



# **SELF STUDY REPORT**

**FOR**

**2<sup>nd</sup> CYCLE OF ACCREDITATION**

**N. B. NAVALE SINHGAD COLLEGE OF ENGINEERING,  
KEGAON, SOLAPUR**

GAT. NO. 38/1/B, SINHGAD INSTITUTES, SOLAPUR - PUNE NATIONAL  
HIGHWAY, OPP. TO PAH SOLAPUR UNIVERSITY, KEGAON, SOLAPUR

413255

[www.sinhgadsolapur.org](http://www.sinhgadsolapur.org)

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**BANGALORE**

**November 2023**

# 1. EXECUTIVE SUMMARY

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## 1.1 INTRODUCTION

Savitribai Phule Shishkan Prasarak Mandal's (SPSPM's), N B Navale Sinhgad College of Engineering (NBNSCOE) Kegaon-Solapur is one of the leading engineering institutes in quality higher education. It is established in 2010 under able leadership of Prof. M. N. Navale, aiming to provide quality education in rural region of Maharashtra. Institute is easily accessible being located on Solapur-Pune Highway and housed in beautiful lush green campus of 90 acres with state of the art infrastructure and landscaping. NBNSCOE is approved by AICTE and DTE-Maharashtra. It is affiliated to Punyashlok Ahilyadevi Holkar Solapur University, Solapur (PAHSUS). Institute offers five Undergraduate Programs and one Post-graduate Program.

NBNSCOE envisions holistic development of students through well defined teaching-learning process, life-skill activities and value education. Overall academic environment at NBNSCOE is student centric, where personal attention/counseling is given through a dedicated teacher guardian (TG)/Mentor. Institute functions according to planned calendar. NBNSCOE has adopted Continuous Internal Evaluation (CIE) process through well defined norms. This ensures transparent mechanism where students know their overall progress and have a provision of redressal system for their issues, if any.

At NBNSCOE, team of dedicated and highly experienced teachers is committed to develop future ready technocrats and leaders. Students learn through 'Problem Based Learning' (PBL) and guided through 'Student Development and Career Counselling Cell' (SDCC). Competitive environment is developed, to motivate students for participating in different events at University, State and National levels. To enhance the student's competencies and to bridge the gap between industry and academia different competitions, exhibitions, student presentations, technical festivals, guest lectures, industrial visits and training programs are arranged periodically. Along with ethical and moral values, institute promotes research culture among students.

NBNSCOE has received recognitions and awards as:

- Received 'A' Grade with CGPA 3.12 by NAAC in very first cycle.
- Recognized with 'Atal Ranking of Institutions on Innovation Achievements' (ARIIA) by AICTE, MoE's Innovation Cell, Government of India.
- Received Star Ratings by MoE's Innovation Cell and AICTE for 'Institute Innovation Council' (IIC).
- Received 'A++' Grade with 93.33 % in Academic and Administrative Audit (AAA) done by PAHSUS.
- Received 'Best College' and 'Best Principal' Award by PAHSUS.

### **Vision**

To be an excellent technical institute producing competent technocrats for the betterment of society, through research and value based education.

### **Mission**

- To develop state of the art, academic and research environment by promoting ideas, innovations through

project based learning for enhancing career opportunities

- To inculcate high moral and ethical values by practicing professional code of conduct
- To be recognized as one of the top ranked institutes at national and international level

## 1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

### Institutional Strength

- Highly committed team of qualified and experienced teachers dedicated to deliver quality education
- Well thought curriculum planning and implementation including all aspects of holistic development
- Well defined teaching learning process, co-curricular and extracurricular activities
- Special mentoring through Teacher Guardian (TG) Scheme
- Active Training and Placement (T&P) Cell to facilitate the students through placement opportunities
- Student Development and Career Counseling (SDCC) Cell for guiding students for the preparation of life and technical skills
- Implementation of Problem Based Learning (PBL) environment through innovative and interdisciplinary projects
- Vibrant Institute Innovation Council (IIC) for motivating the students to become innovative problem solvers and self employed youth
- Dedicated Centre for Research and Technology Development (CRTD) for inculcating research and funding activities
- Motivation to students for experiential and participative learning, through exposure of field training, innovative projects and industrial internships
- MoUs with 33 reputed industries and research organizations
- Strengthened Alumni bonding contributing to institute's development
- Motivation for staff to acquire higher qualifications and to participate in FDPs, workshops and conferences
- Transparent and supportive mechanism for empowerment of students coming from diversified socio-economic backgrounds
- Students engagement in Social and Techno-social activities
- Secured and Conducive atmosphere for students and staff to explore avenues of career development
- Lush green campus with adequate infrastructure, Sufficient physical and Academic facilities
- Empowerment of females in the institute by giving them equal opportunities in every activity
- Inclusive environment comprising of tolerance and harmony towards cultural, regional, linguistic and religious groups
- Various student clubs, associations and student council for students leadership development
- Remarkable performances by students at university, state and national level competitions
- Required preparedness for implementation of NEP 2020 in place

### Institutional Weakness

- Difficulty in fulfilling the higher cadre ratio of teachers due to scarcity of Ph. D. holders
- Lagging in converting ongoing research into standard publications
- Student admissions from poor socio-economic background
- No availability of developed industry cluster in nearby region

## **Institutional Opportunity**

- To develop the Center of Excellence in cutting edge technologies, at every branch of engineering for supporting all the stake holders and nearby society
- To fetch more research funding from the industries, Non-Government and Government organizations
- To get the status as the autonomous institute
- To be recognized at the state and national level
- To increase the consultancy opportunities for teachers

## **Institutional Challenge**

- To maintain the teachers cadre ratio due to developing region
- To enhance the communication and soft skills of the students, as most of them coming from rural and Marathi speaking background
- To provide cent-percent employment due to unfurnished industry in nearby region
- Due to grave financial problems some of the students are unable to concentrate on their studies and to put in their full-fledged effort

## **1.3 CRITERIA WISE SUMMARY**

### **Curricular Aspects**

SPSPM's NBNSCOE is affiliated to PAHSUS. It implements the university's curriculum. Faculty members actively contribute to curriculum design by engaging in syllabus setting/revision workshops conducted by university's Board of Studies (BoS) where NBNSCOE has its sufficient representation in every BoS.

Institute follows a practice of preparing well planned and all inclusive academic cum activity calendar per semester to achieve the desired outcomes. CIE, academic monitoring and other well designed activities contribute to enhanced performance.

Academic flexibility and bridging the gap between curriculum and industry needs are achieved through the organization of certificate courses, seminars, Value-Added Programs (VAPs), and interactions with prominent industries. To foster self-employability, the institute conducts Entrepreneurship Development Programs, empowering students to explore entrepreneurial ventures. Experienced faculty and staff dedicate their efforts to ensure students excel in university examinations through effective teaching and support.

To enhance students' holistic development, the institution offers internship and contribute to students' overall growth and readiness for future career challenges mini-project opportunities to students. These practical experiences provide valuable exposure and hands-on learning. They enable students to apply their classroom knowledge to real-world situations and develop essential skills. By fostering a deeper understanding of their chosen fields, these experiences. Major projects offered for students, enhance their overall technical proficiency. These projects enable students to apply their academic knowledge to real-world engineering challenges, fostering practical skills and problem-solving abilities. Through these experiences, students gain valuable insights into their chosen fields and are better prepared for technical careers upon graduation.

Institute addresses the cross cutting issues such as Professional Ethics, Gender, Human Values, Environment

and Sustainability in its Curriculum delivery and different activities. A sense of moral responsibility towards these cross-cutting issues is embibed through NSS activities and other initiatives of institute.

Feedback from stakeholders regarding curricular aspects adds valuable contributions to syllabus design and enrichment of curriculum for students.

In this way, the approach of institute reflects strong commitment towards enrichment of students with a diverse and value-added education that goes beyond traditional academic boundaries, empowering them to become skilled professionals prepared for meaningful contributions to society.

### **Teaching-learning and Evaluation**

Admissions at NBNSCOE, are carried out through a transparent and well administered centralized admission process as per norms of Directorate of Technical Education, Maharashtra. Career counselling sessions and crash courses for junior college students is the distinctive practice followed by the institution to attract good quality aspirants for admission. Induction/orientation programs are conducted for newly admitted first year and second year students.

All kind of support and guidance is extended to reserved category, minority, economically privileged students to get scholarships from state and central govt., minority organisations and NGOs.

The vision and mission statements of NBNSCOE focus on experiential and participative learning. Institute incorporates Problem Based Learning (PBL) activities in teaching-learning process. Organisation of Prayog, Institute level Hackathon and Smart India Hackathon competitions is a regular practice in the institute. Continuous Internal Evaluation (CIE) system is in place for transparency in internal assessment and co-curricular and extra-curricular activities are given due importance in CIE. Teachers are encouraged to use ICT tools and online resources for effective teaching learning process. Grievances if any in respect of internal and external assessment are addressed to the satisfaction of the students.

The learning environment motivates active engagement of students in the development of personal skills and competencies. Value Addition Programs (VAP), industrial visits, internships and in-plant trainings, technical fests, workshops, MOOC and other certification courses, conferences, Students presentations, mini and major projects, talks of industry experts and entrepreneurs are arranged for students. These activities help to bridge the gap between curriculum and ever growing demands of industry and attainment of program outcomes.

Institute adheres to the CIE norms and periodic reforms in CIE system are carried out. Due care is taken while preparing academic calendar to ensure effective conduct of CIE. Learning outcomes are evaluated at periodic intervals to achieve targets of OBE.

Teacher Guardian (TG) Scheme developed by the institute helps in motivating students to take up the PBL and other activities. TGs in consultation with parents, contribute substantially in counselling and overall growth of the students at NBNSCOE.

### **Research, Innovations and Extension**

In order to inculcate research culture, NBNSCOE has established a Center for Research and Technology

Development (CRTD), in-line with its vision. This center guides/encourages teachers and students to carry out research for societal interest and assists teachers to generate the fund through consultancy and research activities. Institute has signed MoU with 33 organizations to facilitate research activities and provide access to high end resources. One of the prestigious MoU is signed with 'Indian Institute of Tropical Meteorology (IITM)', for the establishment of 'Cloud seeding project' in the institute. To extend our initiatives, institute provides financial assistance and academic flexibility to teachers for mobilizing research related resources. It also facilitates teachers and students to participate in renowned conferences and workshops.

Institute conducts Workshops/Seminars on research methodology, entrepreneurship and IPR. To encourage innovation/entrepreneurial activities, institute has established Institution Innovation Council (IIC), in-line with Ministry of Education (MoE) Innovation Cell, Govt. of India. NBNSCOE has established Research Council, R&D cell and ED Cell to promote Innovation culture. Teachers have published their books/chapters, research papers in reputed Journals/Conferences. Institute procured Plagiarism checking software for ensuring article originality. Teacher also works as reviewer/editor for books and journals published at national/international level. Student of another school developed a mathematical module on 'Flu vaccination by modified SIR model' under the guidance of our teacher and presented paper in National conference.

Teachers of NBNSCOE conducts various sessions/seminars on carrier guidance, JEE/CET preparation, in nearby institution to promote higher education. Institute extends its support to various governments, non-government organizations, NGOs by sharing infrastructure and facilities available in the campus to organize various technical/sports/cultural activities. In association with PAHSUS institute has served during 'Ashadhiwari' at Pandharpur for maintaining hygiene of pilgrimages. In order to create awareness about child sexual abuse, rally was organized where students, parents and staff supported this cause. NSS camps are arranged wherein students performs different tasks like tree plantation, cleaning, awareness spreading about water/nature conservation, public health and hygiene, etc. NBNSCOE extended the support to 'Manuski foundation'/'Robin hood Army' the NGOs which provide the pen/pencil/other stationary and food to deprived people.

### **Infrastructure and Learning Resources**

NBNSCOE has state of the art infrastructure and facilities to meet requirements of teaching-learning and other activities for students and faculty. The campus is eco-friendly and optimally utilizes natural light to reduce energy consumption. Most of the class rooms and Seminar Halls are furnished with ICT Facilities to offer the interactive learning experience.

The central library has all study materials, books, e-Journals/e-Books, and digital contents. A significant amount of the annual budget is utilized for procurement of books, e-Journals, print-Journals and periodicals. The facilities of the library include: Online Public Access Catalogue (OPAC), Book Bank. Teaching-learning is being enhanced by implementing MOODLE, video lectures and by arranging workshops, seminars, expert talks, etc.

There are 533 computers including 3 servers in the institute. The internet bandwidth is 300 Mbps. Institute maintains 'Student Computer' ratio of 2.21:1 with internet connections. All departments have separate computer laboratories with appropriate software packages. Institute also has digital interactive board. All hardware and software packages are updated as and when required. The institute uses ICT facilities to support most of the academic and administrative activities. It has an e-payment gateway which facilitates students to ensure transparency and efficiency.

The institute is also having sports and gym facilities for students and staff. The foremost outdoor and indoor facilities include: Cricket Ground, Football Ground, Volleyball, Athletic track, Table Tennis, Chess, Carrom, etc.

The institute has diverse maintenance facilities like civil, electrical, water, gardening and housekeeping to preserve the whole campus. Adequate water supply is available throughout the year. Un-interrupted power supply is ensured throughout academic sessions with express feeder and DG Set. Institute has a well defined maintenance policy and procedures in place.

Transport facility is provided with the help of 60 seater - 4 buses and 40 seater - 14 buses. Separate hostel for boys and girls having the capacity of 168 rooms respectively is available in the campus. Fully furnished separate mess for girls and boys are also available. Laundry facility, saloon facility, store, girls common rooms, boys common room, clinical and first- aid facilities are also provided within the campus.

### **Student Support and Progression**

NBNSCOE makes sustained efforts for overall development of student in all dimensions by engaging students in academic, co-curricular and extracurricular activities.

Institution has dedicated system for informing/assisting the students in availing applicable scholarships/free-ships. Students are timely made aware about various scholarships/freeships/other non-government schemes available for students benefit, at the time of admission. Also related notices are timely publicized on the department notice board/website and student groups. Every year more than 85% students from the institute take the benefit of scholarships/free-ships. Institute also supports student by providing the facility to pay the fees in installments, provides fee concession and runs earn while learn scheme, to reduce the financial burden on parents.

The institute has transparent mechanism to address grievance of students including sexual harassment and ragging cases. Various committees like Internal Complaint Committee, Student grievance redressal cell, Anti ragging cell/squad are formed at institute to have zero tolerance atmosphere. Students can give suggestions/complaints through institute online grievance portal or through suggestion boxes kept at prominent places. The students personal and academic grievances are taken care by teacher guardian, class teacher and concerned committee/staff.

To make students ready in all fronts institute takes initiative in organizing various activities for capacity building such as soft skills, communication skills, life skills and trends in technology. Institute also organizes various sessions regarding higher studies to motivate and make students aware about various opportunities after completing graduation. Institute has a centralized training and placement cell; this cell contributes in arranging various training required for placement. T&P cell dedicatedly works closely with prospective employers to make students employable.

Institute organizes annual sports (Enthusia) and cultural (Umang) event, to encourage students to participate in cultural and sports activities. Students also take active participation at various National, State and University level competitions.

Institute has registered Alumni association which contributes actively to the growth of institution. Every registered student to alumni association gets a lifetime membership. Alumni are prominently connected to the

institute, they support institute by conducting various guest lectures and evaluators for several technical events. Alumni meet is conducted every year to establish string connection with alumni students.

### **Governance, Leadership and Management**

NBNSCOE has taken steps for implementation of NEP by promoting faculty members to participate in conferences, FDPs and workshops on NEP. NEP Compliant Curriculum Structure is adopted by PAHSUS from AY 2023-24 for FY BTech students.

Institute has put efforts for deployment of its well framed 'Perspective Plan' which includes its short-term and long-term goals. Institute prioritizes sustained growth activities and has obtained awards/appreciations/recognitions for its performance from highly reputed assessors and auditors such as NAAC, MoE, AICTE, PAHSUS, career 360 etc. CRTD works for enhancing research and attempts to fetch funding from external agencies. Institute practices decentralisation in administration through well-defined mechanisms and its various Committees/Cells/Clubs which include teachers and students.

