteen classrooms (Room No. 2, 4, 10, 12, 18, 19, 24, 26, 29, 36, 38, 39, 40, 42) which are well ventilated, spacious, well lit and equipped with LCD projectors. The classrooms 10, 18, 19 and 26 have a capacity to accommodate more than 160 students
- **Laboratories:** Laboratories are spacious and equipped with latest instruments. Chemistry and Physics department have five laboratories and one research laboratory each. Botany department has three laboratories. Zoology department has three laboratories and one research laboratory which are equipped with latest instruments, chemicals, charts, models etc.
- **Library:** The library - Lady Kikabhai Premchand Library celebrated the **Diamond Jubilee** of its existence in the year 2012. The library is a two-storied building with high ceiling and encompasses an area of nearly 1400 sq. m. It houses nearly 16900 books. It boasts of a rare collection of back volumes of research journals and precious books. It has a separate Teacher's reading room and an independent spacious reading room for students on the first floor. The library is computerized with SOUL software and one computer serves as kiosk for OPAC. The library is equipped with RFID facility which is used for books issue and return. Each department has its separate departmental library which is also used by students
- **Conference (Seminar) Hall:** The Institute has a Conference/seminar hall with a capacity of 40 seats equipped with a computer, LCD projector, printer and is Wi-Fi enabled
- **Taramoti Hall (Central Hall):** The Institute has state-of-art centrally air conditioned hall with a very high resolution video wall, sophisticated sound system, collapsible motorized curtain, majestic viewing gallery and a seating capacity of 390
- **Botanical Gardens:** The Institute has developed two botanical gardens in which different types of saplings are planted. Most of the specimen necessary for carrying out experiments in Botany are obtained from these gardens only
- **Telescope:** 12" reflecting type goto dobsonian mount with CCD camera
- **Separate Boys' and Girls' hostels** are located in the campus of the college
- The Institute has **separate staff rooms for all departments** (Chemistry, Physics, Botany, Zoology & Mathematics). All staff room are airy, well-furnished and equipped with intercom and internet facility
- Each department has adequate quantities of laptops, desktops and printers for use by the departmental staff
- All classrooms are equipped with ICT facilities like LCD projectors, motorized screens and Wi-Fi connections. The campus is fully Wi-Fi compliant and students and staff have access to internet from any corner of the institute

- The Institute has a huge underground rainwater storage tank. The stored water is used as distilled water in the Chemistry laboratories

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

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

Response:

The Institute has more than adequate facilities for cultural and sports activities. The details are given below:

- **Taramoti Hall (Central/Auditorium Hall):** Institute's auditorium is named "Taramoti Hall". Taramoti Hall has a grand, stupendous theater structure with steps which gives clear view of the stage from any corner and has a comfortable sitting capacity of 390 persons. The stage of the hall is large enough to conduct professional plays. Taramoti Hall is equipped with all-in-one Podium, LCD projector, screen and an excellent audio system. Taramoti Hall is regularly used for seminars/workshops, talks, screening movies, cultural activities etc.
- **Conference Hall:** The conference hall is equipped with ICT facility with seating capacity of 40. The hall is fully air-conditioned with a round table.
- **Sports Facilities:** The sports facility available on campus are given below:

Facilities	Indoor / Outdoor	Area in sq. m.	Remarks
Sports, Games, Gymnasium	Outdoor	22780	Play Ground
Sports, Games, Gymnasium	Outdoor	910	Volleyball Ground
Sports, Games, Gymnasium	Outdoor	910	Tennis Ground
Sports, Games, Gymnasium	Indoor	325	Boys Pavilion
Sports, Games, Gymnasium	Indoor	230	Girls Pavilion
Cultural Activities	Indoor	67	Conference Hall
Cultural Activities	Indoor	360	Taramoti Hall

- **Two indoor halls:** one for boys and one for girls for playing Badminton and Table Tennis
- **Outdoor Facilities:**
 - **Play Ground:** For Athletics, Cricket, Football, Hockey, Handball, Tug of War etc.
 - **Volleyball Ground:** For Volleyball, Kabaddi etc.
 - **Tennis Ground:** For Tennis, Kho-Kho etc.

- **Boy's Pavilion:** For Yoga, Chess, Table tennis, Gymnasium etc.
- **Girl's Pavilion:** For Badminton, Yoga, Wrestling, Judo, Karate, Boxing, Chess, Taekwondo etc.
- Adequate sanitation facilities are available for boys and girls at the college ground

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

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

Response: 100

4.1.3.1 Number of classrooms and seminar halls with ICT facilities

Response: 16

File Description	Document
Upload Number of classrooms and seminar halls with ICT enabled facilities (Data Template)	View Document
Upload any additional information	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: 32.79

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
28.06	45.09	67.99	60.94	5.64

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
Upload any additional information	View Document

4.2 Library as a Learning Resource

4.2.1 Library is automated using Integrated Library Management System (ILMS)

Response:

Our Institute has a well maintained spacious central library facility with nearly 16900 books. It has hundreds of text books, novels (Gujarati & English), and other useful resources that can be considered rare. It also subscribes to various science journals (around 20), a large number of magazines and leading newspapers. It has been registered with N-LIST (INFLIBNET) since 2009. The library is RFID enabled. Library is using SOUL 2.0 software to keep track of the access to the books, issue, and updating of the stock. The library database is shared across the country via DELNET, GujCat and ADINET platforms.

Name of ILMS Software: SOUL 2.0 Version

Nature of automation: Partially

Version: 2.0

Year of Automation: 2002 and 2007

RFID Implementation: 2017

File Description	Document
Upload any 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: 4.92

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
2.40	1.88	14.24	4.72	1.36

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: 3.26

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

Response: 48

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:

Today internet is one of the most effective and efficient ways to communicate. To improve the quality of teaching, the Institute has upgraded its IT facilities including Wi-Fi as per the requirements. The entire campus of the Institute is Wi-Fi enabled with a high speed internet connection which extends to all the areas including library, the conference room, auditorium, hostels and administrative office. The Institute is equipped with 108 computers/laptops with licensed software, 03 photo-copiers, 16 scanners cum printers and 16 printers. Access to e-journals and e-books is provided by the N-LIST and DELNET/ADINET digital repositories. Licensed copy of Quick Heal Antivirus package has been installed in all the computer systems to ensure security and protection of the computers. All the departments are equipped with desktop, laptop, printer, scanner and WI-FI. Each department is connected with 50 mbps broadband line for computer aided teaching and learning material.

Time to time, the Institute has updated its IT facilities by increasing number of computers, printers, scanners, LCD projectors and licensed software. All the teaching classrooms are equipped with LCD projectors and CCTV cameras. Department of Physics, Chemistry, Zoology and Botany have visualizers which are utilized for both laboratory as well as classroom teaching. The Institute has computer lab with internet facilities. Students as well as teaching and non-teaching administrative staff members have freedom to surf the web and utilize the digital resources. The computer laboratory is equipped with different computing operating systems (OS) like Windows and Linux. We upgrade our computer lab by including computers with latest configurations on a regular basis.

The Institute has a well-equipped and well-maintained library which has subscribed to various science journals, magazines, newspapers. The Institute has been registered with N-LIST (INFLIBNET). All the staff members and students have been allotted a separate individual user IDs to access and utilize plethora of e-content (eShodhSindhu, e-journals, e-books, e-magazines, Shodhganga, etc.) available free of cost. The students and the staff have been found to make use of this facility which has helped in enhancing their subject knowledge. The library is partially digitalized through RFID system and it is equipped with SOUL 2.0 software to maintain the database. The Institute has its own website <https://www.ptscience.ac.in> where students can find notices, old question papers, syllabus, admission process and any other relevant information.

The conference hall is also equipped with computer, printer, WI-FI facility, LCD Screen and projector. This type of digital ecosystem helps to conduct faculty development programmes, workshops, seminars, staff meetings etc.

A state-of-art Taramoti Hall is fully air conditioned with a large video wall having ultra-high resolution. It is also equipped with motorised curtain ultra-modern sound system and is acoustically designed which avoids the problem of flutter echoes.

Thus, the campus provides seamless connectivity to internet and e-resources for students as well as the faculty members.

File Description	Document
Upload any additional information	View Document

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

Response: 13:1

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: 58.94

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
57.38	61.89	78.86	75.92	43.29

File Description	Document
Upload any additional information	View 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 Institute is very conscious as far as the maintenance of infrastructure and updating other facilities are concerned.

All the departments except Mathematics have laboratory assistants who take care of the laboratory equipments on a daily basis. They also carryout administrative work of keeping records, maintaining stocks and distributing material, chemicals etc.

1. Routine Maintenance:

Routine cleaning of the laboratory, library, sports complex, classrooms etc.is done by the departmental peons of the Institute. The routine maintenance is carried out by appointed staff as well as some temporary staff, hired on contract basis. As for the cleaning of the entire campus and campus facilities, an AMC has been given to a professional housekeeping agency and cleaning is done by the trained staff of the agency on day-to-day basis. The details are as follows:

- Sweeping and mopping the floors are done everyday
- Several dustbins are placed in campus
- Classrooms, laboratories cabins, staff rooms, offices, library etc. as well as toilets are cleaned and mopped
- The collection of waste from the campus has been outsourced to a local agency

2. Building Maintenance: The maintenance of infrastructure involves repair work of college building, plumbing work, electric work, furniture repairs etc. The Sarvajanik Education Society (SES) has a well-established Estate department which takes care of all the maintenance work.

In order to maintain proper functioning of the Institute building and infrastructure, necessary steps are taken by the Institution. It includes repairs of damages and intermittent painting of the infrastructure. Major jobs are done by SES management staff or by external agencies appointed by SES. The details of building maintenance involves cleaning of water supply line, drainage line,painting of internal and external walls, repair of leakage in drainage and water lines and repairing of benches.

3. Electrical Maintenance:

The Institute has obtained a dedicated power line from the Torrent Power Limited (TPL), Surat. The major faults are resolved by the TPL, however, routine servicing, repairing and replacement of electrical accessories and installations in the campus are carried out by the Estate department.

4. Repair works:

This includes the repairs of the furniture, teaching aids and equipments of the Institute. The furniture of the Institute includes that of classrooms, office, library, computer lab etc. These repairs are carried out as per the requirement by external agencies provided by SES.

5. Library Maintenance:

The stock verification of the books is also carried out annually. Computers in the library and other peripherals are repaired and upgraded from time to time under the AMC.

6. Laboratory Maintenance:

As far as the laboratories are concerned, the Laboratory assistants and Faculty-in-charge of respective laboratory are responsible for the upkeep of the equipments. The equipment stock, chemicals stock, stock of glassware, slides, specimens, herbarium, charts, models etc. in the laboratory are maintained and audited regularly.

7. ICT facility Maintenance:

AMCs are in place with different professional agencies for the maintenance of computers, laptops, printers, Projector, Digitizer etc. Dead Stock is also maintained annually.

The servers and desktop systems are checked on monthly basis and the hardware up gradation for network equipment like access points, switches etc. is done whenever it is required.

The support facilities like replenishing of consumables like laser printer toners, photocopying machine toners, laboratory chemicals, stationary items etc. are also made available through pre-authorised vendors.

8. Gas Maintenance:

In all laboratories, the gas connections are provided by Gujarat Gas Limited. The staff of the company monitor the supply and leakage of gas on regular basis. In case of any leakage, the Gujarat Gas Limited is promptly informed and an appropriate action is taken by them.

9. Air conditioner and Water purification system maintenance:

Air conditioning system in the Institute and the Water Purification system maintained by giving AMCs.

10. Garden maintenance:

The Institute boasts of a vast green cover of trees and lawns. The areas under green cover will have a lot of leaves and twigs falling from trees and shrubs. In order to take care of the Gardens including botanical garden, an AMC has been given. The fallen leaves from different trees and plants are gathered and dumped

in the Vermicompost unit. The compost created is used as manure for the trees on the campus.

11. Surveillance system maintenance:

The entire campus is under CCTV surveillance. An AMC is given for maintenance of entire CCTV surveillance system.

12. Ground maintenance:

The lush green out field of the college cricket ground is maintained by an external agency through AMC.

13. Security maintenance:

To maintain safety and security on campus the Institute has outsourced security management to an external agency.

14. Health Center:

The college has an on-campus health center, which is looked after by a full-time doctor and a compounder.

15. Utilization of Common facilities:

By intimating the office in advance, the HOD and all faculty members can avail the common facilities such as auditorium, some laboratories, the conference hall and classrooms to arrange seminars, workshops, guest lectures, etc.

File Description	Document
Upload any 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: 31.93

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
460	488	504	411	349

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: 6.14

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
33	155	83	77	77

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: A. All of the above

File Description	Document
Details of capability building and skills enhancement initiatives (Data Template)	View Document
Any additional information	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: 112.35

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
1714	4119	419	677	962

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

5.1.5 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: A. All 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: 0

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
0	0	0	0	0

File Description	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: 220.32

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

Response: 1106

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: 89.76

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
40	11	27	17	9

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
53	15	27	17	9

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
Any additional information	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: 35

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	8	10	9	8

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:

A Student Council is a representative structure through which the elected students of the Institute get an opportunity to take part in the affairs of the Institute, working in partnership with the principal, staff and students for the benefit and betterment of the Institute.

As per the norms of the VNSGU, a Student Council is formed every year (except the academic year 2020-2021). Every year VNSGU announces the date on which student council election should take place across all the colleges of the city. Accordingly the Institute holds student council election. At first, 20 students (one Class Representative (CR) and one Lady Representative (LR) per division) are elected. Out of these 20 representatives, one general secretary (G.S.) is elected by a secret ballot. Soon after the election, the Student Council of the year is constituted. As per the norms, one of the faculty is appointed as Chairman and other as a Vice-Chairman. One of the elected CR/LR is appointed as the Secretary and two elected CR/LR appointed as members. Students are given freedom to choose the committee as per their skill and interest. Each committee works whole-heartedly to carry out various activities all over the year.

In an increasingly interconnected world it is important for students to learn to communicate, develop skills such as leadership, self-management, self-awareness, self-motivation, self-belief, acquisition of emotional intelligence and creativity. Moreover, they must formulate their views on a variety of subjects and they must develop sensitivity to humanity and altruism. The main purpose of these committees is to ensure harmony across an ample, vibrant, and continuous range of campus events and activities in the course of an academic year.

The following committees are formed as per the norms of the VNSGU, Surat.

- Finance and student welfare committee
- Gymkhana committee
- Social and cultural activity committee
- Literary and debate committee
- Magazine committee
- Educational tour committee
- Planning forum

Besides this, students play an active role in NCC and NSS.

The Student Council members participate enthusiastically in the educational and recreational activities like youth festival, elocution competition, musical morning, essay-writing, poster competition, quiz competition, PPT presentation competitions in various subjects, book-exhibition, various sports activities and tournaments, blood donation camp, tree plantation, community services, prize distribution function, sky gazing and many more. They also participate exuberantly in the activities of different clubs such as Mathematics Club, Physics Club, Chemistry Club, Eco Club and the Bicycle Club. Various days like Yoga day, Environment Awareness day, Bicycle day, No Vehicle day, Independence day, Republic day, Teacher's day, International Women's day, National Science day, Mathematics day, Gandhi Jayanti day, Swachchhata Abhiyan day (cleaning of campus) etc. are also celebrated under the aegis of the Student Council through appropriate forums.

By participating in various activities, the students understand the value of hard work, perseverance, inventiveness, togetherness, empathy and ethical conduct.

File Description	Document
Upload any 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: 56.2

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
22	79	64	72	44

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:

The Institute has an active alumni association with the name "Sir P. T. Sarvajanic College of Science Alumni Association." An Alumnus is a reflection of the Institute itself, its ethos and culture. The Institute boasts of Alumni who have carved out niche for themselves in wide spectrum of fields and walks of life.

The Alumni Association provides a unique feedback mechanism which multiplies gain and helps the Institute scale greater heights. With a view to bridging the widening gap between the former students and the college and keeping them in touch with the present growth, development and also the challenges, the alumni association was established in the year 2007. Since its inception, the Alumni Association has gone from strength to strength and today it has more than 900 members. Due to the excellent rapport shared by our faculties with the alumni today we are able to make a strong bonding and network between alumni and institute.

The Alumni engage with their *alma-mater* in the following ways:

- Every year mobilizes funds to donate books to the Poor Boys Book Bank which is maintained by the Institute library
- It helps to arrange seminars, workshops, symposiums and lectures to enlighten and promote the Science and Technology field by providing financial help and other logistics
- Every years helps poor students by providing them freeships
- It helps in organizing Industrial visits
- It has donated bicycles to the Bicycle Club of the Institute
- It helps in organizing sports events in the Institute
- It provides a platform for interaction among the past students
- It felicitates, honours, encourages the past students who have earned special accomplishment in any field
- It donates books to the Institute library
- It donates valuable scientific equipment

Regular Meetings: In order to strengthen the interaction and communication among all, the council members of the alumni are connected through WhatsApp group. Sometimes, in short of time, they conduct virtual meetings too. Our college website consists of alumni page (<https://ptsience.ac.in/pages/alumni/>) providing Information related to constitution, office bearers, membership form and the list of notable

alumni etc.

Annual General Body Meeting: Each year, an annual general body meeting of the members takes place during June/July. The managing committee of the association is formulated for the span of three years in this meeting. Furthermore, all the resolutions passed by the managing committee are approved in the meeting. To develop the close and harmonious relationship among the members of the alumni, the general body meeting is followed by lunch/dinner.

Other Activities: To establish a good rapport, social gatherings and the cultural programme like “Musical Evening” are also occasionally organized.

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

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

Response: A. ? 5 Lakhs

File Description	Document
Upload any additional information	View Document
Link for 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:

Vision: *To promote experimental scientific pursuit and to provide conducive environment for students to develop aptitude and to sharpen skills of the students to meet the challenges of rapidly changing world. To instil a spirit of camaraderie amongst the students and to sensitize them regarding their role and duty towards Nation building.*

Mission: *To make the Education of Core Science subjects “Sarvajanik” in true sense to create scientific thrust and to make the students explore new horizons of science through research.*

An institute running a variety of courses in UG and PG sections needs to be managed efficiently due to diverse needs and requirements. It necessitates a clear understanding of the vision and mission and should be buttressed by diligent persistent work in that direction.

The Institute is managed by the Sarvajanik Education Society, Surat. The management has set up a Local Administration Committee (LAC) in which institute's representative is also included. The LAC and the HOI meet regularly to monitor the progress and chalk out strategies for further progress of the institute. All queries or issues that need to be attended are discussed. All decisions taken in the meeting are rolled out for implementation.