Well-defined policies and decisions of management are implemented by Institute. Appointment of staff is made based on qualities. Policies are in place and displayed on website for all stake holders. Faculty members are encouraged for higher studies. Performance appraisal of staff is made every year. Good performing staff are given promotion based upon their qualification and experience. Also, staff is encouraged by financial support to attend STTP/FDP/NPTL/ Conferences etc.

Welfare schemes like Medical and maternity leaves, implementation of pay scales, contribution to Provident Fund and Payment of Gratuity as per norms, are available for Teaching and Non-teaching staff. Also, staff-quarters are available at campus. The staff members are allowed to provide consultancy services. Revenue generated is shared amongst the concerned staff members.

Every year budget is prepared and sent for approval of management. After the approval of management concerned staff initiates procurement/repair or new work. Internal and external audits are carried out to ensure efficient mobilization and optimal utilization of resources and funds

Institute has established 'Internal Quality Assurance Cell' as per guidelines of NAAC. IQAC implements collaborative and participative approach towards quality assurance at institute. IQAC conducts regular meetings and reviews various curricular, co-curricular, extra-curricular and administrative activities at the institute. It contributes significantly in assuring quality education, incremental growth and improved administrative co-ordination at institute. It ensures compliance as per requirements of accreditations and promotes culture of continuous quality improvement at NBNSCOE.

### **Institutional Values and Best Practices**

Since value-based education is integral part of NBNSCOE's vision, institute has developed conducive environment to inculcate ethical and moral values among the students. Institute regularly conducts expert sessions/workshops for students and staff. Institute adheres to all the norms stated by SRAs. The required facilities/initiatives designated for students and staff is taken care in premises of NBNSCOE for providing safe and secured environment. Institute has well defined code of conduct and core values defined for staff and students and made available on website.



Institute has given representation to female staff/student in various committees/cells/activities and the same is ensured through institute level 'Gender Audit'. Different measures are taken by institute for promotion of gender equity and sensitization. Institute has '*Sinhgad Hirkani Forum*' along with Internal Complaint Committee (ICC) to take care of female staff and students in the campus. Institute shows gender sensitivity by providing adequate desired facilities for boys and girls. International Women's Day is celebrated with the theme of '*My Mother at My College*'.

Institute executes many environment-friendly initiatives which include plantation, waste management, water harvesting and renewable energy sources. Institute has STP for recycling of liquid waste. Alternate sources of energy and its conservation are promoted by the institute. Management of the various types of degradable, non-degradable and e-waste is also taken care of. Since its inception, institute has taken all kinds of green campus initiatives. Institute has also provided separate facilities for *Divyangjan* students by providing ramps, toilets and wheel-chair.

Students and staff also participate in camps and rallies for social awareness, organized through NSS/YIN. In an effort to promote inclusivity, institute also plans events like national festivals and language days, along with celebration of birth/death anniversaries of great personalities. Universal Human Value subject is also introduced in syllabus for understanding the values of life and harmony. Institute maintains the complete transparency in its overall functioning, through defined set of rules. Institute has best practices such as Problem Based Learning (PBL) and Student Development & Career Counselling (SDCC). Centre for Research & Technology Development (CRTD) is its distinctive practice for promoting research culture at the institute.

## 2. PROFILE

### 2.1 BASIC INFORMATION

Name and Address of the College	
Name	N. B. NAVALE SINHGAD COLLEGE OF ENGINEERING, KEGAON, SOLAPUR
Address	Gat. No. 38/1/B, Sinhgad Institutes, Solapur - Pune National Highway, Opp. to PAH Solapur University, Kegaon, Solapur
City	Solapur
State	Maharashtra
Pin	413255
Website	<a href="http://www.sinhgadsolapur.org">www.sinhgadsolapur.org</a>

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Principal	Shankar Dattatray Nawale	0217-2500611	8380025651	-	principal.nbnscoe@gmail.com
IQAC / CIQA coordinator	Azharuddin K. Shaikh	0217-2500610	8888499450	-	iqac.nbnscoe@gmail.com

Status of the Institution	
Institution Status	Private and Self Financing

Type of Institution	
By Gender	Co-education
By Shift	Regular

Recognized Minority institution	
If it is a recognized minority institution	No

**Establishment Details**

State	University name	Document
Maharashtra	Punyashlok Ahilyadevi Holkar Solapur University	<a href="#">View Document</a>
Maharashtra	Solapur University	<a href="#">View Document</a>

**Details of UGC recognition**

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

**Details of recognition/approval by stationary/regulatory bodies like AICTE,NCTE,MCI,DCI,PCI,RCI etc(other than UGC)**

Statutory Regulatory Authority	Recognition/Approval details Institution/Department programme	Day,Month and year(dd-mm-yyyy)	Validity in months	Remarks
AICTE	<a href="#">View Document</a>	10-04-2017	12	Extension of Approval by AICTE
AICTE	<a href="#">View Document</a>	10-04-2017	12	Extension of Approval by AICTE

**Recognitions**

Is the College recognized by UGC as a College with Potential for Excellence(CPE)?	No
Is the College recognized for its performance by any other governmental agency?	Yes
If yes, name of the agency	Innovation Cell Ministry of Education and AICTE
Date of recognition	29-12-2021

<b>Location and Area of Campus</b>				
<b>Campus Type</b>	<b>Address</b>	<b>Location*</b>	<b>Campus Area in Acres</b>	<b>Built up Area in sq.mts.</b>
Main campus area	Gat. No. 38/1/B, Sinhgad Institutes, Solapur - Pune National Highway, Opp. to PAH Solapur University, Kegaon, Solapur	Semi-urban	90	26819

## 2.2 ACADEMIC INFORMATION

<b>Details of Programmes Offered by the College (Give Data for Current Academic year)</b>						
<b>Programme Level</b>	<b>Name of Programme/ Course</b>	<b>Duration in Months</b>	<b>Entry Qualification</b>	<b>Medium of Instruction</b>	<b>Sanctioned Strength</b>	<b>No.of Students Admitted</b>
UG	BTech,Civil Engineering	48	HSC Science	English	60	18
UG	BTech,Computer Science Engineering	48	HSC Science	English	60	60
UG	BTech,Electronics And Telecommunication Engineering	48	HSC Science	English	60	57
UG	BTech,Electrical Engineering	48	HSC Science	English	60	51
UG	BTech,Mechanical Engineering	48	HSC Science	English	120	89
PG	Mtech,Civil Engineering	24	UG Engineering	English	18	7

### Position Details of Faculty & Staff in the College

<b>Teaching Faculty</b>												
	<b>Professor</b>				<b>Associate Professor</b>				<b>Assistant Professor</b>			
	Male	Female	Others	Total	Male	Female	Others	Total	Male	Female	Others	Total
Sanctioned by the UGC /University State Government	7				13				52			
Recruited	3	0	0	3	5	0	0	5	39	13	0	52
Yet to Recruit	4				8				0			
Sanctioned by the Management/Society or Other Authorized Bodies	4				8				10			
Recruited	1	0	0	1	1	0	0	1	4	6	0	10
Yet to Recruit	3				7				0			

<b>Non-Teaching Staff</b>						
	<b>Male</b>		<b>Female</b>		<b>Others</b>	<b>Total</b>
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						27
Recruited	22		5		0	27
Yet to Recruit						0

<b>Technical Staff</b>				
	<b>Male</b>	<b>Female</b>	<b>Others</b>	<b>Total</b>
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				21
Recruited	16	5	0	21
Yet to Recruit				0

**Qualification Details of the Teaching Staff**

<b>Permanent Teachers</b>										
<b>Highest Qualification</b>	<b>Professor</b>			<b>Associate Professor</b>			<b>Assistant Professor</b>			<b>Total</b>
	<b>Male</b>	<b>Female</b>	<b>Others</b>	<b>Male</b>	<b>Female</b>	<b>Others</b>	<b>Male</b>	<b>Female</b>	<b>Others</b>	
D.sc/D.Litt/LLD/DM/MCH	0	0	0	0	0	0	0	0	0	0
Ph.D.	3	0	0	6	0	0	4	2	0	15
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	39	14	0	53
UG	0	0	0	0	0	0	0	0	0	0

<b>Temporary Teachers</b>										
<b>Highest Qualification</b>	<b>Professor</b>			<b>Associate Professor</b>			<b>Assistant Professor</b>			<b>Total</b>
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt/LLD/DM/MCH	0	0	0	0	0	0	0	0	0	0
Ph.D.	1	0	0	0	0	0	0	0	0	1
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	1	2	0	3
UG	0	0	0	0	0	0	0	0	0	0

<b>Part Time Teachers</b>										
<b>Highest Qualification</b>	<b>Professor</b>			<b>Associate Professor</b>			<b>Assistant Professor</b>			<b>Total</b>
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt/LLD/DM/MCH	0	0	0	0	0	0	0	0	0	0
Ph.D.	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
UG	0	0	0	0	0	0	0	0	0	0

<b>Details of Visting/Guest Faculties</b>					
<b>Number of Visiting/Guest Faculty engaged with the college?</b>	<b>Male</b>		<b>Female</b>		<b>Total</b>
	0	1	0	1	1

**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	781	1	0	0	782
	Female	412	0	0	0	412
	Others	0	0	0	0	0
PG	Male	15	0	0	0	15
	Female	3	0	0	0	3
	Others	0	0	0	0	0

**Provide the Following Details of Students admitted to the College During the last four Academic Years**

Category		Year 1	Year 2	Year 3	Year 4
SC	Male	79	89	88	72
	Female	48	56	48	57
	Others	0	0	0	0
ST	Male	2	2	2	2
	Female	0	0	1	0
	Others	0	0	0	0
OBC	Male	92	161	225	289
	Female	35	40	47	71
	Others	0	0	0	0
General	Male	365	318	285	263
	Female	178	171	165	207
	Others	0	0	0	0
Others	Male	208	244	220	211
	Female	90	110	111	120
	Others	0	0	0	0
Total		1097	1191	1192	1292

**Institutional preparedness for NEP**



## 1. Multidisciplinary/interdisciplinary:

NBNSCOE, Solapur has been always at the forefront in inculcating the multi-disciplinary/interdisciplinary approach amongst the students and it is reflected through its vision and mission statement. Institute is affiliated to PAHSUS. As per the model curriculum of AICTE, the University integrates various multidisciplinary / interdisciplinary courses and Choice Based Credit System (CBCS) into the syllabus. The approach of Science, Technology, Engineering and Management (STEM) is taken care through electives in basic science, humanities, social science, engineering science, management along with core engineering courses, which satisfy a comprehensive approach of NEP. Courses like Creativity and Design Thinking, Universal Human Values, Professional Ethics, Entrepreneurship Development, Programming, Robotics, Artificial Intelligence, etc. have been introduced in the curriculum of various branches. Every branch has specialized honors degree courses with advanced and cutting edge technology such as Data Science, Cyber Security, Electric Vehicles, Machine Learning, 3D Printing etc., across the engineering disciplines. From current academic year the Curriculum as per NEP 2020 has been implemented for First year classes by PAHSU, Solapur. The proposed structure for higher classes has inclusion of minor degree in all branches where it is mandatory for students to opt for minor degree subjects from other disciplines. In addition to this institute organizes innovation, incubation and startup activities through its Institute's Innovation Council. Students take up multi-disciplinary / interdisciplinary projects like electric vehicle and also participate in multi-disciplinary competitions like Smart India Hackathon. Institute offers extra marks in the ICA for innovative involvement in community engagement and service, environmental studies and value based projects. Though, NEP has been implemented from academic year 2023-24 for F.Y. B. Tech. classes, hence multilevel entry and exit will be allowed from next academic year as per the guidelines of university. However students in the institute are getting admitted through the CET cell of Maharashtra at Direct Second Year Engineering through lateral entry and institute offers branch change, institute change as per the guidelines of DTE, Govt. of Maharashtra. Institute has dedicated research center named as 'Center for Research and

	<p>Technology Development’ through which institute has a plan to motivate the students to undertake multidisciplinary/interdisciplinary projects related to the societal problems and to provide its solution. In view of NEP 2020, Institute has initiated a good practice as ‘Young Research Scheme’ to promote the students to try to solve the real world problems pertaining to rural, medical and agriculture fields.</p>
<p>2. Academic bank of credits (ABC):</p>	<p>NBNSCOE is bound to follow the curriculum framed by PAHSUS being affiliated institute, which already has Choice Based Credit System (CBCS) pattern. It includes sufficient scope for self-learning subjects, open electives, and professional electives. PAHSUS offers Honors and Minor degrees in addition to a regular full-time degree courses. Also university has allowed to take the courses through online mode such as NPTEL, Coursera, Udemy, etc. And the credits earned by the students through such MOOCs are also accepted in their overall assessment of total credits as a self learning subject. Also as per the guidelines of the PAHSUS, institute has registered itself for Academic Bank of Credit (ABC) pertaining to NEP compliance from the academic year 2022-23. Till date more than 700 students of this institute have got registered themselves at ABC portal and their details are shared with the Board of Examination and Evaluation of PAHSUS, for further process. NBNSCOE has allowed its students to take Summer Internship at the international universities/ outside industries and the projects done during these internship are taken into consideration in offering the ICA marks, though direct credit transfer is not been allowed till date, but there is plan to recommend to university authorities to allow to do so. The teachers of the institute have the practice to design their own e-content for the effective teaching-learning and to design their own assessment rubrics and evaluation methodologies through MOODLE/ FTP server. Teachers at the institute are also preparing MOOCs that can be approved by University and further linked to ABC. Institute is taking the efforts to aware the newly admitted students about the benefits of ABC during induction program and making it compulsory to them for registering on ABC portal. Students submit their ABC ID to examination section before filling the examination forms which then are included in the university portal.</p>

## 3. Skill development:

The vision of NBNSCOE is 'to produce competent technocrats for the betterment of society through research and value based education' and thus has always been very keen in providing skill and value based education to its students. Along with a good human being holistic development of every student is the priority of the institute. Therefore, institute has initiated a separate cell named as 'Student Development and Career Counseling' (SDCC). Well designed Value Addition Programs (VAP) are conducted by in-house teachers as well as outside agencies which are in-lined with 'National Skill Qualification Framework' (NSQF). Institute is also registered under 'Pradhan Mantri Kaushalya Vikas Yojana' (PMKVY). As the University curriculum has the inclusion of the courses such as 'Universal Human Values', 'Democracy, Election and Good Governance', 'Creativity and Thinking Design', etc. Also institute take the initiatives to organize various programs/sessions on the occasion birth/death anniversaries of great leaders and celebrate religious events to maintain the harmony in the society. This makes to inculcate positivity amongst the learners that include the development of humanistic, ethical, constitutional and universal human values of Truth (Satya), righteous conduct (dharma), peace (shanti), love (prem), non-violance (ahimsa), scientific temper, citizenship values. Institute makes sure that each student should take the compulsory vocational/elective course to enhance their skills as per the industry requirement. Through various VAPs, the training programs by the industry experts are arranged during their graduation period. Also Students are motivated to take up MOOCs, Hands on workshops, NPTEL courses, Swayam Courses etc. Students are also sensitized about courses on platforms like Coursera and Udemy. Apart from this, students take up industrial trainings, internships, sponsored projects, etc., for skill development through hands on training. To impart the professional skills and organizing skills, institute follows practice of promoting students to organize different curricular, co-curricular and extra-curricular activities, where students learn by experience. Various student clubs, student associations and institute level student council, help students to get leadership and team work skills. Institute facilitates skill development of students through various collaborations and MoUs

with reputed organizations and industries. Also, as per the NEP Compliant Curriculum of PAHSUS the vocational, skill enhancement, ability enhancement courses and industrial internships have been incorporated. As a part of National Skill Development Corporation (NSDC), institute has taken the programs in association with Mitcon Skill Development Center for training on Solar Energy Harvesting through 'SuryaMitra' project. A dedicated laboratory is setup in the institute for the same. The teachers and the students of the institute take efforts to enhance the skills of other students as per the industrial requirements. SDCC has been observed as one of the good practice of the institute in view of NEP 2020.

4. Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course):

NBNSCOE Solapur through its vision statement clearly marks the inclusion and significance of "Value Based Education" in its academic implementation. Institute has always promoted a value based and all inclusive Indian culture. In the curriculum of PAHSUS a separate course on 'Indian Knowledge System (IKS)' is initiated as a mandatory course in all branches of engineering, where the teaching staff of our institute have contributed in framing the syllabus of the same. Considering the students requirements who usually come from poor socio-economic background, institute has a practice of multi-lingual teaching. Hindi and Marathi which are dominant Indian languages in the region are blended with English in curriculum delivery by teachers along with English language. Through IKS, Indian ancient traditional knowledge and solving methodologies are tried to percolate amongst the students through the subject like 'Vedic Mathematics' which is incorporated in the university curriculum for FY B. Tech., which has been implemented from current academic year. The various commemorative days in the name of National Leaders, Social Reformers, Historic Figures, Great Indian Scientists, etc. are celebrated in the institute. Thus, making the students understand the contribution of Indian Knowledge System to the various fields like democracy, social reforms, good governance, technology development, and so on... Students are promoted to take up new age vocational trainings and courses to empower themselves and make them more employable, as it used to happen in

	<p>ancient Indian culture. Indian arts and Indian traditions are part of the annual cultural fest at the institute. All the languages are given due consideration in initiatives like wall magazine and college magazine. 'Marathi Bhasha Din' and 'International Yoga Day' is also celebrated at the institute. Institute has changed the Nomenclature of Institute's Seminar halls after great Indian Scientists viz 'Sir M. Vishveshwaraya Seminar Hall' and 'Sir C V Raman Hall'. Also the names of First Year B. Tech. divisions are named after our great Indian Scientist viz. 'Vikram', 'Raman', 'Dhawan', 'Kalam', and 'Kalpana'. The names of the Boy's Hostel is given as 'Shivneri' which reflects a fort where Chh. Shivaji Maharaj was born and the name of Girl's hostel is given as 'Kaveri' which is prominent river of the India since ancient days. The mess for boy's and girl's are named as 'Bhagirathi' and 'Annapurna' respectively, to reflect our ancient culture. Even the names of the plants and trees in the campus are named by their traditional nomenclature.</p>
<p>5. Focus on Outcome based education (OBE):</p>	<p>NBNSCOE Solapur has been implementing Outcome Based Education (OBE) over the years. Institute promotes faculty members to acquaint OBE in their effective course delivery by arranging workshops and Training programs in collaboration with NITTTR Kolkata. Also in-house training related to OBE is provided by the senior faculty members for other colleagues. This has helped institute to capture the OBE in teaching learning practices. In current and previous curricula of PAHSUS, Course Outcomes (COs) of all the courses under every programme are clearly stated and every programme has its well-defined Programme Outcomes (POs). In addition to generalized programme outcomes stated for Faculty of Engineering, every programme (branch) has its own Programme Specific Outcomes (PSOs) in place. The course outcomes are mapped with programme outcomes to ensure the effective outcome attainment. Wherever there are any gaps found, necessary actions are taken to fill up these gaps. To assure the attainment of outcomes, formative assessment techniques like 'rubrics' are also used in assessment and evaluation of students. Various curricular, co-curricular and extra-curricular activities organised at the institute also have objectives and expected outcomes. In order to take students to higher level of</p>

	<p>outcome attainment, institute used to practice 'Project Based Learning Model' which is now supported by concepts like 'Problem Based Learning' and 'Learning by Innovative practices'. Direct outcome attainment is obtained by academic assessment of students in classrooms, laboratory sessions and examinations. Feedbacks from students, examiners, employers, alumni, etc. are taken to measure the outcome attainment indirectly. These all practices are getting aligned with the initiative of NEP 2020.</p>
<p>6. Distance education/online education:</p>	<p>NBNSCOE, Solapur has sufficient physical and IT infrastructure. The teachers at the institute are well acquainted with modern ICT tools. Institute has all the required ICT facilities to enable Distance / Online education. Institute has already demonstrated its capabilities in this arena, during the COVID pandemic wherein all the courses were effectively delivered online with the use of Google classrooms, Microsoft Teams, Google Meet, Gnomio (MOODLE) websites, FTP server, etc. Institute has established various remote centres of IIT Bombay, NITTTR Chandigarh, NITTTR Kolkota and ISRO's IIRS Outreach Programme. Also, MOOC platforms like NPTEL, Swayam, Udemy, Coursera are widely used at the institute. These remote centres and MOOC platforms facilitate distance/online education of students as well as teachers. Institute has collaboration with various Virtual Labs facilitated by Government College of Engineering Pune (COEP), various IITs and other reputed organizations. These, virtual labs provide hands on experience to students through online mode. All these efforts had made it to delineate the possibilities of vocational, skill base courses and value addition programs on current edge technologies, along with the regular university curriculum through online distance learning (ODL) mode. Institute and individual departments have their YouTube channels for imparting knowledge through online mode. Lectures by Industry Experts and Alumni working globally have been organized in online mode for students and teachers. This has helped the students of the institute to gain their knowledge and skills through ODL and hence observed as one of the good practice of the institution pertaining to distance education/ online education in view of NEP 2020.</p>

**Institutional Initiatives for Electoral Literacy**

1. Whether Electoral Literacy Club (ELC) has been set up in the College?	Yes, The Electoral Literacy Club (ELC) at N B Navale Sinhgad College of Engineering, Solapur has been established from Academic Year 2022-23.
2. Whether students' co-ordinator and co-ordinating faculty members are appointed by the College and whether the ELCs are functional? Whether the ELCs are representative in character?	Yes, Students coordinator and coordinating faculty members are appointed by the Institutes. Electoral literacy Club at N B Navale Sinhgad College of Engineering, Solapur, is designed to create awareness amongst students about the importance of voting. An Electoral Literacy Club is a platform to engage College students through interesting activities to sensitize them on their electoral rights and familiarize them with the electoral process of registration and voting.
3. What innovative programmes and initiatives undertaken by the ELCs? These may include voluntary contribution by the students in electoral processes-participation in voter registration of students and communities where they come from, assisting district election administration in conduct of poll, voter awareness campaigns, promotion of ethical voting, enhancing participation of the under privileged sections of society especially transgender, commercial sex workers, disabled persons, senior citizens, etc.	Students and members of ELC gives voluntary contribution in electoral processes participation in voter registration of students and communities. Student volunteers assists district election administration in conduct of voter awareness campaigns, promotion of ethical voting, enhancing participation of the under privileged sections of society and senior citizens, etc
4. Any socially relevant projects/initiatives taken by College in electoral related issues especially research projects, surveys, awareness drives, creating content, publications highlighting their contribution to advancing democratic values and participation in electoral processes, etc.	Volunteer Students and members of ELC always carries various awareness drives about the right of voter and its importance in society through national service scheme of institute. Students appeals to societal members about participation in electoral processes. Also carried awareness drives about the right of voter and its importance in society by taking initiatives like making awareness videos, posters, street play within and outside institute.
5. Extent of students above 18 years who are yet to be enrolled as voters in the electoral roll and efforts by ELCs as well as efforts by the College to institutionalize mechanisms to register eligible students as voters.	The volunteer students, members of ELC always takes efforts through ELCs and institutionalize mechanisms to register eligible students as voters. The activity of registration is carried with the help of district election commission officer and their representatives at Kondi Tal- North Solapur.

## Extended Profile

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### 1 Students

#### 1.1

Number of students year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
1097	1191	1192	1292	1687
File Description		Document		
Upload Supporting Document		<a href="#">View Document</a>		
Institutional data in prescribed format		<a href="#">View Document</a>		

### 2 Teachers

#### 2.1

Number of teaching staff / full time teachers during the last five years (Without repeat count):

Response: 128

File Description	Document
Upload Supporting Document	<a href="#">View Document</a>
Institutional data in prescribed format	<a href="#">View Document</a>

#### 2.2

Number of teaching staff / full time teachers year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
72	72	80	87	102

### 3 Institution

#### 3.1

Expenditure excluding salary component year wise during the last five years (INR in lakhs)

2022-23	2021-22	2020-21	2019-20	2018-19
724.4	869.6	789.03	628.84	666.69



File Description	Document
Upload Supporting Document	<a href="#">View Document</a>

## 4. Quality Indicator Framework(QIF)

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### Criterion 1 - Curricular Aspects

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#### 1.1 Curricular Planning and Implementation

##### 1.1.1

**The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including Academic calendar and conduct of continuous internal Assessment**

**Response:**

NBNSCOE practices a well-defined structure for effective curriculum delivery as per the guidelines of affiliating university, PAHSUS. Institute inculcates unique and transparent practice for effective delivery of curriculum as stated below:

**Activities before commencement of semester**

- a. Institute practices allocating work-load for next semester at end of current semester based on expertise of the teacher and choice of elective subjects given by students.
- b. Orientation / Induction / peer team discussion is carried out on subject matter
- c. Teachers prepare unit-wise subject notes according to curriculum of PAHSUS.
- d. Academic calendar of semester is prepared, in-line with schedule of PAHSUS and communicated to students and teachers well in advance. According to academic calendar, departments prepare their activity plans and time-tables.
- e. All teachers prepare course files according to defined framework, which includes:
  - i. Academic calendar
  - ii. Class & personal time tables
  - iii. Syllabus, course objectives, outcomes & list of books
  - iv. Teaching plan
  - v. Subject notes and e-contents
  - vi. University's previous examination question papers & model solutions
  - vii. Unit-wise question bank (subjective/objective)
  - viii. Assignments

ix. Monthly attendance

x. In-semester Examination (ISE) question papers with answer key, students attendance, result analysis and sample answer-sheets

xi. Remedial classes records

xii. Internal Continuous Assessment (ICA) marks

xiii. Copy of student's feedback

f. Academic Monitoring Committee (AMC) assesses the course files of teachers and suggests necessary corrections, if required.

g. Teachers are advised to use ICT tools.

h. Readiness of classrooms and laboratories is ensured well in advance.

**Activities during the semester:**

a. Institute conducts induction program for newly admitted students to understand the academic culture of the institute, curriculum norms for ISE & ICA, University examination pattern and code of conduct.

b. Theory and Practical sessions commence according to time table and teaching plan.

c. Teacher Guardian(TG)/Mentor-mentee meetings are conducted fortnightly.

d. Review of student's attendance is taken at the end of every month and list of defaulter students along with their attendance is displayed on the notice board and the same is communicated to parents.

e. The review of syllabus is taken thrice in a semester and extra lectures are arranged, if required

f. Student's online feedback of teaching is taken twice in a semester and corrective actions are initiated accordingly.

g. ISE is conducted twice in the semester. The results of ISE are analyzed and communicated to students and parents. Remedial classes / retests are conducted for weaker students/slow learners

h. Parent meet is conducted once in a semester for the communication of student's progress and to take academic feedback

i. Continuous Assessment (CA) is conducted throughout the semester

j. Even students are advised to attend MOOC/Add-on courses wherever required.

**Activities at end of the semester:**

a. Preliminary exam and mock Practical / Oral Exam (POE) are conducted before university

examinations

- b. Final ISE/ICA marks are notified to students and submitted to PAHSUS
- c. Outcomes of the semester activities are analyzed and corrective actions are suggested for the next semester.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

## 1.2 Academic Flexibility

### 1.2.1

**Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc. (where the students of the institution have enrolled and successfully completed during the last five years)**

**Response:** 119

File Description	Document
List of students and the attendance sheet for the above mentioned programs	<a href="#">View Document</a>
Institutional programme brochure/notice for Certificate/Value added programs with course modules and outcomes	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>
Evidence of course completion, like course completion certificate etc. Apart from the above:	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

### Other Upload Files

1

[View Document](#)

### 1.2.2

***Percentage of students enrolled in Certificate/ Value added courses and also completed online courses of MOOCs, SWAYAM, NPTEL etc. as against the total number of students during the last five years***

**Response:** 60.4

1.2.2.1 Number of students enrolled in Certificate/ Value added courses and also completed online courses of MOOCs, SWAYAM, NPTEL etc. as against the total number of students during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
1089	615	1063	782	352

File Description	Document
Upload supporting document	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>

### 1.3 Curriculum Enrichment

#### 1.3.1

*Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability in transacting the Curriculum*

#### **Response:**

In order to draw attention of engineering graduates towards different cross-cutting issues, PAHSUS has introduced courses such as Professional Ethics and Human Values, Environmental Sciences, and Introduction to Sociology, in its existing curriculum. In addition, NBNSCOE has its self designed activities and initiatives.

In curriculum of PAHSUS, various courses like Universal Human Values, Environmental science, Professional Ethics and Practice etc. are introduced to address crosscutting issues at different levels in various programs. Although curriculum addresses relevant issues, institute has also taken different initiatives.

**Professional Ethics:** Understanding the need to inculcate human values and professional ethics among engineering graduates, they are encouraged to opt for self-learning Course of Professional Ethics at Third-year level for all programs in first semester. Apart from this in Civil Engineering Curriculum, the compulsory course in Professional Practice, Law and Ethics is introduced in final year.

**Gender-related initiatives:** Institute has identified issues like gender inequality. To address this, institute practices to provide equal opportunities to girls and even ladies faculty members in various committees as coordinators/volunteers/participants.

As per the act of 2013, Internal Complaint Committee (ICC) has been formulated to address the issues related with girl students and female staff members where 80% of the members are only ladies including

Chairman of the committee.

In Student Council of Institute forms which includes two Ladies Representatives (LRs) as the members. In technical Projects and activities, institute promotes mixed gender groups in all forms of project and technical activities.

In Anti-Ragging Committee, 30% girl students are part of this committee. Hostel and Mess Committee is formed to check the quality of the food in which 50% of girls students are committee members.

Institute also arranges free Health check-up camps for girls through NSS activity. On the occasion of Women's Day special lectures are arranged for girls to make them aware of Health issues. In the curriculum, it is mandatory for B. Tech Mechanical Engineering students to perform 20% of case studies on Women entrepreneurship.

**Human Values:** In the first Year curriculum the course of Universal Human Values is added. Also, faculty members are promoted to complete AICTE-initiated workshops on universal human values.

**Environmental and Sustainability:** Environmental Study is a common course for all second-year students as per the PAHSUS curriculum. In this course, issues related to environmental protection and conservation are identified and discussed. Along with this Basic Civil Engineering course at First-year level which includes water and effluent treatment process and solid waste management. Other courses like Environment I and II and elective courses like Air Pollution and Control, Solid and Hazardous Waste Management are included in the curriculum of the civil engineering program. Third-year and final-year projects are focused on the topics of environment and sustainability such as Use of Carbon Pollutant in Building Tile. Students also participate in the Tree plantation through NSS activities. Institute has a vision to develop green campus and therefore following initiatives are taken: Sewage treatment plant, Rainwater harvesting Tree plantation, Drip irrigation solar water heaters etc.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

### 1.3.2

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

**Response:** 46.86

**1.3.2.1 Number of students undertaking project work/field work / internships**

**Response:** 514

File Description	Document
Upload supporting document	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>

## 1.4 Feedback System

<p><b>1.4.1</b></p> <p><i>Institution obtains feedback on the academic performance and ambience of the institution from various stakeholders, such as Students, Teachers, Employers, Alumni etc. and action taken report on the feedback is made available on institutional website</i></p> <p><b>Response:</b> A. Feedback collected, analysed, action taken&amp; communicated to the relevant bodies and feedback hosted on the institutional website</p>	
File Description	Document
Feedback analysis report submitted to appropriate bodies	<a href="#">View Document</a>
At least 4 filled-in feedback form from different stake holders like Students, Teachers, Employers, Alumni etc.	<a href="#">View Document</a>
Action taken report on the feedback analysis	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>
Link of institution's website where comprehensive feedback, its analytics and action taken report are hosted	<a href="#">View Document</a>

## Criterion 2 - Teaching-learning and Evaluation

### 2.1 Student Enrollment and Profile

#### 2.1.1

##### Enrolment percentage

**Response:** 46.94

##### 2.1.1.1 Number of seats filled year wise during last five years (Only first year admissions to be considered)

2022-23	2021-22	2020-21	2019-20	2018-19
284	239	124	111	115

##### 2.1.1.2 Number of sanctioned seats year wise during last five years

2022-23	2021-22	2020-21	2019-20	2018-19
330	330	360	360	480

#### File Description

#### Document

Institutional data in the prescribed format

[View Document](#)

Final admission list as published by the HEI and endorsed by the competent authority

[View Document](#)

Document related to sanction of intake from affiliating University/ Government/statutory body for first year's students only.