The Institute has realised that besides the regular curriculum and prescribed syllabi, it is necessary to develop an environment of scientific temper among students as well as to provide them all possible opportunities to be part of the latest developments which take place in the outside world. In this context, the Institute regularly invites the eminent speakers from various fields of scientific expertise to interact with the students. Visits to laboratories, industries etc. are also regularly organized to get a first-hand experience of modern instrumentation techniques, work culture of an industry. The students of life sciences visit different sanctuaries, eco tourism sites, botanical garden etc. to get first-hand experience of life in its natural habitat.

All institutes have a top-down structure but it is imperative that decentralization be implemented to avoid typical red tape bureaucracy. The Institute has adopted a decentralized approach for smooth and efficient functioning of various departments. All HODs are empowered to take the necessary decisions with an unconditional backing of the HOI. Each department has the independence to devise its own budget as per the requirement it foresees for the coming year. The departments running PG courses have an additional income in form of the higher fee which is utilized by the department.

The departmental activities are handled by the respective heads of the various department. In fact, the independence of handling departments within themselves has brought about a sense of responsibility and ownership amongst the faculty members. A culture of sharing and caring is prevalent amongst the staff and the faculty members are always glad to lend a helping hand to each other.

Teachers are the members of various committees and a camaraderie amongst the staff has been a noteworthy feature of the Institute which is a direct outcome of the democratic ethos of the Institution.

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:

In order to manage and ensure the smooth functioning of its constituent institutes, the management of Sarvajanik Education Society (SES) has formed a unique two-tier system. The first tier is at the level of the overall administration of the college. The LAC – Local Administrative Committee, as it is named, forms a link between the office bearers of SES and college administration. The LAC is headed by a chairman appointed by the SES. The Principal of the college is the ex-officio member of the committee. The other members of the committee, nominated by the SES include - a few ex-principals of the college, a representative from the alumni, some members from the industry and a representative each from teaching faculty and non-teaching faculty of the college. The LAC meets at least once in a term (twice a year) to discuss and finalize various affairs of the college for the academic year.

Many institutes, in the country, suffer due to financial bottlenecking and lack of financial freedom. But in our case, we are fortunate that the LAC aids in the smooth fund flow and glitch free availability of funds as and when necessary. The LAC is not only a bridge between the SES and the Institute, but also acts as a buffer and is often looked upon as an intermediary to resolve any issues faced by the staff members. The promotions of the temporary staff members are routed through the LAC.

Another tier of decentralization is at the departmental level. This is a case of operational autonomy vis-a-vis shared collective responsibility. In the beginning of the term, the HODs are informed to prepare a list of the requirements for their respective departments that includes books, equipment, instruments and any other infrastructural/ academic facility to be augmented in the department. The HODs consult the teaching and the non-teaching staff members of the department whence, after deliberation, on receiving feedback from them finalizes the proposal which can be put forward in the LAC.

This financial decentralization by way of participative management is indeed one of the outstanding features of our college and a classic example of healthy management and institute relationship.

File Description	Document
Upload any additional information	View Document

6.2 Strategy Development and Deployment

6.2.1 The institutional Strategic / Perspective plan is effectively deployed

Response:

The Institute has been proactively taking student centric decisions. The perspective plan highlights a set of priorities and recommendations which would help the Institute to catapult into a level at par with some of the best institutes of the country.

For the effective implementation of the perspective plan the steps taken are:

- A PG program in Nuclear Physics was started in 2016-17
- The faculty members have participated as Chairman of BOS or members of the various committees of the VNSGU
- The Institute was given a five-star rating in the GSIRF (Gujarat State Institutional Rating Framework) in the year 2020 and 2021
- The Institute participated in NIRF also
- The Institute has adopted the CBCS curriculum for academic flexibility
- All classrooms are ICT enabled and equipped with audio systems
- The Institute has 5 camera-based visualizers which can be used for projecting book, specimen or a PC screen onto the LCD projection screens
- The Institute offers coaching for NET/SLET and JAM examinations
- The teaching staff uses PowerPoint presentations, YouTube videos, visualizers etc. to enhance teaching experience
- The Institute subscribes to G-suite. The Gujarat Government has provided subscription of Microsoft Teams for online teaching
- Research projects sponsored by GUJCOST, ISRO, UGC, were undertaken
- Refresher courses in collaboration with Indian Academies of Science, Bangaluru were also taken up
- Research facilities were augmented by purchasing equipment from the research grants
- Students undergo field projects at Kakrapar Atomic Power Station (KAPS), Surat, at different botanical gardens, at Zoological Garden, Sarthana, Kosmada Fish farm, Vadhvana Eco tourism complex and Okha-beyt Dwarka Marine National Park
- 3-day teachers training programme in collaboration with HBCSE, Mumbai was organised
- Students were trained in softskills through the finishing school programme
- NCC students were encouraged to take part in Republic Day parade and some students have been selected in defence forces through 'C' certificate category
- The RUSA 2.0 grant has been utilised for renovating the Taramoti Hall (auditorium) and constructing a new PG building
- The campus is fully Wi-Fi enabled and students can access the internet facilities within campus
- The Institute library is RFID enabled, uses SOUL 2.0 as LMS and OPAC data is available via ADINET and DELNET for online reference
- The Institute Management Software (IMS) modules are cloud based and students can access it from anywhere
- A student participated in International Taekwondo competition held in Canada
- The Alumni of the Institute have been actively supporting various activities by funding them
- The two botanical gardens and the green campus reflects the environment consciousness of the Institute
- Gender sensitization activities, Swachh Bharat initiatives and Azadi Ka Amrut Mahotsav

celebrations are undertaken by the Institute

- The “Bicycle Club” of the Institute encourages students to use bicycles for the daily commute
- Rain water harvesting has been implemented
- The Institute campus has solar street lights
- A vermicompost unit is setup on campus

File Description	Document
Upload any additional information	View Document
strategic Plan and deployment documents on the website	View Document
Paste link for additional information	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 Sarvajanik Education Society (SES) has well-known academicians and other distinguished personalities from different walks of life as the members of its Governing Body. The SES is governed by the managing committee which appoint the Chairman of the Society. President of the society is elected in the Annual General Meeting. The Chairman and the President are assisted by two Vice-Chairmen and two Vice-Presidents respectively.

The Local Administrative Committee (LAC) acts as an interface between the Institute and the management. It facilitates progressive decision-making and its proactive approach helps the Institute in new developments and taking up challenging tasks.

At the institutional level, the Principal - the head of administration, acts as a bridge between the management and staff. The Principal is assisted by well experienced and qualified members in the IQAC, all the HODs & the administrative office. IQAC is functioning as the advisory body for various policy matters, structures and documentations mandated by the statutory authorities.

The academic setup has various departments that consist of the teaching and non-teaching support staff including the laboratory staff also. The departments that have practicals as a part of course work have well-equipped laboratories. These laboratories are used for conducting practicals as laid down in the respective syllabus. The instruments, chemicals and other consumable items in the laboratories are regularly updated and replaced as and when required. The laboratory staff has a laboratory assistant who looks after the regular upkeep of the laboratories and also manages the maintenance of the instruments or other consumables.

The Institution strictly follows the service rules in accordance with the University norms and Government norms. The VNSGU has laid down the terms, conditions of service and code of conduct in the document 69A for the teachers and 69B for the non-teaching staff.

The teaching and non-teaching faculties have the benefits of Provident Fund, Casual Leave, Medical Leave, Maternity Leave and Paternity leave etc. Recruitment is undertaken by a body comprising of the Commissionerate of Higher Education (CHE) Gandhinagar, representatives of the VNSGU, Principal, HODs and Subject experts by following the University norms.

The Institute has constituted several committees that aid in better management of various activities and on-going processes. The committees comprise of not only the staff members but also students, in some cases.

The various functional committees in the Institute are:

- Finance and student welfare committee
- Gymkhana committee
- Social and cultural activity committee
- Literary and debate committee
- Magazine committee
- Educational tour committee
- Planning forum
- SC – ST Cell
- Local exam committee
- Grievance redressal committee
- Library committee
- Sexual harassment committee
- Campus placement cell
- Campus discipline committee
- Time Table committee

File Description	Document
Upload any additional information	View Document
Link to Organogram of the Institution webpage	View Document
Paste link for additional information	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: A. All 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
Any additional information	View Document

6.3 Faculty Empowerment Strategies

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

Response:

The Institute has taken various effective measures for the professional development and welfare of the teaching and non-teaching staff.

In addition to the professional development, steps have also been taken to implement welfare schemes for the teaching and non-teaching staff by improving their health, efficiency, economic betterment and social status to enhance the performance of the workforce. Some welfare measures for the teaching and non-teaching staff are listed as follows:

- There is provision for provident fund as per the government norms
- Gratuity is also admissible as per the government norms
- The faculties can avail themselves of financial support for attending conferences / seminars / workshops
- There is a Registered Co-Operative Credit Society on the Campus, managed by the employees of the various institutes of SES, which provides services like deposit and loan to its shareholders
- Female staff members can avail themselves of maternity leave as per government rules
- Male staff members can also avail themselves of paternity leave as per the government rules
- On Duty Leave (ODL) is provided to the staff members for attending examination work, evaluation work, BoS meeting, workshop, seminar, conference, orientation course, refresher course, faculty development program etc.
- The SES, Surat offers the reward of the 'Best Teacher of the Year' on the Teachers Day every year
- Increments in salary are regularly released
- The faculty members are provided with well-equipped staff rooms. The departmental staff rooms are equipped with a refrigerator, induction hot plate and water purifier units
- Restroom, ramp and wheel chair facilities are available for the specially challenged staff, faculty as well as visitors
- The ladies' washroom is equipped with a pad vending machine and a disposal unit with incinerator
- For the teaching staff, leaves admissible as per the government rules can be availed
- A tea club has been setup which is jointly funded by the teaching staff members. The hamaal (peon) staff is provided with tea once a day from this club at no cost
- The gymkhana room has a treadmill which is used by the staff members
- A health center with a full-time doctor is operational on the campus and is open from 11:00 am to

5:00 pm

- The peons / hamaals are provided with uniforms (2 pairs) every year
- The hamaals in the Chemistry department are provided with safety shoes, safety gloves and safety goggles since they are exposed to chemicals while handling them in the laboratories
- Staff members were provided with masks, gloves and sanitizers during the COVID-19 pandemic
- Every year the management sponsors a program of Inter College Staff Sports Festival. A sports week involving academic and administrative staff of all the colleges under the SES take part in various games and athletic events

File Description	Document
Upload any additional information	View Document
Paste link for 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: 4.53

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
5	3	0	0	0

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: 0

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
0	0	0	0	0

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: 33.76

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
17	13	6	10	19

File Description	Document
Upload any additional information	View Document
IQAC report summary	View 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 performance appraisal of the teaching staff is done as per the format approved by the Veer Narmad South Gujarat University. The faculty members fill up the following digital data on the Institute's ERP.

1. Personal Details

2. Academic Progress

- Faculty Development Programs attended

- The pedagogy used in the classroom
- Training underwent/qualification acquired

3. Research and Publications

- Number of research publications
- Doctoral or post-doctoral activity
- Papers presented

4. Extension Activity/ Event participation

- Details of extension activity, if any
- Details of outreach programs organized or actively participated

5. Student Support Activities

- Extra-curricular activities organized
- Co-curricular activities conducted
- Club activities organized

6. Leadership abilities

- Any programs initiated by the teacher
- Activities organized
- Activities in which faculty / students were MOCs

7. Contribution to the Institution

- Any data regarding activities that benefit students and the Institute

Promotions and other benefits are decided as per the Government norms and the performance appraisal is prepared by individual and assessed by IQAC. The API score is submitted through the IQAC for all promotion related events.

The non-teaching Staff

The Performance Appraisal Report of the non-teaching staff is taken on an annual basis using a structured questionnaire. The duly-filled self-appraisal forms are submitted to the respective Heads of the Department, who in turn write a report on the non-teaching staff members, and submit the same to the Principal with suggestions and recommendations.

The non-teaching staff members are appraised on the following parameters:

- Work efficiency
- Time management
- Updated knowledge
- Knowledge of computers
- Punctuality at work

- Communication skills

The report based on the assessment of the above parameters is submitted to the Principal for further action.

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:

The Institute conducts the internal and external financial audits periodically and has its own mechanism to conduct this audit. Transparency is strictly maintained in both the internal and external audit of the college. Just before the completion of financial year, the Local Administrative Committee in consultation with the Principal, prepares the annual budget of the Institute. The passed budget is then sent to the Sarvajanik Education Society for final approval. In most of the cases the Institute adheres to the budgetary provisions and carries out the financial transactions. The Institute keeps the record of all the Income and Expenditure of the Institute.

Internal Audit:

The internal audit is conducted twice during a year by an approved auditor, appointed by the SES, who checks the receipts/payments of all accounts. They submit an audited statement of income and expenditure to the Institute. The audited report is presented in the Local Administrative Committee (LAC) by the Head of the Institute for consideration and approval. The audit is conducted in accordance with the auditing rules of the government. The audit includes the following:

- 1. Checks for compliance with policies, laws, regulations and budgetary provisions**
- 2. Comparison between the previous financial statements and the present ones**
- 3. Reviewing reliability and integrity of financial and operating information and the means used to identify measure, classify, and report such information**
 - Noting of provisions applicable
 - Verifications of student's fee registers
 - Authorization of fees concessions, controls, policies
- 4. Review the means of safeguarding assets and, as appropriate, verifying the existence of such assets**
 - Verification of cash book
 - Examining the bank passbook
 - Verification of the grants from other bodies

- Admission record verification
- Checking of the letters regarding freeships, scholarship, if any

5. Reviewing and appraising the economy and efficiency with which resources are employed

- Examining the payments for maintenance and any other miscellaneous expenses
- Certify the audit report
- Filing the TDS quarterly returns regularly

The internal audit for the year 2016-17 was performed by Natvarlal Vepari & Co.

The audit for the year 2017-18 was carried out by K. A. Sanghvi & Co. for the Grant-in-Aid (GIA) account and the amenities account was carried out by V. H. Gundarwala & Co. The audit for the years 2018-19, 2019-20, 2020-21 was carried out by V. H. Gundarwala & Co. The audit of all the years for the Post Graduate Account has been carried out by V. H. Gundarwala & Co.

External Audit (Government Audit)

The audit of Government grant is performed by the office of the Commissionerate of Higher Education (CHE), Government of Gujarat, Gandhinagar. The government audit had been pending since 2012. The office of the CHE has carried out the audit for the years 2013-14 to 2017-18 on 18th and 19th February, 2022 whose audit report is being awaited.

File Description	Document
Upload any additional information	View Document

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

Response: 143.85

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
82.22	28.14	14.34	14.78	4.37

File Description	Document
Details of Funds / Grants received from of the non-government bodies, individuals, Philanthropers during the last five years	View Document
Annual statements of accounts	View Document

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

Response:

Aided by the vision plan of Sarvajanik Education Society (SES), the accrued financial resources are judiciously budgeted and utilized for the all-round development and quality enhancement of the Institute.

The well-established internal and external audits, Finance Committee and Governing Body effectively monitor the optimum utilization of Resources; college-level committees implement the schemes in a time-bound manner. Resources were never a crunch in SES in building infrastructure, quality manpower & teaching-learning facilities.

Means for the fund mobilization:

- Student fee
- SES, Trust Fund
- Fees collected during seminars, workshops, conferences, fests
- Alumni around the world

The HOI is exclusively responsible for managing funds for carrying out various activities and programs.

The Institute constantly encourages its faculty members to apply for research grants offered by various funding agencies like UGC, DST, DAE etc. The Institute has received funds from the state government, viz., GUJCOST (for workshop and a research project), KCG (for Finishing Schools) and GKS (for SSIP cell). The Institute has also received grants of Rs. **19,78,000/-** for a sponsored research project. The Institute has received funds under CPE and also for GDA and IQAC from UGC. The Institute has also received Rs. 1.5 crores under the RUSA 2.0 component 9.

Optimal Utilization of Funds:

The Institute has received funds from the government agencies, and it is managed as per the government norms.

Heads of the various departments, different Committee Coordinators, and Conveners of various cells present their budget requirements to the Principal. The SES and the LAC (Local Administrative Committee) review the budget presented by various HODs and gives some suggestion. All the HODs and the Conveners present a revised budget if required. After the review of all the budgets, the Principal presents the budget for the Institute and secures approval from the LAC. The funds generated through fees, collected from students are used for cultural and other academic activities.

1. Recurring Expenses

- Academic activities, and Institution maintenance
- Research activities
- Maintenance of playground, flora and fauna
- Computer softwares such as MS Windows, antivirus, payroll, ERP
- Maintenance of air-conditioners, aquaguards etc.
- Maintenance of computers and peripherals such as printer maintenance, keyboards, mouse, LCD projectors etc.

2. Non-Recurring Expenses

For the non-recurring expenses, the management allocates funds. The funds are allocated for the following purposes;

- Infrastructural development facilities and construction works
- Computers, lab and gymnasium equipment
- Up-gradation of the infrastructural facilities in tune with the modern trends

File Description	Document
Upload any additional information	View Document

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:

The Institute has always believed in academic excellence and is known for its quality consciousness.

The endeavours of the IQAC have brought about a paradigm shift in the working of the Institute. It has been instrumental in enhancing quality education by creating a student-centric and conducive environment with highly motivated teaching staff working in consonance.

The two practices that have been institutionalised by the IQAC are:

1. Bridge/Certificate Courses

The students admitted to the first year come from diverse demographic background having different cultures, mother tongues, different economic strata and family educational background. It was observed that students admitted to the Institute were lacking in foundational or basic skills of science subjects, in general. The students lacked motivation to appear for entrance examinations conducted by the premier institutes like IITs, IISER, NICER etc. for further studies at undergraduate/postgraduate level.

The IQAC took up the challenge to address this lacuna. In order to motivate students to take up research and face competitive examinations with confidence, the IQAC initiated the Bridge/certificate courses in different subjects. The courses were specifically designed to improve the problem-solving abilities. A thorough grooming of the students took place which is reflected in the number of students clearing entrance examination. To give them the flavour of automation, first-hand training of designing different circuits etc., a certificate course on "Arduino Programming" was also started. Because of the training received, three students took up projects under SSIP and a **patent was filed. One more patent was filed for organic mosquito repellent.** "Finishing School" - an initiative of Government of Gujarat was implemented which included softskills, communication skills, personality development.

2. Information Management System

The backbone of an institute is its office which handles maximum paperwork. The timely access and storage of data in a correct format facilitates the ease of retrieval and action.

In this context, the IQAC took up the voluminous task of setting up and implementing cloud-based Information Management System (IMS). We knew we may not get the solution 'right the first time' and that this is an iterative process that evolves over time. Over the years IMS became fine tuned to the needs of the Institute. The IMS comprises the multiple modules and sub modules which manage student attendance, e-students request, admission procedures, student enrolment, fees collection procedure, staff leaves record, supervision allotment, staff academic achievements etc.

It has eliminated the need of doing repetitive tasks and managing paper-based files to help create a paperless work environment in the college.