[View Document](#)

Provide Links for any other relevant document to support the claim (if any)

[View Document](#)

#### 2.1.2

*Percentage of seats filled against reserved categories (SC, ST, OBC etc.) as per applicable reservation policy for the first year admission during the last five years*

**Response:** 41.26

##### 2.1.2.1 Number of actual students admitted from the reserved categories year wise during last five years (Exclusive of supernumerary seats)



2022-23	2021-22	2020-21	2019-20	2018-19
116	94	66	58	53

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

2022-23	2021-22	2020-21	2019-20	2018-19
163	165	180	197	233

File Description	Document
Institutional data in the prescribed format	<a href="#">View Document</a>
Final admission list indicating the category as published by the HEI and endorsed by the competent authority.	<a href="#">View Document</a>
Copy of communication issued by state govt. or Central Government indicating the reserved categories(SC,ST,OBC,Divyangjan,etc.) to be considered as per the state rule ( Translated copy in English to be provided as applicable)	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

## 2.2 Student Teacher Ratio

### 2.2.1

**Student – Full time Teacher Ratio**  
(Data for the latest completed academic year)

**Response:** 15.24

## 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 and teachers use ICT- enabled tools including online resources for effective teaching and learning process**

## **Response:**

NBNSCOE's vision and mission statements emphasize experiential and collaborative learning by integrating the PBL paradigm into the teaching-learning process. The institute has developed CIE norms that allow students to receive additional marks for taking part in PBL activities.

### **Experiential Learning**

- Students undergo in-plant training, field visits, site visits, interdisciplinary projects, industrial visits and internships in industries and present case-studies.
- Well tailored student enrichment value addition programs (VAP) are arranged by respective departments as per thrust of industry. These programs include training and hands-on sessions.
- Students conduct interviews of entrepreneurs to get the insights of entrepreneurial activities.
- Students perform experiments by use of virtual labs in association Govt. College of Engineering, Pune (COEP) under the National Mission on Education through ICT.

### **Participative Learning**

- The institute organizes different activities for students as well as promotes them to participate in various competitions held at local, national & international levels.
- The activities organized by institute include Student Development & Training Programs, Student Presentations, Workshops, Conferences, Technical festivals (Disto, Technosinh etc.), Certification courses such as NPTEL, Coursera, Udemy etc.
- Students undergo various training programmes conducted by institute's 'Student Development and Career Counselling (SDCC) Cell' to improve their communication, technical and soft skills.
- Students are informed about competitions through different advertisements, campaigns & discussions in TG meet. Further, institute facilitates students by offering round the clock facilities of workshop, laboratories, library & WiFi.

### **Problem Solving Methodologies**

- Second-year and third-year students undertake lab innovations & mini- projects
- Students are advised to work on real time industrial problems and case studies
- Final year students are advised to undertake surveys for identifying societal problems
- Students are encouraged to participate in project competitions like Prayog, Avishkar, Smart India Hackathon, etc.

### **Use of ICT Tools:**

- Teachers at NBNSCOE effectively use ICT tools in curriculum delivery. Teachers include videos, power-point presentations, case studies and share them with the students during lectures with the help of LCD projectors. Students are asked to refer good websites for acquiring knowledge about the recent happenings in the field and associated research. In addition to this, the teachers at NBNSCOE use MOODLE, FTP server, Google Classroom for sharing study material and conducting online quizzes for students. Also, google forms are effectively used by teachers to conduct quizzes. Online meeting tools like Microsoft Teams, Zoom and Google-Meet are used to have online discussions, lectures, expert sessions etc. Student presentations are included in CIE of

the institute, where students are made to use all the ICT facilities and tools. Thus, making them compliant with the requirements. Teachers conduct experiments on Virtual Lab platforms in collaboration with COEP Pune. Class-wise students' Whatsapp groups are formed to share study material and notices.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

## 2.4 Teacher Profile and Quality

### 2.4.1

**Percentage of full-time teachers against sanctioned posts during the last five years**

**Response:** 88.82

**2.4.1.1 Number of sanctioned posts year wise during the last five years**

2022-23	2021-22	2020-21	2019-20	2018-19
72	80	87	102	124

File Description	Document
Sanction letters indicating number of posts sanctioned by the competent authority (including Management sanctioned posts)	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

### 2.4.2

***Percentage of full time teachers with NET/SET/SLET/ Ph. D./D.Sc. / D.Litt./L.L.D. during the last five years (consider only highest degree for count)***

**Response:** 12.59

**2.4.2.1 Number of full time teachers with NET/SET/SLET/Ph. D./ D.Sc. / D.Litt./L.L.D year wise during the last five years**

2022-23	2021-22	2020-21	2019-20	2018-19
13	13	9	8	9

  

File Description	Document
List of faculties having Ph. D. / D.Sc. / D.Litt./ L.L.D along with particulars of degree awarding university, subject and the year of award per academic year.	<a href="#">View Document</a>
Institution data in the prescribed format	<a href="#">View Document</a>
Copies of Ph.D./D.Sc / D.Litt./ L.L.D awarded by UGC recognized universities	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

## 2.5 Evaluation Process and Reforms

### 2.5.1

**Mechanism of internal/ external assessment is transparent and the grievance redressal system is time- bound and efficient**

**Response:**

NBNSCOE adheres to its CIE framework which maintains transparency and robustness in continuous evaluation of students. These norms are reformed periodically and communicated to the staff and students through well defined mechanism.

The important parameters of CIE system are:

- 1.Attendance of students in Theory as well as Practical sessions
- 2.In-Semester Examination (ISE) and preliminary examination,
- 3.Continuous Assessment
- 4.Mock practical/oral examinations
- 5.Students' involvement in problem solving and presentation activities
- 6.Students' participation in extracurricular activities
- 7.Students' performance in SDCC activities

**Mechanism of internal assessment:**

- The CIE norms are displayed on notice boards.
- CIE norms are discussed by Teachers.
- Assessments are carried on regular basis.

- ISE and preliminary exam marks are displayed on notice-boards.
- Evaluated answer-sheets of ISE & preliminary examination are shared with students for doubt clearing.
- Mock practical/oral examination is carried out to assess the preparation of students for University examinations.
- TGs collect the records of students' performance in co-curricular and extra-curricular activities for over and above marks.
- Finally, Internal Continuous Assessment (ICA) marks are displayed on notice board and any grievances reported by students are addressed.

**Mechanism of external assessment:**

Being an affiliated institute to PAHSUS, External assessment is carried out by university in two phases viz. Practical/Oral Examination (POE) and End Semester Examination (ESE) in every semester.

University appoints panel of examiners to conduct POE from other institutes/university. For ESE, the question papers are provided by university and the examination is conducted under the observation of university appointed supervisor. Examiners and moderators are appointed by the university from the affiliated colleges who assess the answer papers of all the students at university level. Assessment of answer sheets is done on-screen/offline by the examiners. NBNSCOE provides ICT/other infrastructure to the University for Assessment Purpose as and when required.

Institute has two levels of grievance redressal mechanisms: one to address grievances in internal assessment and other to deal with grievances related to university examinations.

- The Institute has appointed ISE and ICA coordinators at every department to take care of smooth conduction of examination, assessment and internal grievances. Every teacher evaluates the answer sheets of internal examinations within three to four days of conduction of examination. The evaluated answer sheets are distributed to the students and critical cases are discussed in the class. The grievances (if any) reported by students after going through their answer sheets are addressed and changes in marks (if any) are incorporated in the database accordingly. Even, a time period of 2-3 days is given to students to register their grievances related to ICA marks before submitting the marks to university.
- During University exams, flying squad appointed by University visits the examination office & examination venues to inspect functioning of associated activities and personnel. The institute facilitates the redressal of grievances related to University examinations through notices displayed on notice boards on regular basis and communication with university examination office as and when required.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

**2.6 Student Performance and Learning Outcomes**

**2.6.1**

***Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website***

**Response:**

NBNSCOE is affiliated to PAHSUS. Therefore, the Program Outcomes (POs), Program Specific Outcomes (PSOs) and Course Outcomes (COs) are well defined and stated in the University Curriculum. Significant number of teachers of the institute actively participate in syllabus formation process of PAHSUS where they contribute in stating COs and PSOs according to the expectations of stakeholders. Thus, PAHSUS provides CO statements for every course. One active verb is used in the most of CO statement as per revised Bloom's Taxonomy. Experts from reputed academic institutions and industries are invited during the syllabus revision and COs are formulated under the guidance of these experts.

Apart from these stated course outcomes, if stated COs fail to address entire subject syllabus, for few subjects, our teachers in consultation with HoD/senior faculty define his/her own COs for the subject. Institute takes due care for informing POs and COs to all the stake holders.

The Institute is implementing outcome based education through assessment and evaluation practices in teaching and learning process to reflect the achievement of high order learning. Program outcomes (POs) are the graduate attributes, a student should possess after completion of the programme and Course outcomes (Cos) are the statements, a student should be able to do at the end of course.

POs signify the graduate attributes (GA) accepted by NBA whereas PSOs are specifically defined outcomes of the Programme which the learners attain at the end of the Programme.

**Communication of POs and COs to the Faculty Members:**

- CO statements and Program outcomes are discussed in departmental meetings
- Program outcomes are displayed on Departmental notice boards and shared on Institute website in the department.
- Program Outcomes and Course Outcomes are included in the course file for the reference.

**Communication of POs and COs to the Students:**

- Program outcomes are communicated to students in the Induction and Orientation programs at the commencement of every academic year.
- Course Outcomes are also displayed in laboratories and all notice boards.
- At the commencement of the course, concerned subject teacher communicates the Course outcomes during the theory and practical sessions.
- Lab Manual and various study material contains course outcomes.
- Subject teachers have prepared question bank and designed Test examination paper as per OBE format and it is given to the students for reference.

- ISE question papers are set with reference to course outcome along with Bloom’s Taxonomy Level.

POs, PSOs and PEOs for all programs and COs for all courses offered by the institution are displayed on institute website for reference of all stakeholders. Also, PEOs, POs and PSOs are displayed at prominent places in the institute. Teachers refer PAHSUS syllabus to understand POs and COs thoroughly before delivering the courses to students.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

### 2.6.2

*Attainment of POs and COs are evaluated.*

**Explain with evidence in a maximum of 500 words**

**Response:**

To measure the attainment of learning outcomes, NBNSCOE has developed its own formative assessment process which includes evaluation of COs covered through ISE, ICA, POE, ESE and other activities. Further, these attainments are mapped to calculate attainment of POs and PSOs.

The various components of this mechanism are as follows:

**Continuous Internal Evaluation during semester:** As institute practices CIE, students are continuously assessed by the respective subject teacher during practical/tutorial sessions. ISE question papers are set considering COs, POs and Bloom’s Taxonomy. The quality of the same is verified by scrutiny committee at every department.

Various activities such as industrial visits, case studies, presentations, mini and major projects, VAPs, internships, students workshops, online MOOC courses, Entrepreneurship Development Programmes, IIC activities, etc are conducted to ensure attainments of COs and POs. Well formulated rubrics are used for assessment of students in above activities.

**Evaluation at the end of semester:** At the end of every semester preliminary and mock practical/oral examinations are conducted as a part of internal evaluation. Students’ performance is also evaluated at the end of every semester through analysis of University examination (POE & ESE) results.

**Feedbacks from stakeholders:** Regular feedbacks are taken from all the stakeholders to analyze the level of attainment of COs, POs and PSOs. Also, Teacher Guardians discuss about attainment of learning outcomes in their TG-meetings. The analysis of these feedbacks is discussed in department/institute level meetings and actions are taken accordingly for incremental improvement.

**At the graduation level:** At the time of completion of graduation, students' overall performance throughout their graduation is analysed considering performance in all the semesters during graduation and final attainment is calculated. The said attainment is reviewed periodically and new targets are set aiming at quality improvement.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

### 2.6.3

**Pass percentage of Students during last five years (excluding backlog students)**

**Response:** 97.78

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

2022-23	2021-22	2020-21	2019-20	2018-19
196	358	436	523	603

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

2022-23	2021-22	2020-21	2019-20	2018-19
224	361	437	525	617



<b>File Description</b>	<b>Document</b>
Institutional data in the prescribed format	<a href="#">View Document</a>
Certified report from Controller Examination of the affiliating university indicating pass percentage of students of the final year (final semester) eligible for the degree programwise / year-wise.	<a href="#">View Document</a>
Annual report of controller of Examinations(COE) highlighting the pass percentage of final year students	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

## 2.7 Student Satisfaction Survey

<p><b>2.7.1</b></p> <p><b>Online student satisfaction survey regarding teaching learning process</b></p> <p><b>Response:</b></p>	
<b>File Description</b>	<b>Document</b>
Upload database of all students on roll as per data template	<a href="#">View Document</a>

## 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 in the institution during the last five years (INR in Lakhs)*

**Response:** 36.7

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

2022-23	2021-22	2020-21	2019-20	2018-19
1.0	10.98	10.45	14.27	0

File Description	Document
Upload supporting document	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>

### 3.2 Innovation Ecosystem

#### 3.2.1

**Institution has created an ecosystem for innovations, Indian Knowledge System (IKS), including awareness about IPR, establishment of IPR cell, Incubation centre and other initiatives for the creation and transfer of knowledge/technology and the outcomes of the same are evident**

**Response:**

NBNSCOE has established cells for promoting innovation, incubation and IPR activities. Also emphasis on Indian Knowledge System (IKS) is reflected through its curriculum.

**Institution Innovation Council (IIC)** is established as per the guidelines of the Ministry of Education (MoE), GOI & AICTE. IIC conducts various activities for budding engineers and faculty members related to creativity, design thinking, innovation, IPR and startups. MoE provides an activity schedule and guidelines to conduct these activities. In addition to MIC driven activities, IIC also conducts self-driven activities along with celebration of important days related to innovations and technology. Under IIC, Innovation Ambassadors conduct programs to create awareness among students and faculty members of this institute and other institutions also. IIC also undertakes activities of Entrepreneurship Development at the institute and its startup policy is approved by MoE. All the activities are linked to the YUKTI portal of MIC, where student ideas, prototypes, proof-of-concepts and business models are

registered and scrutinized at national level. Institute has received ‘**Star Ratings**’ from MoE as well as it has been recognized by ‘Atal Ranking of Institutions on Innovation Achievements’ at national level. Incubation related activities are carried out in association with PAHSUS Uddyam Incubation Center to support students innovation and startups through IIC.

**Indian Knowledge System:** As per guidelines from government, NEP-2020 curriculum is implemented for engineering by PAHSUS. A subject on ‘Introduction to Indian Knowledge System’ is included in the syllabus. Teachers also contribute to create awareness of IKS in nearby institutions.

**IPR Cell** is established to promote students and faculty members for copyright and patent filing of their research through IPR policy. Under IPR awareness program, workshops are organized, and faculty members are trained about IPR filing. MOUs are also done with IPR associates for guidance. Institute has registered on KAPILA portal of MIC, where IPR filed by students and faculty members are registered.

**Centre for Research and Technology Development (CRTD):** promotes research culture and capacity building among teachers and students.

- ‘UG Research Scholar Scheme’ is initiated for undergraduate students to do research on frontier technology with multidisciplinary approach which provides as golden opportunity to become “Young Researcher”.
- CRTD has planned International conference on ‘Silk Fibroin and Sericulture Resources -A Multi Mega Event with Emerging Trends’ for researchers in February 2024.
- As government initiative to provide global opportunities for SC community & make them employable, CRTD has submitted proposal of Rs. 3.2Cr to DST under STI Hub. Also submitted proposal of 51 Lac to Biotechnology Industry Research Assistance Council (BIRAC).
- Faculty members are encouraged to participate and conduct different research activities, Research grants, Consultancy, technical book publications, and presentation of research papers at national and international conferences for knowledge sharing.
- To make awareness about research publications a conference is conducted for undergraduate students as UGCON-2023.