The highlights of IMS are given below:

1. **Productivity:** saves time and ensures a smooth flow of academic and non-academic activities.
2. **Accessibility:** The students pay the fees remotely and don't have to wait in queues.
3. **Data Security:** It reduces endless paperwork and the need for paper storage.
4. **Easier Communication:** It circulates the information among teachers, students and staff quickly.
5. **Customised Reports:** It generates customisable reports for the administrative convenience.

In conclusion the IMS software has been a boon for the Institute because of its versatility, security and high-quality performance at every level.

File Description	Document
Upload any 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:

The process of imbuing the quality consciousness and bringing about changes is a humongous task that the IQAC has been shouldering with aplomb. The IQAC has been instrumental in bringing about landmark changes in improving the quality of teaching and learning experiences. The IQAC has worked out a methodology based on feedback which helped it to catapult the Institute into a vibrant learning place. The IQAC periodically reviews teaching-learning methodology and suggests appropriate changes to enhance learning experience. As an example of the initiatives taken by IQAC and its outcome two cases are presented below.

Example: 1 Outcome based learning

- Internal exams are centered around CO
- The attainment of COs and POs are evaluated using attainment sheets
- The students are given coaching for JAM/NET/SLET/GATE etc. The number of students clearing these national level examinations are used as indicators for attainment of COs and POs
- The Number of prizes/gold medal at the University examinations are monitored and appropriate efforts are undertaken to maximize the numbers
- Remedial classes are undertaken regularly for slow learners
- Feedback on curriculum is collected from all the stake holders. A report is prepared and is analysed for further improvements
- Problem based learning, development of analytical ability is encouraged
- Field trips, industrial visits, invited talks, Nobel lecture series are regularly organised for effective CO and PO
- One of the important skills required for employability is good communication ability. "Finishing School" program for honing soft skills and personality development was started
- Bridge/certificate courses have been conducted to improve and strengthen the fundamentals of different science subjects which improves the attainments score of COs and POs. Furthermore, the number of students clearing different competitive exam is on upswing
- For developing skills in designing of automated circuits which have plenty of practical applications a dedicated course on "Arduino Programming" is offered. A weather station which monitors Air Quality Index was develop by the students from the Arduino course
- To provide wider scope of reading material, students are encouraged to use INFLIBNET facility. As a result, they are able to perform well in the examination
- Students are given opportunity for revision in the laboratories before the final examination so that they can do well

All the measures are undertaken for attainment of COs and POs. At the end of the semester using attainment sheets, the attainment of COs and POs are evaluated.

Outcome:

Because of the active involvement of IQAC in shaping the overall teaching-learning methodology the performance of our students has been substantially improved over the period. As a result, more and more students are now appearing for competitive examination which indicates that a conducive environment has been created in the Institution.

Example: 2 Promotion of ICT in teaching-learning process

- Each classroom is ICT enabled. The laboratories such as Physics, Zoology, Botany where ICT tools are needed have been also equipped with it. These tools are used regularly and thus have enlivened the class and enriching students' learning experience
- The campus is Wi-Fi enabled
- All departments have been provided with Camera based visualizers that enable a teacher to project a part of textbook or any written material / notes. Since visualizer can be connected to a projector, it is used for demonstrations in laboratories too
- A high-resolution camera mounted on a microscope is used in the Zoology department for showing slides and small specimens
- The Institute already has five digitizer pads (17") with touch screen for effective online teaching
- The Institute has a Google G-suite subscription. The staff members have an Institutional email ID and all official correspondence is done through these IDs. The Institute uses Google Meet and Microsoft Teams for online teaching
- Even during COVID-19 pandemic to keep the scientific spirit alive and burning amongst the students, faculty and public at large the Institute took the initiative of organizing number of online webinar series which was a great success
- During COVID-19 pandemic live sky gazing programs were organised in the online mode
- The library is RFID enabled. The library database has been shared across the country via DELNET, ADINET and GujCat. The students are given individual login IDs for accessing e-content available on INFLIBNET. A special area in the library, called Einstein corner, is earmarked and setup differently with books dedicated to Albert Einstein. A workshop on DSpace, DELNET was organised
- To encourage usage of N-List the Institute felicitates the student who has used the facility to the maximum by giving away a book.
- The capacity of the computer laboratory has been augmented to 60 computers with latest configurations having licence software. The Institute has purchased licensed software of MATHEMATICA, CHEM DRAW and English Language Lab (ELL)
- A Cloud based Institute Management System has been implemented. A student is able to pay fees online, place an online request for various certificates from the college office and bicycle procurement. Using IMS attendance monitoring is done, messaging through SMS and emails is carried out and registration for any event is done online. The record of academic as well as extracurricular achievements of the student is maintained by IMS
- The Institute has Google Education subscription. In fact, the domain www.ptscience.ac.in is parked on Google workspace. Thus access to major Google apps is available for the staff members too
- The Institute is a tenant on the Microsoft 365 cloud server. All students have their individual IDs that help them to use Microsoft Teams for online classes

Outcome:

The use of ICT in teaching-learning process has transformed it into an enriching exercise wherein the students feel benefitted and have found to rekindle their love for study. Over and above, these tools have proved to be a boon during the corona pandemic to continue the education without much loss to the students. It is felt that if these tools were not available, the education of the students would have been badly affected for almost two years, i.e., four semesters. Thus, the use of ICT tools has proved to be a blessing for both the students and the faculty.

File Description	Document
Upload any additional information	View Document
Paste link for 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: A. All 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

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:

The Institute that value girls and boys as equal are safer and healthier. Our Institute strongly believes in the gender equality, i.e., the equal outcomes for both irrespective of their gender. In this context, all the activities, viz. academic, extra-curricular and co-curricular, are carried out on campus without any gender bias. To boost the gender equality, the Institute takes special interest and motivates girls to join the NCC. The reserved strength for girls in NCC is completely filled up every year. Girl students are treated at par with the boys. Nearly 50% of the total strength of students enrolled in the Institute are girls.

(a) Safety and Security

In every way, the Institute adheres to strict safety and sanitary standards.

- The campus and hostel are protected by the security guards. They prevent any unruly behaviour and unwanted trespassers from entering the campus. Girls feel safe and secure on campus.
- Enough lighting has been installed across the campus. All the roads and pathways are adequately lit up during the evening and night.
- The closed-circuit television cameras are installed in both the indoor and outdoor areas of the campus.
- A full-time doctor is available in our Health Centre to provide prompt and timely medical help to all the students.
- The Grievance Redressal and Anti-Sexual Harassment Cell provides a platform for students to raise their issues. No grievance has been reported till date
- The SC-ST Cell is successfully helping the students from backward classes.
- The Institute has separate parking for the boys and girls.
- The Institute often organizes special hygiene and safety lectures for girls.
- The female students are provided with the hygienic and useful facilities like Sanitary Vending Machine and Incinerator.

(b) Counseling

Faculties of the Institute are appointed as the mentors for counseling students. If students have any questions about their subject, career or for that matter any other issues they can approach their mentors for resolution of the issue. Moreover, the faculty are always willing to assist and guide them in their regular studies, allowing them not only to improve their performance but also to boost their self-esteem. The NSS unit also arranges expert lectures for girls. Self-defense training is a life-skill that teaches female students to be more aware of their surroundings and to make them ready to fight against any unexpected danger. In our institute girls are trained to become strong enough psychologically, cognitively and physically to protect themselves in times of difficulty through self-defense training.

(c) Common room

In order to offer recreation and relaxation to the students, the Institute has provided special rooms to both male and female students. Boys can refresh themselves in boys common room which is located near the Chemistry staffroom, while the Girls Rest Room is set up near the Chemistry laboratory. Thus, students can use this facility to rest and socialize themselves in their free hours.

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

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

We emphasize on Collection, Transportation and Disposal (CTD) of the solid waste. Dustbins are provided in all the classrooms, common areas, staffrooms, administrative offices, hallways, campus, parking

area and library for the disposal of solid waste. The housekeeping staff empty the trash cans on a regular basis. The waste is collected from the campus by a contractual agency.

Littering is absolutely forbidden on campus. Special instruction boards are placed in the campus instructing all not to litter, neither to use plastic products. Plastic bags are prohibited within the campus. Students are constantly instructed and inspired to keep the campus neat and tidy.

In order to reduce the use of paper and thereby to help to prevent trees from being cut, the single-sided used papers are repurposed at the office. Notices are also sent out via email and WhatsApp group for the Institute staff. The public address system/website is used to make announcements regarding forthcoming events. Used papers, newspapers and outdated assignments are sold to a licensed vendor that pulps, recycles and reuses them. Events like elocution competitions on "Plastic Free Nation" and "Sustainable India" were held to raise awareness among youngsters. The NSS unit also takes the initiative to maintain the campus clean. They hold "Plastic Free India" rallies in order to raise awareness about the need of recycling and create awareness about the hazards of plastic waste. They actively organize cleanliness drives and numerous events both on and off campus every year.

Vermicompost

The campus's dried foliage and twigs are disposed of in the vermi-beds to produce vermicompost, which is utilised in gardening. The Zoology department monitors the Vermicompost unit.

Liquid Waste Management

Since its foundation, the Institute has had a well-maintained subterranean (underground) drainage system. The safety tanks, taps and water pipelines are all cleaned on a regular basis to avoid water clogging. The cleaning is outsourced. Surat Municipal Corporation's sewage system is used to dispose of chemical waste coming out of the chemical laboratories.

Biomedical Waste Management

Biomedical waste is generated in negligible quantity twice or thrice a year. The biomedical waste includes cotton and needles used in haematology experiments. We have needle-syringe cutter and destroyer for discarding the used needles. The destroyed needles and cotton balls are packed properly and handed over to the Biomedical Waste Carrier Vehicle that collects biomedical waste from Shri Ramkrishna Institute of Computer Education and Applied Sciences since an agreement is in place towards sharing their bio-hazard waste disposal facilities.

E-waste management

The Institute pursues E-waste management according to the government guidelines. The electronic devices are periodically checked and obsolete or damaged electronic devices are disposed of to the authentic local service providers and scrap dealers for reuse or recycling. Regular maintenance and proper upgradation of electronic devices and equipment are carried out to optimize the use of it.

For disposal of the old computers, printers and other electronics goods, there exists an agreement with Multitronic Services for onsite support of disposal of e-waste as per the prevailing rules.

File Description	Document
Any other relevant information	View Document
Link for Relevant documents like agreements/MoUs with Government and other approved agencies	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: B. 3 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: B. 3 of the above

File Description	Document
Reports on environment and energy audits submitted by the auditing agency	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: 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

7.1.8 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 is the oldest science college in South Gujarat, impelled by a noble vision to encourage experimental scientific pursuit and to endow with an environment to the students to build up the scientific aptitude and skills which help them to meet the challenges of rapidly changing world. The Institute is established by the “Sarvajanik Education Society” with a mission to make the education of core science subjects “Sarvajanik” i.e. “for all” in true sense. The Institute intends to create scientific thrust and to make the students explore new horizons of science through research without the slightest of the discrimination and embraces all irrespective of caste, creed, religion, race and economic and social status. The students from local, rural and tribal area get enrolled in the Institute as per the government norms and VNSGU rules. In spite of an eclectic blend of students from various strata of the society, a sense of kinship prevails amongst all. The Institute is entrusted to inculcate the spirit of camaraderie amongst students and sensitize them regarding their role and duty towards nation building.

The Institute regularly organizes various activities for inculcating the values of harmony and tolerance towards the cultural diversities which has high affirmative impact on the society’s cultural and communal thoughts directly. The Institution has various students’ council committees which are formed every year for the holistic growth of the students, preceded by students’ election. Each committee comprises the

faculties and students as per their interest and expertise. All the committees and their respective members work amicably and plan and execute various activities held throughout the academic year. Various curricular activities bring along the opportunities for students to move towards the unification of diverse cultures. The cultural activities like musical morning, dance, drama, mono-acts etc. performed by the students are utter examples of flawless accord arising out of the potpourri of cultures. The students dynamically take part in the community activities like NSS and NCC. The NSS volunteers do social cause in a rural area by adopting a village and organising one week camp there. They organize several awareness programmes and campaigns for the villagers. Every year the NSS volunteers, in association with the Sarpanch and Talati, arrange various lectures on health and hygiene. The volunteers of NSS and the students of NCC celebrate the Independence Day and the Republic Day every year with great zeal, which brings in the sentiment of national integrity in them. The NSS volunteers actively participated in online Awareness Campaign on "Atma Nirbhar Bharat." The NSS and NCC volunteers participated in social causes like "Swachhata Sankalp Abhiyan", "Akhand Bharat Nirmaan" Rally (Dhara 370), Matadar Yadi Sudharana Programme and Fit India Movement. Various programs under the aegis of "Azadi ka Amrut Mahotsav" were arranged to inculcate nationalistic fervour. Debate, essay and elocution competitions are arranged in which the students enthusiastically participate in the commemorations and henceforth put in the cultural, linguistic and socio-economic harmony.

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:

“The true purpose of education is in character building” - Sardar Vallabhbhai Patel, the first home minister of independent India.

The Institute firmly believes and strives to put into practice the above golden words of Sardar Vallabhbhai Patel. The faculty members work efficiently and diligently to inculcate and impart a value based education to the students. Activities are undertaken to develop a sense of responsibility, team spirit and leadership qualities amongst the students.

National festivals are celebrated with fervour and fanfare. The **Independence Day** and the **Republic Day** are celebrated with great enthusiasm. The members of the Local Administrative Committee, the Chief Guest, the Principal, the teaching and non-teaching staff, student volunteers of the NSS, the NCC cadets, etc. attend the flag hoisting function. During the march past, the NCC cadets honour the tricolor flag and the national anthem is sung by all with patriotic zeal. It is followed by the enlightening speech of the chief guest and some patriotic songs, sung by the NCC cadets. The Rank Ceremony is held for the NCC cadets at the end of the program.

Gandhi Jayanti is also celebrated on 2nd October to commemorate the birth anniversary of Mahatma

Gandhi- the Father of our Nation. On 4/10/2016, SES organized a “Gandhi Gyan” Quiz competition for the teachers of SES family in which Prof. Priti Singaraju along with Dr. Sambhav Vora took part and won the competition. Dr. Sambhav Vora, also achieved third rank in the "Gandhi Mahotsav" quiz competition among all faculty members of the Sarvajanic Education Society in the year 2017. On 2nd October, 2018, our college teachers sang the favourite “Bhajans” of Gandhiji in Taramoti hall and the students conducted the cleaning operation of the campus and classrooms. Our NSS unit also celebrated 2nd October wherein the entire campus was cleaned by the NSS volunteers under the guidance of the teachers. The NSS unit occasionally arranges "Swachhta Rally" to raise public awareness. NSS volunteers also take part in Voter Awareness Programmes which inculcate a sense of nationalism and citizen duty.

The **Literary and Debate Committee** has been an ongoing activity for years where students take part enthusiastically and in great number in **Elocution** and **Essay** competitions. The **Inter College Elocution Competition** is also arranged in the Institute and thus our students get an opportunity to observe the hidden talent of other eloquent speakers and also get motivated.

The most awaiting event of the year is the **Sur Sangeet Musical Programme** where all the students and the staff enjoy the live performance of the students and teachers singing songs on the stage accompanied by an orchestra. Students are also motivated to take part in various cultural competitions in the annual Youth Festival of the VNSGU.

May it be elocution competition or musical programme, through the special guidance and adequate support by the enthusiastic teachers of the Institute, our students have excelled in different competitions at the university and state level.

File Description	Document
Link for any other relevant information	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
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:

The Institute celebrates the national and international commemorative days, birth anniversaries, events and festivals either by organizing invited talks, essay writing competition, debate competition, poster making competition or quiz competition by different departments. The Institute also hosts rallies, public awareness programmes etc. in this context. Sometimes due to holidays/exams, the events are occasionally commemorated earlier/later. The activities, carried out by different departments are mentioned below:

- **Department of Chemistry**

As a part of the **National Science Day** celebration, the Chemistry club organizes the Poster Making Competition, the Power Point Presentation Competition and MCQ test. The Chemistry club also organizes expert talks/Nobel Lecture series to enlighten the students.

- **Department of Physics**

On the **National Science Day**, the Physics club organizes lectures/competitions to spread scientific awareness among students. On 14th March 2019, the 140th birth anniversary of Prof. Albert Einstein was celebrated by inauguration of **Einstein's Corner** in the Institute library.

- **Department of Botany and Zoology**

World Ozone Day is celebrated by the Department of Zoology in order to bring awareness amongst students to prevent the use of CFCs and to protect the ozone layer. Every year, 2nd February is celebrated as the **World Wetland Day** by arranging lectures for the wise use of wetlands and their resources. The Department of Zoology celebrates the **World Wildlife Day**.

Department of Botany and Zoology jointly celebrate the **World Wetland Day** by arranging the lectures.

- **Department of Mathematics**

22nd December, Srinivasa Ramanujan's birthday is recognised as the **National Mathematics Day**. The Mathematics Club hosted screening of the film on him, titled "The Man Who Knew Infinity", as a part of the celebration. The 5th of September is celebrated as the **National Teacher's Day**.

- **Department of English**

The **International Women's Day** was celebrated by Department of English on 8th March, 2020. Dr. Janki Mistry (Professor, Department of Business & Industrial Management, VNSGU, Surat) was invited to deliver a speech on 'Women Empowerment.' On 5-9-2019, the **Teacher's Day** was celebrated with great enthusiasm.

Celebration of various days

We also celebrate various days with great exuberance and earnestness. The main purpose of all the activities is to inculcate and foster the moral values and ethos.

The **International Yoga Day** is celebrated on June 21st every year. The teaching and non-teaching staff along with the students assemble on the ground in the morning and perform Yoga.

To celebrate **Swami Vivekananda birth anniversary**, the NSS unit organized an “Invited Talk” on 17/01/2020 and Dr. Manoj Sharma shared Swamiji’s ideas and ideals among students.

The World Environment Day is celebrated on June 15th, and our NSS unit holds programmes throughout the year to help maintain and safeguard the environment. In the campus, the NSS unit organises tree-planting events.

Library arranges book exhibition on various days such as Doctor's Day, World Gujarati Day, Fish and Fisheries Day, National Statistics Day, Hindi Divas etc. Students are encouraged to visit the library and refer to these books.

File Description	Document
Link for any other relevant information	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:

Title: Bicycle Club

Objective of the Practice

- To sensitize the students towards environmental consciousness.
- To contribute towards sustainable environment.
- To reduce the dependence on fossil fuel.
- To contribute to the nation building by reducing the dependence on foreign import of fuel.
- To imbibe a spirit of adventure.
- To develop physical fitness.