#### Other Initiatives:

Institute facilitates students to participate at state & national level competitions such-as Smart India Hackathon, Skillathon, Avishkar etc. Students have won several prizes in these events for their research and innovations

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

### 3.2.2

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

**Response:** 49

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

2022-23	2021-22	2020-21	2019-20	2018-19
22	7	6	6	8

File Description	Document
Upload supporting document	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>

### 3.3 Research Publications and Awards

#### 3.3.1

**Number of research papers published per teacher in the Journals notified on UGC care list during the last five years**

**Response:** 0.91

**3.3.1.1 Number of research papers in the Journals notified on UGC CARE list year wise during the last five years**

2022-23	2021-22	2020-21	2019-20	2018-19
20	22	15	16	44

File Description	Document
Link to the uploaded papers, the first page/full paper(with author and affiliation details)on the institutional website	<a href="#">View Document</a>
Link to re-directing to journal source-cite website in case of digital journals	<a href="#">View Document</a>
Links to the papers published in journals listed in UGC CARE list or	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

### 3.3.2

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

**Response:** 0.77

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

2022-23	2021-22	2020-21	2019-20	2018-19
64	10	8	4	12

File Description	Document
List of chapter/book along with the links redirecting to the source website	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>
Copy of the Cover page, content page and first page of the publication indicating ISBN number and year of publication for books/chapters	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

## 3.4 Extension Activities

### 3.4.1

## **Outcomes of Extension activities in the neighborhood community in terms of impact and sensitizing the students to social issues for their holistic development during the last five years.**

### **Response:**

NBNSCOE has always given priority to sensitize students about social issues and duties as citizens of India. Students and teachers engage themselves in various community services, awareness drives and initiatives of national importance. The National Service Scheme(NSS) unit of the institute is one the vibrant NSS unit at PAHSUS. It has carried out various extension activities. Besides NSS activities, institute also conducts techno-social activities. The details of the extension activities are as follows

### **Social Awareness:**

Different Awareness drives on following issues are conducted in neighborhood community:

- How 108 Ambulance service works in Case of Road Accident
- ChuppiTodo Walkathon about Child Abuse
- Prevention of Addiction to Tobacco, Alcohol, etc.
- Pollution Control
- BetiBachao, BetiPadhao
- Significance of Blood Donation
- Necessity of Cleanliness and Good Hygiene
- Road Safety

### **NSS Camps:**

NSS unit of institute has organized different camps where students have actively engaged themselves for the community services. The details are as follows:

- One week NSS Special Camps are organized at Wadval and Kegaon where students have taken up awareness on cleanliness and hygiene, cleaning the areas, tree plantation and water conservation at village level.
- Cleaning Camps are organized by NSS unit at nearby places like Wadval, Wakhari, Pandharpur, Moholand Solapur City under Swachha Bharat Abhiyan.
- During COVID period, the institution organized Vaccination Camp at institute in collaboration with Government's Primary Health Care Centre, Bale.
- Blood donation camps are organized every year on some special occasions.

### **Environmental Issues:**

The institution is conscious about environmental issues like afforestation, pollution, loss of biodiversity. Concerned activities are as follows,

- Awareness drive on 'Fuel Saving'
- Awareness drive on 'Water Conservation'
- Solar Ambassador workshop on 'Use of Solar Power' under Unnat Bharat Abhiyan
- Tree plantation at Wadval, Kegaon, PAHSUS campus and self campus.

**Woman Empowerment:**

Institute conducts special activities for Awareness and Empowerment of Women as follows:

On the occasion of Woman's Day, various activities are organized under 'Hirkani Cell'

- Lecture on 'Importance of Financial Literacy for Women'
- Lecture on 'Specific Diseases related to Women'
- Lecture on 'Importance of Physical Exercise to Improve Mental Health'
- HB Checkup camp for all the girls and lady faculty members

**National Integration and Support in Disaster Management:**

- As per the directives of the Government of India, institute has promoted the activity of '*HarGharTiranga*' in neighborhood community. In addition, sensitization of students about national integrity is carried out by celebrating the various days of national importance and commemorative days of various national figures. Through this, students learn about the struggle and sacrifices of the freedom fighters and social reformers who took pain to make our nation a better place for living.
- Also, students and faculty members have supported the Disaster Management Activity by donated money / daily necessities to flood affected areas of Kerala and Maharashtra during 2018 and 2019 respectively.
- Students and staff of institute have contributed financially for the blind people's organization.

Thus, extension activities organized by institute have impacted the students' personalities and helped in their holistic development. Students have developed a sense of responsibility towards the society and national development.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

**3.4.2****Awards and recognitions received for extension activities from government / government recognised bodies****Response:**

Efforts and initiatives of the NBNSCOE through its extension activities have been recognized and appreciated by various Government and Non-Government bodies. Accordingly, it has received different awards for its social contribution in terms of awareness drives, techno-social activities, conservation of environment, entrepreneurship education, innovation literacy activities and so on.

As institute organizes Blood donation camps every year, the blood banks have given appreciation certificates to the institute for its support and co-ordination. The institute has received appreciation letter from PAHSUS for serving hygiene activities during Ashadhi wari at Pandharpur which is an initiative of Government of Maharashtra in association with SPPU, Pune. Institute has developed websites for the police departments of Solapur districts. These efforts are also recognized by commissioner of police and police superintendent. The Institute has also provided helping hand for flood affected people of Kerala.

The institute has got the membership of the visionary initiative of Government of Maharashtra “Haritsena” and “Mazi Vasundhara” scheme.

Extending its technical expertise for supporting the community, institute has conducted sessions on ‘Use of Virtual Labs’ for the students of various junior colleges in the surrounding. This contribution has been well appreciated by Government’s College of Engineering, Pune (COEP). In addition, as the learning community was facing challenges to use virtual labs due to lack of computers with students during the COVID pandemic, the faculty members from institute have found a new way to run flash based simulators on android mobiles. This solution to the hurdle given by institute’s faculty members was widely used by virtual lab community at national level, especially helping students from rural areas. This was duly recognized by COEP.

Institute received the Best College and Best Principal award from PAHSUS for A.Y. 2022-23. Also Institute has secured A++ grade in PAHSUS’s Academic and administrative audit conducted in July 2022. Aforementioned assessments and audit had due weightage for the assessment of extension activities of the institute which has been appreciated positively. Principal of the institute has received an award by Daily Tufankranti for the contribution in Academic and Social activities. Solapur District library association has felicitated the Principal of NBNSCOE.

Institute’s Innovation Council (IIC) established as per guidelines of Ministry of Education (MoE), has conducted its outreach activities effectively and the same has been recognized and appreciated by MoE through its Annual Star Ratings consecutively for years. Also, institute has been included in ‘Atal Ranking of Institution on Innovation Achievement’ (ARIIA).

One of the staff members got the nation builder award on the occasion of ‘Teachers day’ by Rotary India Literacy Mission. A staff member was appreciated by a self help group of Shetphal for guiding the farmers regarding the process of tender and its technical details.

Staff Members from the Institute worked as Editor, reviewer for reputed books, Journals, conferences. Some were invited as Key Note speaker, session chair etc. for National and International conferences.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

### 3.4.3



*Number of extension and outreach programs conducted by the institution through organized forums including NSS/NCC with involvement of community during the last five years.*

**Response:** 53

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

2022-23	2021-22	2020-21	2019-20	2018-19
12	8	4	14	15

File Description	Document
Photographs and any other supporting document of relevance should have proper captions and dates.	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>
Detailed report for each extension and outreach program to be made available, with specific mention of number of students participated and the details of the collaborating agency	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

## 3.5 Collaboration

### 3.5.1

*Number of functional MoUs/linkages with institutions/ industries in India and abroad for internship, on-the-job training, project work, student / faculty exchange and collaborative research during the last five years.*

**Response:** 33

<b>File Description</b>	<b>Document</b>
Summary of the functional MoUs/linkage/collaboration indicating start date, end date, nature of collaboration etc.	<a href="#">View Document</a>
List of year wise activities and exchange should be provided	<a href="#">View Document</a>
List and Copies of documents indicating the functional MoUs/linkage/collaborations activity-wise and year-wise	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

## Criterion 4 - Infrastructure and Learning Resources

### 4.1 Physical Facilities

#### 4.1.1

The Institution has adequate infrastructure and other facilities for,

- teaching – learning, viz., classrooms, laboratories, computing equipment etc
- ICT – enabled facilities such as smart class, LMS etc.

Facilities for Cultural and sports activities, yoga centre, games (indoor and outdoor), Gymnasium, auditorium etc (Describe the adequacy of facilities in maximum of 500 words.)

#### Response:

The institution has adequate instructional, amenities and circulation areas as per AICTE and PAHSUS norms. For the ease of functioning, all departments are fully equipped with the necessary infrastructure to meet the requirements with adequate classrooms, seminar halls, tutorial rooms, laboratories, and sufficient space for hosting all curricular, co-curricular and extra-curricular activities.

#### Classrooms:

- Well-equipped 27 Classrooms which are ICT enabled and equipped with LCD projector.
- All classrooms are well-ventilated, spacious and are equipped with Desks, Platforms, Fans, Tube lights, Green boards/Whiteboards and curtains.
- ICT enabled four seminar halls for conducting co-curricular and extra-curricular activities out of which one is fully air-conditioned seminar hall having a seating capacity of about 350.
- 05 tutorial rooms with one room having smart board/interactive projector.

#### Laboratories

- 69 well-equipped laboratories with adequate instruments/equipment to meet the requirement of curriculum.
- In addition, some of the laboratories are devoted to research and consultancy activities, equipped with modern tools like 3D printing Machine, Auto Rickshaw Meter Testing Kits, etc.

#### ICT Facilities:

- Total of 533 computers are available.
- 03 Servers (powerful Intel Xeon processors), 56 printers, 08 scanners.
- Adequate most frequently used Supporting Softwares in the laboratories.
- Internet connectivity of 300 Mbps speed and Wi-Fi connectivity is available throughout the campus.
- MOODLE, MOOCs, Virtual Lab, Spoken Tutorial, NPTEL Videos, Webinars, Gate Tutor, FTP Server, etc. are also used to enrich the teaching-learning process.

- Institute is associated with IIT Bombay, NITTR Chandigarh, IIRS-ISRO and COEP for ICT based learning like FDPs, Virtual Lab, etc.

#### Other Facilities:

- Boys and Girls Common Room
- Stationary Store
- Medical and Counselling Facilities
- Boys and Girls hostels
- Canteen, Mess, Staff quarter and Guest House Facilities
- Bus transport facility for Students.
- Electrical Generator is available of capacity 125 KVA D.G. Set
- 60KVA UPS system available for computer lab
- Campus is fully covered by CCTV Surveillance with a total of 150 HD Cameras.

#### Cultural Activities and Technical Activities

Institute provides infrastructural facilities for Annual cultural festival “Umang” and other cultural events like Lezim, Dandiya, Freshers/Farewell Parties etc. Annual technical activities like Technosinh, Dista, Prayog, Avishkar, Hackathon, etc are organised every year within the campus.

#### Gymnasium

Institute has well equipped Gymnasium facility within the campus.

#### Outdoor Indoor games facilities

Separate grounds for Cricket, Football, Handball, Volleyball, Kabbaddi, Kho-Kho and athletics are available in the campus. Institute has all indoor game facilities including table tennis, carrom, chess, etc. Required sports equipment’s and tools are made available and updated regularly.

#### Yoga Center

Considering the importance of physical and mental fitness and the ever-increasing worldwide acceptance of Yoga, the facility of Yoga centre is made available. Yoga Trainer is also frequently train and aware the students about the same.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

#### 4.1.2

**Percentage of expenditure for infrastructure development and augmentation excluding salary during the last five years****Response:** 56.7**4.1.2.1 Expenditure for infrastructure development and augmentation, excluding salary year wise during last five years (INR in lakhs)**

2022-23	2021-22	2020-21	2019-20	2018-19
425.84	569.27	575.74	258.18	256.59

File Description	Document
Institutional data in the prescribed format	<a href="#">View Document</a>
Audited income and expenditure statement of the institution to be signed by CA for and counter signed by the competent authority (relevant expenditure claimed for infrastructure augmentation should be clearly highlighted)	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

**4.2 Library as a Learning Resource****4.2.1**

*Library is automated with digital facilities using Integrated Library Management System (ILMS), adequate subscriptions to e-resources and journals are made. The library is optimally used by the faculty and students*

**Response:**

- The Institute's academic activities revolve around the library as Knowledge Resource Centre. Students are encouraged to use library resources in order to foster a love of reading and learning, which are essential for the students overall development. By offering extensive and up to date variety of reading materials. The library is fully stocked with books, journals and e-books, in compliance with AICTE standards and meets all course curriculum requirements.
- The library has a built-up space of 722.5 square meters including stack room and reading hall with Wi-Fi zone and CCTV surveillance. The library has sections for OPAC, new arrivals, digital library, reference, periodicals /journals, and reading hall. Library has a large collection with 15760 volumes having 3151 titles with investment of Rs. 6840652. There are 4259 reference books, 42 national and international journals, 1000 free and subscribed e-journals and 641 CD's available to Students and faculty members in the reference area. In addition to standard books, the

library offers book-bank scheme for first-year students and rankers of higher classes. Library also contains excellent books on managerial skills, entrepreneurship, personality development, and competitive examinations. The books are available with partially open access.

- **Automation using Vidyasagar Library Management Software:(ILMS )**

The library was first automated in 2010, with Easy Lib ILMS. Then Master Software ERP Solutions (Lib Man) was introduced 2016 and Vidyasagar Library Management software version 4.0 is implemented from 2022. Vidyasagar library Management Software has all the salient modules

required for Library transactions. It has multilingual Software support. The AACR II and MARC 21 formats are used at the back end for cataloguing entries. Special Android app M-OPAC (Vidyasagar Mobile app) is available for users

- **Subscription to e-resources:** The institution has subscription for e-resources in the library. The library has separate digital library section, equipped with adequate number of computers. Users can access the various e-resources through digital library. As per AICTE norms, it contain DELNET, National Digital Library (NDL), e-shodhsindhu, e-Shodhganga, e-Pathshala, DOAJ-Journals (Open Access e-Journal, Turnitine Plagarisam checker software, and FTP Server which contains Free e-Books/Subject Notes, Motivational videos, NPTEL videos, University syllabus and previous years question papers.
- **Amount spent on purchase of books, journals:** Library is fulfilled with Academic, Reference, Competitive examination books, and journals, for the research development of students and teachers and update these resources as per the requirement of SRA. Institute spent total amount of Rs. 714178/- during last five years for the upgradation of library. Where books are of Rs.312680/-, Printed Journals are of Rs.333648/-, and e- Database & E- Journals are of Rs.67850/-.
- **Per day usage of library:** In library visit of the students and teachers of the college are recorded in entry register with the help of vidyasagar library management software, as well as off line book Issue entry register is also maintained. The percentage per day usage of library by teachers and student is 13.67%, and average number of teachers and students using library per day over last one year is 173.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

### 4.3 IT Infrastructure

#### 4.3.1

**Institution frequently updates its IT facilities and provides sufficient bandwidth for internet connection**

***Describe IT facilities including Wi-Fi with date and nature of updation, available internet bandwidth within a maximum of 500 words***

**Response:**

**IT Facilities:**

- The Institute has focused consistently deploying best-in-class IT infrastructure and applications development for academic and research support through Network administrator & IT Team.
- Institute has 27 ICT-enabled classrooms, Five Seminar Halls, and one Air-Conditioned Conference Hall with LCD projectors, LAN, Wi-Fi, and well-equipped 69 Laboratories and classrooms to ensure effective interactive learning.
- The institute has highly configured 03 Servers with powerful Intel Xeon processors, 56 Printing facilities along with one plotter, 08 scanners and 533 computer systems.
- The internet bandwidth and network speed is enhanced from 10 Mbps to 300 Mbps over last eight years. Over 1000+ LAN points were augmented across the campus computers and office spaces. Wi-Fi Access points were deployed across the campus in academic and hostel blocks.
- Moodle & FTP Server facility is available for all the students of the institute where study material, class notes, ppts, video lectures, and reference books are available and used to upload assignments. Regular online quizzes and tests are being conducted as part of a blended mode of learning. On the note of green campus, various soft copy course materials, Value addition program-related study material, workshop, and FDP-related course material are frequently uploaded on the FTP server. This helps to the students and faculty members to access the course material anywhere at any time.
- Campus is fully covered by CCTV Surveillance with a total of 150 HD Cameras. Biometric attendance system is implemented for movement of staff members.
- An exclusive Centralized Service Desk named IT Cell is implemented to provide all System, network related support for the Students and Staff.

### **System and Application Softwares**

Available System softwares are Windows10, Windows11, Ubuntu 16.4, and Microsoft volume licensing copies of windows 10 & Windows 11. Application Softwares are available at various departments as per the academic and research requirements. AUTOCAD, CATIA v6 discover pack, Ansys 14.5, Pro-E, MSC Nastran, Matlab, Automation Studio V 5.7, Gate Tutor, Staad pro, ETAB, SAP, NI Multisim, Triton IDE, etc. are the available application softwares.

Along with all above software's many of the open-source softwares are used effectively and students are encouraged to explore them for their learning and development.

### **Network Management software**

To secure the campus network, Sophos XGS 2300 Firewall with Standard Protection Bundle Subscription has been deployed for handling enhanced load on Network and Applications cater to academic and administrative processes. A separate login ID is provided to every student and staff to access the internet facility. A separate IT policy is implemented for the use of the internet through a wired or Wi-Fi connection. Institute Computers are secured with Quick Heal Antivirus software.

**Upgradation of IT Facilities**

The institute maintains 24×7 Wi-Fi facility in the campus. The Internet Bandwidth of 300 Mbps ILL1:1 is available on campus through 10G Telecom Pvt Ltd. (ISP) The hardware routers and servers are upgraded regularly to match higher data speed demand. Periodic maintenance of IT infrastructure is a routine activity.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

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

**Response:** 2.21

**4.3.2.1 Number of computers available for students usage during the latest completed academic year:**

Response: 496

File Description	Document
Purchased Bills/Copies highlighting the number of computers purchased	<a href="#">View Document</a>
Extracts stock register/ highlighting the computers issued to respective departments for student's usage.	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

**4.4 Maintenance of Campus Infrastructure****4.4.1**

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

**Response:** 27.92

**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)**



2022-23	2021-22	2020-21	2019-20	2018-19
218.798	204.78	107.85	218.86	276.63

  

<b>File Description</b>	<b>Document</b>
Institutional data in the prescribed format	<a href="#">View Document</a>
Audited income and expenditure statement of the institution to be signed by CA for and counter signed by the competent authority (relevant expenditure claimed for maintenance of infrastructure should be clearly highlighted)	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

## Criterion 5 - Student Support and Progression

### 5.1 Student Support

#### 5.1.1

*Percentage of students benefited by scholarships and freeships provided by the institution, government and non-government bodies, industries, individuals, philanthropists during the last five years*

**Response:** 85.94

**5.1.1.1 Number of students benefited by scholarships and freeships provided by the institution, Government and non-government bodies, industries, individuals, philanthropists during the last five years**

2022-23	2021-22	2020-21	2019-20	2018-19
956	1037	984	1114	1460

#### File Description

#### Document

Year-wise list of beneficiary students in each scheme duly signed by the competent authority.

[View Document](#)

Upload Sanction letter of scholarship and free ships (along with English translated version if it is in regional language).

[View Document](#)

Upload policy document of the HEI for award of scholarship and freeships.

[View Document](#)

Institutional data in the prescribed format

[View Document](#)

Provide Links for any other relevant document to support the claim (if any)

[View Document](#)

#### 5.1.2

*Following capacity development and skills enhancement activities are organised for improving students' capability*

- 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
Report with photographs on Programmes /activities conducted to enhance soft skills, Language and communication skills, and Life skills (Yoga, physical fitness, health and hygiene, self-employment and entrepreneurial skills)	<a href="#">View Document</a>
Report with photographs on ICT/computing skills enhancement programs	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

### 5.1.3

**Percentage of students benefitted by guidance for competitive examinations and career counseling offered by the Institution during the last five years**

**Response:** 63.8

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

2022-23	2021-22	2020-21	2019-20	2018-19
1018	709	1093	613	688

File Description	Document
Upload supporting document	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>

### 5.1.4

***The institution adopts the following for 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
Proof w.r.t Organisation wide awareness and undertakings on policies with zero tolerance	<a href="#">View Document</a>
Proof related to Mechanisms for submission of online/offline students' grievances	<a href="#">View Document</a>
Proof for Implementation of guidelines of statutory/regulatory bodies	<a href="#">View Document</a>
Details of statutory/regulatory Committees (to be notified in institutional website also)	<a href="#">View Document</a>
Annual report of the committee motioning the activities and number of grievances redressed to prove timely redressal of the grievances	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

## 5.2 Student Progression

### 5.2.1

**Percentage of placement of outgoing students and students progressing to higher education during the last five years**

**Response:** 70.27

**5.2.1.1 Number of outgoing students placed and / or progressed to higher education year wise during the last five years**

2022-23	2021-22	2020-21	2019-20	2018-19
117	225	324	374	447

**5.2.1.2 Number of outgoing students year wise during the last five years**

2022-23	2021-22	2020-21	2019-20	2018-19
196	358	436	523	603

File Description	Document
Number and List of students placed along with placement details such as name of the company, compensation, etc and links to Placement order(the above list should be available on institutional website)	<a href="#">View Document</a>
List of students progressing for Higher Education, with details of program and institution that they are/have enrolled along with links to proof of continuation in higher education.(the above list should be available on institutional website)	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

### 5.2.2

*Percentage of students qualifying in state/national/ international level examinations during the last five years*

**Response:** 4.93

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

2022-23	2021-22	2020-21	2019-20	2018-19
4	7	7	8	5

File Description	Document
List of students qualified year wise under each category and links to Qualifying Certificates of the students taking the examination	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

## 5.3 Student Participation and Activities

**5.3.1**

**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) during the last five years**

**Response:** 63

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

2022-23	2021-22	2020-21	2019-20	2018-19
36	2	2	8	15

File Description	Document
Upload supporting document	<a href="#">View Document</a>
list and links to e-copies of award letters and certificates	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

**5.3.2**

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

**Response:** 95.4

**5.3.2.1 Number of sports and cultural programs in which students of the Institution participated year wise during last five years**

2022-23	2021-22	2020-21	2019-20	2018-19
161	39	48	114	115

File Description	Document
Upload supporting document	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>

## 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:

NBNSCOE has strong belief that alumni are great role models for current students and are usually well experienced to offer practical support to current students as they have already started their professional career. Alumni are often in the position to engage the expertise of the institution in their professional lives. We consider that our alumni are our ambassadors. Therefore, institute has established an “NBNSCOE Alumni Association” (NAA) on 16th October, 2015 under the Society Registration Act, 1860 with registration No-MH-731/2015. Every pass out student is eligible for life time membership and can become a member by completing registration process. For last 5 years total Alumni registration count is 2110 since the inception of NAA total count is 3239.

NAA has organizational structure as President, Vice-President, Secretary, Treasurer and members. One dedicated staff has been appointed for the coordination of the Alumni cell. This coordinator keeps the track of our alumnus and also communicates happenings in the institute periodically. Becoming the member of alumni association is one of the easiest ways to reconnect, give back to the institute, and serve as a springboard for further involvement.

Alumni Cell organizes the annual alumni meet in the month of February/March. Alumni meet provides them the platform to share their past and present experiences as well as recalls their memories in the institute with their teachers, juniors and friends. The involvement of alumni in supporting and providing contributions voluntarily to the institute is important for maintaining and expanding an institute’s development. Alumni has also been given the representation in the IQAC of the institute.

Our alumni are serves/supports their alma mater in following ways:

- Becomes life time member by paying the membership fees of Rs. 500/- each
- Participation in the programs, as a resource person
- Regularly conducting expert lectures and guiding new trends in the work environment
- Skill enhancements, professional ethics and catering student’s need of career
- Evaluating various technical events
- Alumni are invited for counseling of students for career guidance
- Suggesting modifications in the curriculum

To encourage students for Sports Achievements, Innovative Project Idea Implementations & Entrepreneurial skill development, Alumni Association has initiated honoring the students with annual

awards such as ARJUN award, VIKRAM award & RATAN award respectively.

Some of our Alumni have also contributed by providing mentorship to the project groups participating in SMART INDIA HACKATHON/Technical events.

Although not demanded, Institute does not deny voluntary contributions made by alumni. As every alumnus has experienced his life at institute through different phases before graduating through unique and different model of NBNSCOE, they find the potential for contributing back to the development of the institute and support the institute's reputation.

Institute provides remuneration/honorarium to the alumni student who spares their time for guiding/judging/mentoring to their juniors.

By establishing channels that can facilitate closer ties between the alumni, students and institute, it provides crucial benefits in enriching the student's experience; Institute puts efforts in transforming the careers of current students into global technophile, entrepreneurs, researchers and managers by cultivating a bond with alumni.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>



## Criterion 6 - Governance, Leadership and Management

### 6.1 Institutional Vision and Leadership

#### 6.1.1

*The institutional governance and leadership are in accordance with the vision and mission of the Institution and it is visible in various institutional practices such as NEP implementation, sustained institutional growth, decentralization, participation in the institutional governance and in their short term and long term Institutional Perspective Plan.*

#### Response:

#### NEP implementation

For implementation of NEP-2020, NBNSCOE has taken early steps to prepare for its implementation by promoting faculty and students to participate in a nationwide online competition on NEP. Further, faculty members have been deputed to participate in AICTE sponsored FDPs to prepare themselves to teach subjects like Universal Human Values (UHV) and Creativity & Design Thinking. Principal of NBNSCOE was Guest of Honor for NAAC sponsored National Conference entitled “NEP 2020 and Its Impact on Quality in Higher Education” at Bangalore. Two Research articles were presented by faculty members in this conference. Also, faculty members have attended one week FDP on NEP implementation organized by Maharashtra State Faculty Development Academy (MSFDA) in collaboration with PAHSUS where Principal was one of the resource persons. Additionally faculty members have participated in curriculum development workshop entitled “NEP-2020 Compliant Curriculum Structure” organized by PAHSUS. Subsequently, syllabus/structure as per NEP 2020 has been prepared and implemented for class of FY-B.Tech. from the AY 2023-24. Accordingly, choices and facilities pertaining to NEP requirements are complied.

#### Sustained Institutional Growth

Sustained Institutional Growth is evident from the admission records, MoUs and Collaborations with Institutes of national repute like IITM-Pune, Spoken-Tutorial IIT-Bombay, NITTTR-Chandigarh, NITTTR-Kolkata, ISRO and COEP that NBNSCOE has a approach to have sustainable growth to enhance academic and research outcomes by having collaborative FDPs, STTPS, Research Projects, Student Training Programs, etc. The same is visible in the noteworthy rankings and recognitions received by the Institute at National Level such as ‘A’ grade by NAAC in cycle 1, National Level Star Ratings by Ministry of Education for IIC Activities, National Level Ranking by ‘ARIIA’ – Atal Ranking of Institutions on Innovation Achievement, ‘AA+ Rating’ by Careers360, ‘A++’ ranking in Academic and Administrative Audit of PAHSUS, also Best College and Best Principal Awards by PAHSUS.

#### Nature of Governance (Decentralized and Participative)

The Governing Body and College Development Committee (CDC) act as a top management and carry responsibility to take policy decisions. IQAC ensures the quality enhancement at the Institute. Teachers play a vital role in Teaching-Learning; hence they are involved in major decision makings. Teaching, non-teaching staff and students are working in various committees. Policies and Strategic Plans are decided in periodic meetings. Implementation is carried out based on the approval from the management.

Periodic reviews are taken during implementation process.

### Institutional Perspective Plan

In accordance with the Vision and Mission, NBNSCOE has its perspective plan as follows:

Short Term Perspective Plan:

- Enhancing infrastructure to support research and incubation
- Enhancing teachers' skills and qualification.
- Increasing green initiatives in the campus.
- Upgrading NAAC Accreditation grade.
- Increasing MoUs to fulfill the requirements of NEP.
- Forming cluster for use of sophisticated equipments.
- Getting 2f/12B recognition

Long Term Perspective Plan:

- Creating centre of excellence in each discipline
- Obtaining NBA accreditation
- Starting PG and Ph.D. programs in each discipline
- Getting Autonomous status for the Institute
- Obtaining NIRF ranking
- Fetching funding from Government/Non Government Organizations for enhancing research and consultancy.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

## 6.2 Strategy Development and Deployment

### 6.2.1

*The institutional perspective plan is effectively deployed and functioning of the institutional bodies is effective and efficient as visible from policies, administrative setup, appointment, service rules, and procedures, etc*

#### Response:

As per the perspective plan, NBNSCOE has taken initiatives to enhance the academics, administration and human resource. To excel as per the vision and perspective plan of the Institute, well-defined policies and decisions of management are implemented by the Principal/HoDs/Coordinators. Along with statutory committees, various other committees are also functional for implementation of Curricular, Co-curricular

and Extra-Curricular activities for effective and efficient functioning.

The hierarchical organization structure as per the Organogram helps for the overall development of the Institute and holistic approach among the staff and students. Faculty members and students are involved in planning and implementation of various activities.

Office administration includes Accounts, Examinations, Scholarship, Students and Establishment section for smooth functioning in the Institute.

Efforts are made to get 2f/12B recognitions, higher grading by accreditation bodies and rankings at National level. With the proper planning, Institute will go for autonomy in near future.

The research culture is strengthened through Centre for Research and Technology Development (CRTD) and attempts are made for fetching the funding from external agencies.

Students' council, various clubs and departmental associations also work for overall development.

Institute follows standard norms led down by AICTE/SRA/Government/University and transparency is maintained at every level. Teacher recruitments are done as per AICTE norms. Applications are invited and Demo lectures are conducted in presence of senior faculties. Based on report of these members if candidate is found suitable then interviews are conducted for final selection. If immediate requirement of teachers is identified then they are appointed by the management and their approval is taken from the university on the yearly basis. Appointments of Non teaching staff are made at institution level by the Management. As the appointment is made through fair and transparent procedure, Institute gets high profile teachers resulting in good quality teaching-learning.

Management supports staff for participation in STTPs/conferences/workshops/orientation-programs/NPTEL by providing leaves and financial support. Management also offers monetary/promotional benefits to staff based on performance appraisal. Strategy is to motivate existing employees to get promoted to higher cadre. Efforts are made in this direction to encourage the faculty members for higher studies. Presently 16 teachers are doctorates and 14 are pursuing their Ph.D. Institute ensures overall development of faculty through deputation to higher studies, skill up gradations, promoting research and consultancy services. Also non teaching staff is trained regularly through training programs

Policies such as start up policy, testing and consultancy policy, Communication of duties and leave policies, internal assessment norms, code of conduct for teachers and students are in place and displayed on website for all stake holders.

Thus with good set of rules, procedures, institutional Strategies, Perspective and development plans, institute is making sustained growth. Deployment of these Strategic/ perspective/ development plans are in order to meet the stated Mission. Leadership of NBNSCOE believes in participative management and considers constructive suggestions from all Stakeholders. Institute has statutory committees for the same.

Institute also participates in the national level rankings and recognitions such as NIRF, ARIIA, IIC, etc. and intends to have NBA accreditation and autonomy status.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Institutional perspective Plan and deployment documents on the website	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

### 6.2.2

#### *Institution implements e-governance in its operations*

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 of each module reflecting the name of the HEI	<a href="#">View Document</a>
Institutional expenditure statements for the budget heads of e-governance implementation ERP Document	<a href="#">View Document</a>
Annual e-governance report approved by the Governing Council/ Board of Management/ Syndicate Policy document on e-governance	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

## 6.3 Faculty Empowerment Strategies

### 6.3.1

**The institution has performance appraisal system, effective welfare measures for teaching and non-teaching staff and avenues for career development/progression**

**Response:**

NBNSCOE believes in the potential of human resources and takes care for their well-being. Management of the institute has well defined policies, service rules and regulations for the staff members of all cadres. The care for the same is taken in account from the recruitment itself. Also, appraisal system for teaching and non-teaching staff is based on performance, punctuality and interpersonal relations. Appraisal forms

are submitted by staff members as per applicable formats which are evaluated by HoDs and forwarded to Principal for further recommendations to management. Annual increments are given based upon performance appraisal.

Regular student's online feedback of the teachers through defined mechanism is taken into account for performance appraisal which is further analyzed for improvement of the system as well as for performance appraisal of staff. Some outstanding performers are promoted to higher cadre. Eg. Peons with good abilities and qualifications are promoted to clerk/lab assistant, some CHB staff are appointed as full time Asst. Professors and some Assistant Professors are promoted to Associate Professors. Staff who have completed their stipulated service in the Institute are also promoted with higher AGP.