Need Addressed and the Context

- Major part of nations GDP is spent on oil imports. If, our dependence on oil imports is reduced then, the nation would have plenty of monetary resources at its disposal to uplift the downtrodden.
- Being one of the most populous nation using vehicles based on fossil fuels, we contribute a great amount to the environmental pollution. Therefore, the young generation needs to be motivated to contribute their bit in reducing the harmful gases. One of the most efficient ways is to reduce the usage of vehicles based on fossil fuels by an alternative which is affordable to all.
- Riding a bicycle is a visual message that reminds not only the user but also the people observing the rider about their valuable contribution to an eco-friendly approach to environment

consciousness and it hints at the possible solution to the imminent environmental catastrophe.

- Involvement of the students and inclusion of various stakeholders for a collective awareness and implementation of the sustainable environmental practice.
- Need to convey a message on carbon footprint, reduction in use of fossil fuel and also health management.
- In the aftermath of the Covid-19 pandemic, a need has arisen about developing strong immunity for survival and sustenance. If, the physical fitness of the public at large is improved then it will help in reducing the burden on health sector thus, helping in nation building.

The Practice

In 2016, a one of its kind, the Bicycle Club was set up by the Institute with 24 cycles, purchased from the Institute fund and donation given by the alumni and well-wishers. After running the activity successfully for a year, in 2017-18, the demand for additional bicycles was received by the institute office. As a result, 6 new bicycles were procured bringing the total to 30.

At the beginning of the academic session forms are invited from the students who are interested to cat a bicycle from the Institute. Information such as the distance of the home from the Institute, consent of parents etc. is collected in the application form. The desirous students are screened via parents' permission, the distance of their place of stay from the college, and their willingness to use the bicycle daily. Preference is given to the students who stay within 5-7 km of the Institute. An overall physically fit person is given preference. Finally, after scrutinizing the received applications, 30 students are selected and given away a bicycle. Thus, a student becomes member of the Bicycle Club.

The Bicycle Club provides bicycles to the students for their daily commute at a nominal rent of Rs. 50/- per month. The student has to deposit (fully refundable) Rs. 1000/- as a guarantee to the Institute office. Normally, the bicycle is rented to the student for a period of one semester. At the end of the semester, the student has to either return the rented bicycle or ask for an extension into the next semester. The Institute spares separate fund for maintaining the bicycles.

All the students who are given bicycles come to the Institute for regular classes on bicycle. As a result they save the expenditure which they would have otherwise incurred had they used vehicles. Also, they develop strength in their body and derive pleasure of having contributed to the cause of environment.

As per the Institute rules, it is mandatory for all the students to park their personal vehicles in the parking area outside the college premises. In order to motivate the students who use bicycles, an exception to the rule has been created and they are allowed to park their bicycles in a dedicated parking place inside the campus called "Privileged Parking." As a result, when the student brings bicycle inside the campus, he becomes cynosure of all eyes giving rise to excellent optics. This motivates other students to follow the same.

Evidence of Success

- 30 bicycles were issued to the students of BSc and MSc course.
- The Head of the Institute usually comes to the college on bicycle to promote bicycle usage. This unique gesture has created awareness amongst the students and staff. As a result of which, some members of the staff and students, too, have started to use their own bicycles for commuting to the college.

- The bicycle club has been a regular feature in the local dailies.
- Other colleges have got motivated to start their own bicycle club.
- The students of bicycle club were involved in various long distance trips on bicycle. Two students of the bicycle club went to the "Statue of Unity," which is situated at 185 km from Surat, on the bicycles given away by the Institute.
- One of the student Mr. Mayur Vora participated in "Gujarat Coastline Cycling Expedition-2021" which started on 12th January 2021 and covered 1300 kms on bicycle through the coastal region of Gujarat. The aim of the expedition was to raise awareness about prevention of dumping of plastic in oceans and Covid-19 appropriate behaviour.
- The Bicycle Club regularly organizes bicycle rallies to raise public awareness. As a part of "Azadi ka Amrut Mahotsav" a bicycle rally of 56 students and 4 faculty members which included the Principal and 3 faculty member from nearby Institute visited "Dandi" - a place of great historical significance in the freedom struggle, situated at a distance of 45 km from Surat.
- As a celebration of "Fit India Movement" a bicycle rally involving 21 students and 2 faculty members was organized to the "Statue of Unity."
- The Bicycle Club participated in "Freedom 2 walk and cycle" - an initiative of Surat Municipal Corporation. Under "Freedom 2 walk and cycle", recycled bicycles were given away to the students for their personal use.

Resources

- Involvement of the Institute's Alumni and society at large
- Motivation from college staff
- Rs. 50 per month rent

The Institution

P. T. Sarvajanik College of Science, Surat

Title: Nobel Lecture Series and Invited talks

Objective of the Practice

- To expose students to the cutting-edge developments in the field of sciences
- To inculcate research culture amongst the students
- To develop scientific temper
- To acquire research skills
- To develop critical thinking amongst the students
- To develop problem solving and analytical skills amongst the students
- To adopt "Catch them young" policy which identifies talented students and provide them the necessary guidance and give them a platform to interact and to learn from the topmost scientist of the premier institutes
- To motivate students to opt for research career

Need Addressed and the Context

- For any nation to be a world leader, it is imperative that the research in the fields of core sciences be strong. The earlier the students are made aware of research methodologies, the better would be the quality of the pool of experts available for the national growth. In order to catch them young, students need to be motivated and inspired at the earliest possible stage.
- It was long - felt need that mere bookish knowledge was not sufficient for the overall development of graduating students. It was necessary that they be motivated to take up higher studies, acquire research skills, develop scientific temper and also think about research as a career. So, it was decided to invite speakers to give talks on Nobel Prize from premier research institutes like IIT, BARC, TIFR etc. The speakers give talks on the Nobel prize given for that year in the fields of Physics, Chemistry and Physiology/Medicine.
- The live and one to one interaction with a prominent scientist go a long way in boosting the confidence of the students and motivate them for further research-oriented studies.
- Not only Nobel prizes but students should be expose to topics which are beyond their syllabus, however, are of great relevance. In this context, the Institute regularly organizes Invited talks by subject expert which widens the vista of the students.

The Practice

“The world is facing severe threats such as climate change, war and conflicts, lack of human rights, inequalities, science denial and extremism. But the Nobel Prize shows that brilliant ideas, science, compassion and hard work can improve the world. Teachers, and the profession of teaching, are crucial to promoting this.” (Text excerpt from: <https://www.nobelprize.org/education-network-nobel-prize-teacher-summit/>)

The above paragraph aptly describes the motivational aspects of Nobel Prize. Taking a cue from this it was decided to start a series of lectures on the topics of Nobel Prizes awarded.

The Nobel Prize is usually announced in the month of October every year. After the announcement, the respective departments in the Institute take up the task of identifying the appropriate speaker, according to the theme of the Nobel Prize in that research area. The speakers are carefully chosen from the premier institutes of the country and it is ensured that they match the respective area of work similar to that for which the Nobel Prize has been awarded. The speakers are then approached and their convenient dates are finalized for the talks. The Institute bears the travel cost of the speaker and their lodging and boarding expenses too.

Since the topic on which the Nobel Prize was awarded may at times be beyond the scope of a typical UG course, the Institute arranges a prelude to the invited talk so that the students get familiarised with the topic. The students gain sufficient knowledge before the actual Nobel lecture talk. As a result, they are able to comprehend the lecture that will be delivered by the guest speaker. Usually, the talk is followed by a lively Q&A session which extends beyond an hour.

Once the Q&A session is over the speaker comes down from the stage and it is an encouraging view to see the speaker surrounded by the students. This interaction lasts for an extended period and the students ask questions on topics of their curiosity and interest which may be different from that of the Nobel Prize. The students freely discuss research options, names of institutes, research areas and other research career related topics.

The Institute firmly believes that in the rapidly changing world it is imperative that the students gain

knowledge beyond their syllabus. Most of the advances in science occurs in topics which are interdisciplinary in nature and require an understanding across subjects. In order to usher in an interdisciplinary approach and train the students to think critically, the Institute regularly invites experts from diverse fields to deliver talk and interact with the students. For example, in 2015 when the elusive gravitational waves were detected, the Institute organised a special lecture by Prof. Gopukumar from TIFR, Mumbai, to update the students about this momentous discovery. Over the last five years the Institute has organized more than 80 invited talks by some of the renowned scientists/professors from across the country and our own faculty members.

Evidence of Success

- Our observation reveals a fact that the resource persons we are getting from premier institutes of the country are so much down to earth that they never ever isolate themselves from the students and the faculty members. In fact, they love to interact with the students, share their expertise and experience, clear all the doubts that the students have and they, at times, invite the students to visit their laboratories and carry out research projects.
- The post session interaction of students with the speaker is a pleasant view for an academician.
- The students are elated to talk to the research scientist at such a close distance and at ease. For them it is a once in a life time opportunity.
- On interacting with eminent persons the students gain self-confidence and self-belief. They start to think good about themselves and get motivated to achieve higher goals in their life. For some, these are life changing incidents which has shaped their career.
- The burgeoning number of students, motivated by interacting with the eminent people, is a sure sign of the positive impact of such talks on the students.
- The increase in the number of students appearing for competitive examinations of research institutes is also an indicator of success.
- Many students have cleared national level examinations.
- A few students got admission for doing their Masters / Doctorate in IISc, IITs, PRL, NITs etc.
- The number of students going abroad and getting admissions for Masters / Doctorate program in reputed foreign universities is on upswing.