The institution offers effective welfare measures, schemes and leave facilities as per norms. Study leave for qualification up-gradation, on-duty leave for attending training programs and official assignments. Medical/Compensatory leaves are also provided for both teaching and nonteaching staff. Maternity leave of 180 days for women staff for first two Children is also provided and in some specific cases extended maternity leave is allowed, if required.

Implementation of pay scales, contribution to Provident Fund and Payment of Gratuity as per norms is applicable for Teaching and Non teaching staff. Institute has policy to give financial support to faculty members and students for filing of IPR, for attending FDP, STTP, workshop, seminars and conferences inside and outside the Institute. NBNSCOE also promotes the teachers to enhance their skills by attending MOOCs and provide the financial support for its certification. Training programs are also conducted for support staff to motivate and train them in computer literacy, admission system, documentation and ICT related to upgrade their knowledge & boost their confidence regularly. Institute has tradition to appreciate deserving teachers by best teachers award and Non teaching staff as best support staff award.

The staff members are allowed to provide **consultancy services** and coordinate the **revenue generation events/activities** as per their expertise. The amount of revenue generated through these consultancies/activities is shared among the concerned staff members. Institute also provides additional support facilities to its teaching and non teaching staff members for their various needs.

Vehicle facility for emergency service which is available at the campus round the clock. Staff quarters for teaching and non teaching staff are available within the campus.

Hence, NBNSCOE ensures good career growth and opportunities for its employees.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

### 6.3.2

**Percentage of teachers provided with financial support to attend conferences/workshops and**

**towards membership fee of professional bodies during the last five years****Response:** 52.54**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**

2022-23	2021-22	2020-21	2019-20	2018-19
32	27	47	45	66

File Description	Document
Policy document on providing financial support to teachers	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>
Copy of letter/s indicating financial assistance to teachers and list of teachers receiving financial support year-wise under each head.	<a href="#">View Document</a>
Audited statement of account highlighting the financial support to teachers to attend conferences / workshops and towards membership fee for professional bodies	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

**6.3.3**

***Percentage of teaching and non-teaching staff participating in Faculty development Programmes (FDP), Management Development Programmes (MDPs) professional development /administrative training programs during the last five years***

**Response:** 77.76**6.3.3.1 Total number of teaching and non-teaching staff participating in Faculty development Programmes (FDP), Management Development Programmes (MDPs) professional development /administrative training programs during the last five years**

2022-23	2021-22	2020-21	2019-20	2018-19
98	76	127	128	57

**6.3.3.2 Number of non-teaching staff year wise during the last five years**

2022-23	2021-22	2020-21	2019-20	2018-19
38	35	46	47	46

<b>File Description</b>	<b>Document</b>
Refresher course/Faculty Orientation or other programmes as per UGC/AICTE stipulated periods, as participated by teachers year-wise.	<a href="#">View Document</a>
Institutional data in the prescribed format	<a href="#">View Document</a>
Copy of the certificates of the program attended by teachers.	<a href="#">View Document</a>
Annual reports highlighting the programmes undertaken by the teachers	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

**6.4 Financial Management and Resource Mobilization****6.4.1**

**Institution has strategies for mobilization and optimal utilization of resources and funds from various sources (government/ nongovernment organizations) and it conducts financial audits regularly (internal and external)**

**Response:****Fund Generation**

Being a self-financed institution, the primary source of income for the college comes from the fee paid by the students. Every year, the college fee is approved by the Fee Regulating Authority of Government of Maharashtra by considering various expenditures of the institute included in the audit reports.

Various funding schemes of government/non-government organizations are utilized for the organization of FDP, STTP, conferences, workshops and projects. Research funds are also received by faculty members from funding agencies such as DST, IIT, University etc. The funds are also received from university and Unnat Bharat Abhiyan for NSS, Staff and Student welfare activity. Institute also generates the funds through consultancy, coordination of various events and activities and resource sharing.

**Budget preparation and approval:**

At the beginning of every academic year, all the departments prepare a budget based on the requirements. The financial requirements of each department are compiled and forwarded to the Principal's office. It reviews the budget and presents to the CDC for approval. The CDC critically reviews the budget and it is approved after necessary corrections.

#### **Resource and Budget Utilization Strategies:**

a) Once the budget is approved, the Heads of Departments can proceed with procurement of equipments or the planned activities. The major equipments are procured by following the proper purchase process where the quotations are called, compared and presented before the purchase committee for further recommendation. The amount is disbursed only after complying the process which includes necessary approval, purchase order, equipment delivery and testing report.

b) Salaries/honorarium/financial support: Salaries of employees are paid as per the statutes and norms of the Govt. of Maharashtra. The remuneration/honorarium is given to resource persons for various academic and administrative events. The institute supports the faculty and staff for seminars/workshops/conferences/FDP/ NPTEL courses etc.

c) Augmentation and Maintenance of Infrastructure: The infrastructure is augmented as per the requirement. Repairs & maintenance are carried out as per the maintenance policy of the institute.

#### **Financial Audits:**

The institute conducts transparent internal and external financial audits periodically. The internal financial audit of the Institute is entrusted to a committee of accountants working with the SPSPM along with the institute's accounts department. The copies of invoices, vouchers and supporting documents related to the expenditure are maintained accordingly.

All the documents are verified by the accounting officer and discrepancies if any, are brought to the attention of the Principal/HoD/concerned staff for immediate rectification. The accounts department consolidates all the expenditures made in the financial year. The records are verified during the internal audit. Further, an audit is also carried out for grants received and funds generated.

In every financial year, an external financial statutory audit is also conducted by a chartered accountant. A Comprehensive examination and verification of all the financial transactions are carried out. All observations and objections of the auditor are communicated through their report to the institute. Thus, institute has an effective system in place to track how well the financial resources are being generated and utilized.

<b>File Description</b>	<b>Document</b>
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

## **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. It reviews teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals and records the incremental improvement in various activities**

**Response:**

NBNSCOE has established IQAC as per guidelines of NAAC. IQAC implements collaborative and participative approach towards quality assurance at institute.

IQAC has played important role in reviewing/refining teaching learning process at institute. IQAC conducts regular meetings to review/discuss Teaching Learning activities and suggests actions to be taken. In addition, discussions on student centric practices, value addition programs, assessment methodologies and innovative teaching methods are carried out. IQAC has contributed in revising contents of course file at institute as per requirements of OBE. IQAC has suggested/organised faculty training programmes on innovative methodologies and modern tools for teachers, resulting in better teaching-learning experience at institute. It has also coordinated workshops on IPR for faculty members.

IQAC reviews institutional processes and methodologies to ensure smoothness of operations among academic and administrative functionaries of institute. Through internal meetings, feedback mechanisms and external audits, IQAC has identified areas of improvement. IQAC has participated in formulating/revising institutional policies related to maintenance, start-up and innovation, environment and energy usage, scholarships/freeships, etc. IQAC has contributed in revising 'Roles and Responsibilities of Teacher Guardian' which has helped to strengthen the mentoring scheme at institute. 'Roles and Responsibilities of Class Coordinator' are defined to ensure effective academic conduct at class level. Above mentioned attempts by IQAC have led to reduced administrative burdens and helped in making the institute setup more responsive and facilitative.

IQAC takes proactive measures to monitor and enhance learning outcomes at institute. It has helped in developing mechanisms for evaluation of attainment of learning outcomes. IQAC has organised sessions on Outcomes Mapping and Attainment Calculations. The analysis of outcome attainment evaluations is discussed and reviewed in institute level meetings and required actions are initiated accordingly. This has resulted in improvements in student performance and satisfaction.

IQAC assures documentation of all quality assurance activities at institute. It has designed its own format for 'Activity Report' to help faculty members in timely and effective recording of activities. IQAC prepares and submits 'Annual Quality Assurance Report (AQAR)' as per NAAC requirements every year. In addition, IQAC is pro-actively involved in ensuring documentations required for different audits and compliances. The systematic documentation at institute has led to remarkable recognitions and rankings such as Star Ratings from MOE for IIC activities, Ranking by ARIIA for innovation achievements, 'A++' Grade in PAHSUS's Academic & Administrative Audit and 'Best College Award' as well as 'Best Principal Award' by PAHSUS.

Institute has progressed positively in terms of number of teachers pursuing/completed PhD, publications (papers/books/book chapters), Intellectual Property Rights and Research Grants. Also, number of students completing industrial-trainings/internships, innovative experiments through Virtual-Labs,

Awards at reputed competitions like Smart-India-Hackathon, Startup-Yatra, Skillathon, ATV championship, etc. has been improved. Students have worked on live project of electric vehicle for inter-mobility at campus.

Thus, IQAC has contributed significantly in assuring quality education, incremental growth and improved administrative co-ordination at institute. It has not only helped in confirming compliance with requirements of accreditation but also helped in nurturing a culture of continuous quality improvement at NBNSCOE.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

### 6.5.2

**Quality assurance initiatives of the institution include:**

- 1.Regular meeting of Internal Quality Assurance Cell (IQAC); quality improvement initiatives identified and implemented**
- 2.Academic and Administrative Audit (AAA) and follow-up action taken**
- 3.Collaborative quality initiatives with other institution(s)**
- 4.Participation in NIRF and other recognized rankings**
- 5.Any other quality audit/accreditation recognized by state, national or international agencies such as NAAC, NBA etc.**

**Response:** A. Any 4 or more of the above

File Description	Document
Quality audit reports/certificate as applicable and valid for the assessment period.	<a href="#">View Document</a>
NIRF report, AAA report and details on follow up actions	<a href="#">View Document</a>
List of Collaborative quality initiatives with other institution(s) along with brochures and geo-tagged photos with caption and date.	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>
Link to Minute of IQAC meetings, hosted on HEI website	<a href="#">View Document</a>

## Criterion 7 - Institutional Values and Best Practices

### 7.1 Institutional Values and Social Responsibilities

#### 7.1.1

**Institution has initiated the Gender Audit and measures for the promotion of gender equity during the last five years.**

*Describe the gender equity & sensitization in curricular and co-curricular activities, facilities for women on campus etc., within 500 words*

#### **Response:**

Since value based education is the vision of NBNSCOE, therefore the representation of female staff/student in various committees/cells/activities is ensured through gender audit carried out at institute level, in addition to facilities/initiatives designated for females at campus.

The different measures taken by the institute for promotion of gender equity and sensitisation are as follows:

#### A. Gender Equity and Sensitization:

a) In General: Institute adheres to all the norms stated by SRAs such as AICTE, GoM, PAHSUS, etc.

- Internal Complaint Committee (ICC) has been formed and contact details of its members are displayed at prominent places for prohibition of sexual harassment in institutional premises.
- In the induction program, awareness about ICC is made amongst all the students and punitive actions are discussed.
- There is no discrimination in pay, fees, perks, amenities, accountabilities, responsibilities, powers, recognitions etc. among male and female.
- Every year 'International Women's Day' is celebrated in right spirit.
- Female staff avail equal benefits as male staff along with maternity leaves

#### b) In Curricular and Co-Curricular Activities:

- Reservation policy for female is defined by DTE, GoM during admissions
- Institute gives representation to females in committees such as IQAC, Student Council, Anti-Ragging Committee, Grievances Committee, Hostel and Mess Committee, Library Committee, Discipline Committee, etc.
- Also, females represent in various cells such as Minority, OBC, BC, Media, NSS cell etc.

- Girls have representation in different associations formulated at institute and department level such as ETOS, CORE, CESA, MESA and E2SA.
- In the curricula of PAHSUS a course on 'Democracy and Good Governance' is added.
- Female students are equally encouraged to participate in all co-curricular and extracurricular activities held at department, institute, University, State and National levels.

B. Facilities for women on campus:

a) Common Room:

- Common Rooms and sick rooms are available.
- Vending machines for sanitary napkins in Girls common room are available.

b) Regarding Safety and Security

- Highly secure campus guarded by adequate number of male and female security guards.
- Separate hostel facility for girls and boys in the campus with full time warden.
- Transport facility to reach hospital in emergency medical situation is also available.
- 'Damini Squad' from Police department visits the institute on regular basis for ensuring the safety of girls students in the institute.
- CCTVs are installed at all common places in the campus.

C. Institutional Initiatives to address gender sensitivity issues:

- Institute has established 'Sinhgad Hirkani Forum' which organizes various events.
- On the occasion of International Women's day 'My mother in my college' theme is implemented. In this program mothers of all students are invited in the college.
- For mother parents, guest lectures on 'Laws related to women', by renowned advocates and health awareness sessions by doctors are organized.
- Free Haemoglobin check-up camps are conducted for girls to make them aware of health issues.
- To create awareness about sexual Harassment, workshops are conducted to discuss Prevention, Prohibition and Redressal act.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

**7.1.2**

**The Institution has facilities and initiatives for**

- 1. Alternate sources of energy and energy conservation measures**
- 2. Management of the various types of degradable and nondegradable waste**
- 3. Water conservation**
- 4. Green campus initiatives**
- 5. Disabled-friendly, barrier free environment**

**Response:** A. 4 or All of the above

File Description	Document
Policy document on the green campus/plastic free campus.	<a href="#">View Document</a>
Geo-tagged photographs/videos of the facilities.	<a href="#">View Document</a>
Circulars and report of activities for the implementation of the initiatives document	<a href="#">View Document</a>
Bills for the purchase of equipment's for the facilities created under this metric	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

**7.1.3**

**Quality audits on environment and energy regularly undertaken by the Institution. The institutional environment and energy initiatives are confirmed through the following**

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

**Response:** A. All of the above

File Description	Document
Report on Environmental Promotional activities conducted beyond the campus with geo tagged photographs with caption and date	<a href="#">View Document</a>
Policy document on environment and energy usage Certificate from the auditing agency	<a href="#">View Document</a>
Green audit/environmental audit report from recognized bodies	<a href="#">View Document</a>
Certificates of the awards received from recognized agency (if any).	<a href="#">View Document</a>
Provide Links for any other relevant document to support the claim (if any)	<a href="#">View Document</a>

#### 7.1.4

**Describe the Institutional efforts/initiatives in providing an inclusive environment i.e., tolerance and harmony towards cultural, regional, linguistic, communal socioeconomic and Sensitization of students and employees to the constitutional obligations: values, rights, duties and responsibilities of citizens (Within 500 words)**

##### **Response:**

According to vision of NBNSCOE and to establish a country of noble and responsible youth, institute takes measures to offer an inclusive atmosphere and organises various programmes for regional, linguistic, communal, cultural, socioeconomic, and similar aspects among students and staff. Commemorative days such as birth/death anniversaries of great leaders of the nation and functions of different religion are celebrated on campus to foster a sense of fraternity, oneness, national integration, and social peace among students and teachers.

##### **Cultural and Regional Programs**

NBNSCOE has given priority to the holistic development of the students. Extra-curricular activities are organized in the institute to allow the students to showcase their spirit and artistic views. Students learn by organizing, participating or volunteering in such activities. Every year, annual cultural function named as 'Umang' is organized where the students of all the departments participate in various activities. Traditional Day is celebrated in the institute, where students and teachers exhibit their regional/religious traditions. Students exhibit their linguistic flexibility through college magazine. The institute also celebrates 'Marathi Bhasha Din'. It helps students learn about the various cultures that exist in our nation and to promote harmony and tolerance towards linguistic, cultural, regional, social, and other distinctions. This promotes inclusion both inside the institute and in society.

##### **Days of National Importance**

To raise awareness of the values, rights, duties, and responsibilities of citizens as outlined in the

constitution, the institution hosts a number of activities for both staff and students. The days of national importance, such as 15th August, 26th January and 26th November are celebrated in the institute as Independence Day, Republic Day and Constitution Day respectively by holding events that emphasize remembering the fight for freedom, honoring those who gave their lives for the country's freedom, and imbibing the values of the Indian Constitution and democracy.

### Activities for Communal and Socio-economic Harmony

In an effort to promote inclusivity, the institute also plans events like national festivals and language days. These are organized by bringing together professors and students from different backgrounds on one platform. The institution organizes numerous programs to sensitize students and staff to the constitutional obligations: Values, Rights, Duties, and Responsibilities of Citizens. Many events are held at the institution to enable students to become familiar with our country's varied cultures and to foster tolerance and peace towards cultural, regional, linguistic, communal, socioeconomic, and other differences. Student Council, Student association and NSS unit of the institute take initiatives to organize such programs.

### Universal Human Values and Ethics

A course on 'Democracy, Election and Good Governance' is introduced in the curriculum of First Year B. Tech, for getting awareness of rights, duties, intolerance and responsibilities of citizen. Universal Human Values subject is also introduced in syllabus for understanding the values of life and harmony. The institution demonstrates both academic excellence and an ethics-focused curriculum at the same time. The institution fosters environmental awareness with its green campus. In addition, staff and students of institute are actively involved in community outreach programs.

File Description	Document
Upload Additional information	<a href="#">View Document</a>
Provide Link for Additional information	<a href="#">View Document</a>

## 7.2 Best Practices

### 7.2.1

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

**Response:**

**Best Practice No.1:**

**1) Title: Problem Based Learning (PBL)**

**2) Objectives:**

The goal is to solve daily problems, encourage interdisciplinary projects, align students with industry needs, improve employability, and develop interpersonal skills, team spirit, and leadership qualities. The expected outcome is for students to identify societal problems and apply innovative solutions. The principle is to enhance student learning and readiness for industry/society through the PBL approach.

### 3) The Context

The graduate attributes are vital in professional education. They include “soft skills” like communication, teamwork, problem-solving, initiative, and responsibility-

Project-based learning provides a practical environment for students to develop these skills. They learn to take initiative, apply ideas, think innovatively, build confidence, work in a team, communicate ideas, and manage resources.

Problem-based learning bridges the gap between theory and practice, allowing students to apply theoretical knowledge to real-world problems. This enhances their understanding and equips them with skills needed in the workplace.

Thus, integrating graduate attributes into curriculum prepares students for industry demands, ensuring they are proficient in their core subjects and possess necessary soft-skills.

### 4) Practice:

The institute implements Problem-Based Learning (PBL) through several steps:

**Lab Innovations:** Students develop small innovative ideas every semester, converting theoretical knowledge into projects.

**Interdisciplinary Projects:** Students from different disciplines form groups to solve real-world problems, enhancing their coordination skills.

**Product-Based Projects:** Students identify societal problems and provide solutions, learning about financial management.

**Value Addition Programs (VAP):** Students acquire extra knowledge through specially designed VAPs, completing projects/assignments.

**Project Evaluation:** Projects are evaluated by experts through competitions like ‘TechnoSinh’, ‘Dista’, ‘Prayog’, Avishkar, and Hackathon. Students also present their papers at different journals.

### 5) Evidence of Success:

The PBL model has improved students’ understanding of core concepts, professional skills, and ability to solve real-world problems. Here are three successful projects:

CSE students won the National Level Smart India Hackathon (SIH) for their project ‘Development of ADIP-CI Post-operative rehabilitation details software’, a mobile application for the Ministry of Social Justice and Empowerment.



Civil Engineering students developed project 'Use of Carbon pollutant in building tile', winning regional/national level competitions. They published two papers based on project in international journal.

E&TC Engineering students developed 'Women Safety Suite', recognized at state/national levels for its innovation.

#### **6) Problems encountered and resources required:**

As Solapur region is under developing stage therefore sometimes it becomes difficult to implement 100% PBL culture in the institute due to following problems:

**Financial Assistance:** Many students come from economically disadvantaged backgrounds and rely on sponsorships. The institute supports students' innovative ideas through seed money, alumni association, and partner organizations.

**Equipment Availability:** For product-based projects, students need access to industrial instruments/equipment. The institute allows students to use its laboratories and workshop to overcome this issue.

#### **7) Notes:**

The 'Problem Based Learning' (PBL) model has proven effective in enhancing students' technical skills in tier-II cities like Solapur. It has led to recognition at university, state, and national level competitions, and has earned the institute 'Star Rating' from the Ministry of Education (MoE) and rankings like 'Atal Ranking of Institution for Innovation Achievement' (ARIIA). Hence, it's recommended for other institutions too.

#### **Best Practice No.2:**

##### **1) Title: Students Development and Career Counseling (SDCC)**

##### **2) Objectives:**

The goal is to enhance students' skills for various career opportunities, prepare them for entrepreneurship and higher education, and instill ethical values for holistic development. The expected outcome is that students will acquire skills for placements, entrepreneurship, and higher studies, with an overall impact on all aspects of life. The principle is to help professional engineers have good moral, ethical values, and a humanistic approach towards society.

##### **3) The Context:**

The need for SDCC is crucial as most students from institute come from rural backgrounds and lack following skills:

**Presentation Skills:** Required for delivering thoughts using modern ICT aids.

**Communication Skills:** Essential for working in corporates where English is globally accepted.

**Public Speaking:** Many students lack confidence and non-verbal skills.

**Soft Skills:** Etiquettes and manners are necessary in professional courses like engineering.

**Expressiveness:** Students are strong in technical and analytical skills but lack impressive representation.

**Leadership Quality:** Due to lack of interpersonal skills, students often hesitate to take the lead.

#### 4) The Practice:

The institute implements the SDCC model through:

**Student Presentations:** Students give presentations using ICT tools from the second year onwards, improving their presentation, communication, and public speaking skills.

**Student Training:** The institute provides training from the first year to prepare students for final interviews. This includes communication skill training, soft skill training, aptitude training, and pre-placement training.

**Other Career Opportunities:** The institute provides awareness and training about various career opportunities like higher studies, GATE, entrepreneurship, PSUs/UPSC/MPSC, GRE, TOEFL, etc.

#### 5) Evidence of Success:

The implementation of SDCC has resulted in:

**Increased Placements:** Over 75% of students have benefited from SDCC, leading to a rise in placements in the last five years.

**Event Participation:** Students have developed leadership and soft skills through participation in various co-curricular and extracurricular activities.

**Workplace Recognition:** Many alumni have received best employee awards at their workplaces, reflecting the effectiveness of SDCC.

**Higher Education and Government Jobs:** Students have secured admissions in renowned institutes and jobs in government sectors due to the guidance provided by SDCC.

#### 6) Problems encountered and resources required:

The implementation of SDCC faces challenges such as:

**Low Student Exposure:** Students from rural areas often lack exposure to soft skills development. The institute dedicates time slots to train these students during weekdays and weekends.

**Trainer Availability:** Due to the institute's location, finding full-time professional trainers is difficult.

Hence, institute teachers train the students based on their expertise and student requirements.

### 7) Notes:

SDCC at NBNSCOE has been successful in providing multidimensional training to students. It offers guidance, counselling, and training based on students' interests, helping them achieve their goals. Despite regional disadvantages, this initiative has led to overall student development. The extra efforts by coordinators and trainers, through various clubs and cells, have boosted students' confidence. Professional counsellors also assist students in identifying their expectations and challenges. This model is recommended for institutions in tier II cities.

File Description	Document
Best practices as hosted on the Institutional website	<a href="#">View Document</a>
Any other relevant information	<a href="#">View Document</a>

## 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:

In accordance with its vision and mission, NBNSCOE has taken unique initiative by establishing 'Centre for Research and Technology Development (CRTD)', at the institute under the able guidance of former Vice Chancellor and Emeritus Scientist Prof. Dr. S. H. Pawar. This centre is monitoring the research and technical activities in the institute by constituting various committees, where the students and the staff of the institute are also involved in these committees and such activities. CRTD has outlined various areas as Energy, Environment, Health Science, Atmospheric Nano-science, Water resource management and Cloud Physics with thrust on Nano-science engineering and Material Science to address the most challenging societal problems that have been highlighted by policy makers at the national level.

This initiation has helped the institute for a research attitude among staff and students. This has helped for developing outstanding research talents capable of understanding and exploring the development of innovative technologies for rural development. Scientists and engineers involved in these research areas work together alongwith the staff, students of NBNSCOE and partner organizations to find answers to society's most challenging problems.

#### Research activities initiated by institute

1) To fetch the research grant from Government organization, CRTD had applied for the funding to the Department of Science and Technology (DST). Institute has received a research grant of 33.30 Lac from

DST, for the project titled 'A novel approach developing silver iodide embedded silica aerogels seeding material for cloud seeding application (SIESA)'. This project has been successfully completed and the report is also submitted to DST.

2) A unique scheme named 'UG Research Scholar' is also initiated for undergraduate students of this institute to do research on frontier technology with a multidisciplinary approach which provides a golden opportunity to become a "Young Researcher". CRTD focuses on thrust areas such as:

1. Alternatives to Li-Ion Batteries
2. Modifying Electric Cookers/pan to suit Indian cooking method
3. Green hydrogen for mobility
4. Carbon capture
5. Solar thermal energy
6. Solid state refrigerator
7. Nanotechnology for EV battery
8. Turboelectric generator
9. Super capacitor with silk fibroin

The student groups are finalized as per their area of interest and mentors are assigned to each group for smooth work. Total 60 students from the institute are selected as research scholars based on their performance in the selection process.

3) The team of students and staff members of NBNSCOE has designed, developed, and deployed a project on 'Organic Farming' on the farm of Mr. Mahesh More in the nearby village named 'Kondi'. In this project, the complete cycle of lifting the water from the well, storing it in a tank, then steering of 'Jivamrut', collecting this Jivamrut in a filter tank and then providing this organic fertilizing based water to crop by drip irrigation, through completely automated process was done by our research team. Padmbushan Dr. Vijay Bhatkar (Initiator of Indian Super Computer 'Param') has also visited this project and appreciated the work done by our team. This project has received the grant of Rs. 50,000/- from Agriculture Technology Management Agency (ATMA) of Solapur and Institute has also contributed the same amount for establishment of this entire project.

#### **Other Initiatives of CRTD:**

- CRTD has planned International conference on 'Silk Fibroin and Sericulture Resources -A Multi Mega Event with Emerging Trends' for researchers
- As a government initiative to provide global opportunities for SC community & make them employable, CRTD has submitted proposal on "Science Technology and Innovation in North Solapur and Mohol Block, Solapur District Maharashtra state of Rs. 3.2 Cr to the Department of Science & Technology (DST) under STI Hub.
- Also submitted proposal of 51 Lac to Biotechnology Industry Research Assistance Council (BIRAC) in collaboration with industry on 'Formulation of JasadBhasma based Phototherapeutic Ayurvedic Drugs for SARS Disease'.
- Faculty members are encouraged to participate and conduct different research activities, Research grants, Consultancy, technical book publications, and presentation of research papers at national and international conferences for knowledge sharing.
- To make awareness about research publications a conference is conducted for undergraduate students as UGCON-2023.

- CRTD has signed MoUs with 1) School of physical science, Punyashlok Ahilyadevi Holkar Solapur University Solapur and 2) Vishwachaitanya Ayurvedic Rasshala Baramati Dist. Pune.
- A Book is published on “Silk Fibroin: Advances in Applications and Research”, Nova Publishers, USA.
- A Book on “NanoScience” is published by Nova Publishers, USA
- A Book “Nanotechnology Applications in Medicinal Plants and Their Bio Nanocomposites: A New Perspective in Ayurveda”, submitted to Cambridge Scholars Publishing, UK.
- Institute has also submitted six research proposals to Government of India's SERB – SURE scheme worth Rs. 1.5 Crore

**Unique Initiative of NBNSCOE:**

Being a drought prone area in Solapur district (average rainfall in the region is 400 mm), receives less precipitation which is ill-spread and precarious in nature. Indian Institute of Tropical Meteorology (IITM) Pune, Government of India’s initiative under Ministry of Earth Science has signed MoU with NBNSCOE to establish the research facility in the institute’s premises for the Cloud Seeding Experiment. This entire project is named as ‘Cloud Aerosol Interaction and Precipitation Enhancement Experiment’ (CAIPEEX). The students and the staff members are supporting and experimenting with IITM for doing their project. Two engineering scientist students working in IITM have completed their PG from the institute. Number of projects at UG level is also being guided by scientists of IITM and students are allowed to use their newly established research lab on campus equipped with C-Band Radar, Rain-Guages, wind profiler, sensor based balloons, etc. and high end atmospheric research based software. In the recently published report of IITM they have mentioned contribution of NBNSCOE in their project.

Along with above initiatives, institute also supports the staff and students for attending STTPs, FDPs, Workshops, Conferences and Project Competitions. Financial support is also provided for these activities. Therefore, institute could have 104 journal publications, 72 conference articles, 16 books and book chapters, 13 copyrights, 13 IPRs and could fetch the research funding of 36.94 Lac during last five years. Also students of this institute could be the winners at national level completions such as SIH, Avishkar, Ideathon, Skillathon, etc.

File Description	Document
Appropriate web in the Institutional website	<a href="#">View Document</a>
Any other relevant information	<a href="#">View Document</a>

## 5. CONCLUSION

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### **Additional Information :**

There are five undergraduate programmes and one postgraduate programme running at NBNSCOE which is affiliated to Punyashlok Ahilyadevi Holkar Solapur University Solapur (PAHSUS). Institute is bound to follow curriculum of PAHSUS where well experienced and qualified staff of NBNSCOE serve at different statutory bodies and councils of the university in various positions. Due to this, it has become easier to adopt the initiative of NEP 2020, as teachers have contributed in the framing and finalizing of syllabus and required facilities are made available at the campus.

Infrastructural facilities of the institute are also made available for the society. Various sports events of national/state level are organized in the campus by external organizations including police, revenue department and sports authorities, due to availability of good sports infrastructure along with safe and secured residential facility for boys and girls. Institute also has its own transport facility.

NBNSCOE also helps PAHSUS in arranging various events such as Youth Festival, Sports Meet and also extends its support in all kind of examination related activities by establishing online examination scanning centre, CAP centre, etc., due to secure infrastructure at the institute and supportive human resource. Also due to well-maintained ICT infrastructure, all kind of online examinations of government/semi-government organizations such as GATE, MH-CET, JEE, NEET, NET, IBPS, etc., are conducted at the institute.

Indian Institute of Tropical Meteorology (IITM), an initiative of Ministry of Earth Science, Government of India, has established its unique research facility at the institute for doing research on Cloud Seeding and Artificial Raining. The staff and students also have contributed to IITM for their research and infrastructural development. This is the unique kind of lab in India. Institute has also RTO authorized 'auto meter testing lab' established for the testing of meters of auto-rickshaw and taxi.

Every year institute is organizing pre-CET crash course for students of poor socio-economic background, with very minimal fees. All kind of guidance, tutoring, learning material and examination support is provided. This has helped all students to get the admissions at the institutes of repute and even many students have been admitted to NBNSCOE itself.

### **Concluding Remarks :**

NBNSCOE ensures quality education and holistic development of all students, since its inception in 2010. Though located at semi-urban area, institute has done remarkable progress in last thirteen years. It has created own identity through continuous efforts of dedicated team of teaching/non-teaching staff. Lush green campus spread over 90 acres of land and well-maintained infrastructure provides all kind of facilities and good ambience for students and staff of institute.

Apart from the curriculum laid down by its affiliating university (PAHSUS), institute has taken its initiatives for bridging gaps between academia and industry. Institute obtains feedback and suggestions from various stake holders for continuous growth of institute. Well defined academic calendar helps effective implementation of co-curricular/extra-curricular activities along with academics. VAPs/Training programs are arranged for students based on cutting edge technology and making students employable.

CRTD has promoted research culture among staff and students, which has resulted in improved publications, research funding and number of PhD holders. Institute's 'Teacher Guardian' scheme is well appreciated by all stake holders and resulted in making bonding between students and staff to resolve their personal/family/academic problems. Student Development and Career Counseling Cell (SDCC) along with Problem Based Learning (PBL) approach is making students' progression at par.

Due to its continuous efforts institute has received 'A' grade (CGPA-3.12) from NAAC in very first cycle. It has received 'A++' grade by AAA of PAHSUS in 2023. Also due to techno-social initiatives and innovative activities of the IIC, institute has received star rating by Innovation Cell, which is an initiative of AICTE and MoE, GoI. NBNSCOE has also received recognition by 'Atal Ranking of Institutions on Innovation Achievement'. PAHSUS has awarded institute with two prestigious awards as 'Best Principal' and 'Best College' in 2023. IQAC at institute ensures promotion of quality culture in all the curricular, co-curricular, extra-curricular and administrative activities.

Thus, well defined policies and procedures for staff and students, environmental initiatives, social connect and value-based approach has made NBNSCOE to be known in society. Institute is rapidly progressing in every aspect to fulfil expectations of all stake holders and to be recognized at national level.