Resources

- Our management- Sarvajanic Education Society (SES), has received a corpus fund for a specific purpose of arranging Nobel Prize Lecture Series. The entire expenditure which includes Travelling / Dearness allowance and Local hospitality is borne by the Institute via the corpus fund.
- Most of the speaker come from premier institutes like IISc, IISERs, TIFR, IITs etc.
- Motivation and involvement of faculty and students together to host the events.

The Institution

P. T. Sarvajanic College of Science, Surat

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:

The Institute's vision statement reads: *To promote experimental scientific pursuit and to provide conducive environment to students, to develop aptitude and to sharpen skills of students to meet the challenges of rapidly changing world and to instil a spirit of camaraderie amongst students and sensitize them regarding their role and duty towards nation building.*

In order to fulfil its vision statement in letter and spirit the Institute has applied for "Autonomous College Status" in 2018. The one area where the Institute has laid special emphasis on and has a distinctive feature is its teaching learning pedagogy which is vibrant and multifaceted.

Thanks to the technological advancements, the wide spread availability of the internet has literally made information available on the fingertips. In this rapidly progressing world, it is indeed a herculean task to bridge the gap between the classroom teachings and the meta-morphing world outside. The Institute has adopted new and innovative pedagogical practises to improve the efficacy of the teaching learning process, in line with its vision statement.

The Institute has realised that the students need to be motivated towards developing a deep interest in core sciences. The earlier they are introduced to the exciting world of research and advanced technologies; the stronger will be their scientific aptitude and better will be the scientific workforce of the nation.

The Institute has been organizing invited talks and a unique lecture series entitled "Nobel Lecture Series" so that they can interact with the speakers from the eminent research institutes of the country. While the speakers explain the scientific discovery for which the Nobel Prize was awarded, the live one-to-one interaction with eminent scientists and professors has been a source of inspiration and morale booster.

The Institute has also been holding invited talks on various aspects of science and has continued this tradition even during the pandemic. The institute has organized more than 80 invited talks, talks by faculty and webinars during last five years.

The Institute has been organizing certificate courses which not only enhanced students' foundational knowledge but also provide them much needed hands on training. The Institute's weather station (Air Quality Monitoring Station) project implemented by them is an apt example of what students can achieve if given the appropriate guidance and training.

To introduce ICT in teaching-learning all the classrooms are ICT enabled and the campus is Wi-Fi enabled. The institution has subscribed to the Google G-suite and also to the Microsoft 365. The use of these platforms has been a boon as the Institute could continue with online teaching and holding webinars during the pandemic lockdown.

The Institute is always ready to take up challenges and believes in catching the bull by its horn. A visually impaired student (blind) was admitted in the first year of B.Sc. during 2020-21. The Institute entered into

MOU with XRCVC, Mumbai which trained the staff and volunteers for providing inclusive services for the visually impaired. The staff re-oriented their teaching methodology to enable the blind student to understand and grasp his subject easily. The laboratory instruments were modified to allow a tactile feel. The volunteer students prepared tactile charts of the diagrams and audio files of the text were recorded. The use of DESMOS for plotting graphs was also taught.

In order to provide a conducive environment for optimum harnessing of their creative pursuit, under the Student Startup & Innovation Policy (SSIP) of Government of Gujarat, a SSIP cell was established. The Institute has signed a MOU with the Gujarat Knowledge Society (GKS) on 22nd May, 2020. An annual grant of Rs. 5,00,000.00 was approved of which Rs. 1,25,000.00 was disbursed. Under this MOU, two projects that were put up for proof of concept were accomplished and were so unique that a detailed patent search process was initiated and two patents were filed.

The Institute has signed MOU with Knowledge Consortium of Gujarat and has received funding of Rs. 2 crores under RUSA 2.0.

The Institute has signed MOUs with different Industries and academic institutions for nurturing the overall development of the students and create a mutually beneficial environment wherein fruitful exchange of ideas and intellectual resources could be shared.

One of the project was regarding the design of instruments as an inclusion aid for the visually impaired students. A digital Vernier calliper was interfaced with a specially devised circuit that converted the readings speech. The circuit was designed to speak in 3 languages. This is a big step towards providing inclusive support in STEM for visually impaired students in their native vernacular language.

It was found that the use of current insecticide in the form of Pyrethrin as a fogging agent was poisonous. A novel compound was synthesized by a mixture of herbal oils and bio diesel rendering the whole mixture to be environment friendly and bio degradable fogging mixture. Trials showed a fatality rate of more than 60% for mosquitoes and was found to be nontoxic.

Library plays a pivotal role in enhancing the efficacy of teaching learning process. The Institute boast of a large and separate library building which houses nearly 16900 books. It also subscribes to various science journals (around 20), a large number of magazines and leading newspapers. It is RFID enabled and uses SOUL 2.0 software to maintain records. The library database has been shared across the country via DELNET and ADINET. The students have been given individual IDs for accessing plethora of e-books and e-material available through N-List. This facility has enhance the subject knowledge of the students and is reflected in the medals / prizes won at the university examination, a large number students passing various national level examinations.

The students of the Institute are encouraged and motivated to participate in various competitions such as science quizzes, PPT presentations on Nobel prizes, essay writing etc.

The Institute has thus diligently been pursuing its vision statement and has left no stone unturned in grasping an opportunity to bring about academic, skill based, physical, moral and value based overall development of its students.

File Description	Document
Link for appropriate web in the Institutional website	View Document

NAAC

5. CONCLUSION

Additional Information :

- The Institute was established in 1935 by Sarvajanic Education Society
- Affiliated to Veer Narmad South Gujarat University, Surat
- Recognized under 2(f) and 12(B)
- Catering education through five UG, three PG Programmes
- One PG program in Nuclear Physics was started post second accreditation cycle
- Accredited by NAAC (Second Cycle) with 'A' Grade (CGPA 3.03) in 2015
- Granted CPE Status by the UGC for the period 2016-2021 and received Rs. 1.02 crores
- Received Rs. 1.5 crores under the RUSA 2.0
- Received funds of Rs. 1.43 crores as donations from different philanthropic individuals/organisations
- The Institute earned 5 star rating in the GSIRF conducted by the Government of Gujarat for two successive years (2020 and 2021)
- INFLIBNET, DELNET, ADINET, GujCat facilities are available
- All classrooms are ICT enabled
- The laboratories are equipped with digital visualizers
- Nobel Lecture Series and Invited Talks
- Webinar series during COVID-19 pandemic
- Computer lab with licenced software, viz., MATHEMATICA and CHEMDRAW
- A state-of-art Taramoti Hall with ultra-high resolution video wall having seating capacity 390 which is centrally AC
- Has modern 12" reflecting telescope with CCD camera for sky-gazing and outreach activities
- Radiation Safety Officer trained by AERB
- A digital microscope with LCD
- Double-beam Spectrophotometer
- Gas Chromatography equipment
- UV Spectrophotometer
- Indigenously designed Weather Station
- One Major Research Project of Rs. 18.53 lacs sponsored by ISRO
- Campus is Wi-Fi enabled
- Two Refresher Courses on Statistical Physics sponsored by Indian Academy of Sciences, Bengaluru
- One UGC sponsored Workshop
- "Finishing Schools" sponsored by KCG
- GUJCOST sponsored One-day State-level Workshop on "IPR and Patents"
- Certificate courses for enhancing academic skills
- SSIP cell established
- Two patents filed
- Completed energy and green audit
- An NCC unit with a commissioned ANO. One student participated in RDC
- Three NSS Units
- Lush green cricket Ground, two indoor pavilions
- Boys' and Girls' Hostels
- Functional MOUs
- Staff received training by XRCVC, Mumbai for inclusion and situatedness for visually impaired students

- One of its kind Bicycle Club
- Vermicompost unit
- Rain Water Harvesting system and recharging of Borewell
- Installed fire safety system
- Large number of students have cleared competitive exams
- Alumni Association has contributed significantly towards the development of the Institute
- One student participated in an International event in Taekwondo

Concluding Remarks :

Since its inception, the Institute has incessantly strived for achieving its vision and mission. The Institute has made its mark in the South Gujarat Region. The number of students seeking admission in the Institute is on the rise. Simultaneously, the number of students going for higher education to Institutes of repute such as IITs, NITs, IISc etc. is also on upswing. Many students are going abroad for higher studies. Students' performance is overall better than that of the University. More than 50% of the medals given by the VNSGU for B. Sc. programme have been won by the students of our institute during the last five years.

The Institute regularly augments the infrastructural and academic facilities using the grants received from different funding agencies. Under the CPE scheme, the Institute received Rs. 1.02 crores and also received Rs. 1.5 crores under RUSA 2.0 component 9. Consequently, all the classrooms are ICT enabled and the laboratories are equipped with visualizers etc. Also, we procured digital microscope, telescope, digitizers etc. The Taramoti Hall is upgraded by installing ultra-high resolution video wall, making it centrally AC, equipped with ultra-modern surround sound system. Sports facilities were upgraded and free coaching was provided to the students for different games. A new PG building under construction.

A PG program in Nuclear Physics is initiated post accreditation in 2016. An SSIP cell is functioning since 2020 and two patents have been filed.

A Major Research Project funded by ISRO has been successfully completed. Two national level refresher courses and two state level workshops have been successfully conducted. The Institute has functional MOUs with academia and Industries. Environmental awareness is raised by the Bicycle Club. The Institute is also known for organizing Nobel Lecture Series and Invited Talks on a regular basis. The contribution by the Alumni Association has been noteworthy.

Housed in a gothic heritage building, the Institute has traversed in time and embraced the modern technology to inculcate scientific temper and a deep-rooted value system amongst the students which would make them responsible citizens and would equip them to catapult the nation towards becoming a world leader.