SELF STUDY REPORT

FOR

1st CYCLE OF ACCREDITATION

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

GAT. NO. 38/1/B, SINHGAD INSTITUTES, KEGAON, SOLAPUR-PUNE
NATIONAL HIGHWAY
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Submitted To

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BANGALORE

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

Sinhgad Institutes', Savitribai Phule Shishkan Prasarak Mandal's (SPSPM), N B Navale Sinhgad College of Engineering (NBNSCOE) Kegaon-Solapur is one of the growing engineering institutes. It is established in 2010 under able leadership of Prof. M. N. Navale, aiming to provide quality education in rural region. 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. NBNSCOE is approved by AICTE and DTE-Maharashtra. It is affiliated to Solapur University, Solapur (SUS). Insitute runs five Undergraduate and four Post-graduate programs.

NBNSCOE ensures vision of overall development of students through well defined teaching-learning process and life-skill activities. 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 can resolve their doubts, if any.

At NBNSCOE, team of dedicated and highly experienced teachers committed to produce tomorrow's technocrats and leaders. Students learn through value and project based education. Competitive environment is developed in institute to motivate students for participating in different events at University, State and National level. 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.

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

- Lush green campus with adequate infrastructure
- Sufficient physical and academic facilities
- Well connected and secured atmosphere for students and staff
- Allocation of Duties and Responsibilities through well defined organizational chart
- Well defined teaching learning process for betterment of students
- Special mentoring through TG- scheme for personal attention and to keep track of students' progress.
- Transparent mechanism for empowerment of students coming from diversified areas of socio-economic status
- Motivation to students for experiential and participative learning, through exposure of field training and group activities
- MoUs with 15 reputed industries and research organizations
- Entrepreneurship Development Cell for motivating the students to be self employed
- Promoting students to participate in the co-curricular and extra-curricular activities of national importance
- Implementation of Project Based Learning Environment, by promoting students for innovative thinking and interdisciplinary projects
- Branch specific Value Addition Programs to meet the current needs of the industries
- Center for Research and Technology Development
- Training and Placement Cell to facilitates the students through life skill trainings and placement opportunities
- Cell for Higher studies and Career counseling
- Student Welfare Cell for guiding students
- Alumni Cell to keep track of alumni
- Exposure for students to undergo summer internship at European Universities
- Empowerment of girl students by giving them equal opportunities in every activity
- Promoting students to participate in Techno-social activities
- Motivation for staff members to acquire higher qualifications and to participate in workshops / conferences

Institutional Weakness

- Difficulty in fulfilling the higher cadre ratio of teachers due to scarcity of Ph. D. holders
- Students intake from poor socio-economic background
- Limited scope for research and consultancy activities
- Limited opportunities for student placements, due to undeveloped industrial area, in the nearby region
- Limited scope for altering University curriculum

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 start the research centers in each branch of engineering
- To get the status as the autonomous institute
- To be recognized at the state and national level
- To sign MoUs with more industries/ research organizations to facilitate the students and the teachers

- To start certificate based programs
- 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
- To fulfill 100 % admissions, as limited number of admission seekers are available under home university
- Due to grave financial problems some of the students are unable to concentrate on their studies and to put in their full-fledged efforts

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

NBNSCOE is affiliated to Solapur University, Solapur (SUS) and follows its curriculum, which is revised after every four years. NBNSCOE has good strength of senior teachers, who actively participate in the process of curriculum revision at different capacities, designated by University authorities. Recently SUS has adopted CBCS pattern to give more choice for students to opt different elective subjects. Thus institute has also motivated students to choose the courses, based on different cross-cutting issues. Institute has adequate resources to guide students, in this regard and adheres to the guidelines of SUS for delivery of this curriculum.

Institute plans its academic calendar for every semester, in line with SUS schedule. This calendar includes date-wise and activity-wise details to ensure the effective delivery of curriculum. Institute has structured mechanism to take online students feedback twice in a semester, about every subject teacher. Also the review for completion of syllabus is taken thrice in a semester, to ensure the timely execution of curriculum.

Institute also continuously takes the feedback from student, teachers, alumni, employers and parents, about the contents of the SUS curriculum. This helps to identify the gap between the industry requirement and the academic curriculum. Thus based on the current requirement, thrust areas are identified. Accordingly, institute plans to train the students on these different trends, through well planned Value-Additions Programs (VAP). Students are also motivated to learn by doing, where they undergo different field projects and industry internships, before they formulate any of the problem statement for their projects.

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. Every year, induction programs are conducted for these newly admitted students.

The vision and mission statements of NBNSCOE focus on experiential and participative learning. For this purpose, institute has incorporated Project Based Learning (PBL) model in it's teaching-learning process. The

activities carried out under this model are part of regular academic schedule and are given due importance in Continuous Internal Evaluation (CIE). Institute adheres to the CIE norms prescribed by itself in-line with SUS guidelines. Periodic reforms in this transparent CIE system are carried out at institutional level. Due care is taken while preparing academic calendar to ensure effective conduct of CIE. Well tailored VAPs and sessions of industry experts and entrepreneurs are arranged for students. This helps to bridge the gap between curriculum and ever growing demands of industry.

Teaching-Learning process at the institute helps students and teachers to acquire skills that empower them. The learning environment motivates active engagement of students in the development of personal skills and competencies. Considering the advancements in technology and need of implementing innovative teaching practices, teachers are encouraged to attend different training programs which add more value to their technical expertise and teaching methodologies.

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

Research, Innovations and Extension

In-line with the vision of NBNSCOE to develop research culture in the institute, it has established a Center for Research and Technology Development (CRTD). This center guides/motivates teachers and students to carry out research for societal interest. It also helps teachers to generate the fund through consultancy and research activities. In collaboration with CRTD and BARC Mumbai, institute has organized a multi-mega event in February-2017. Eminent scientists, researchers and academicians have contributed/exhibited their research outcomes, in this event. Participants including students, academicians, medical practitioners and farmers have got benefited. This event was funded by BRNS Mumbai and DST, Government of India (GoI). Even, institute has also submitted its proposal to establish 'Atal Incubation Center' in-line with GoI, initiative.

To facilitate research activities and provide access to high end resources NBNSCOE has signed MoU with 15 organizations. It helps students for field-trips and on sight trainings. Students formulate their project statement according to current need. One of the prestigious MoU is signed with Indian Institute of Tropical Meteorology (IITM), for the establishment of 'Cloud Aerosol Interaction and Precipitation Enhancement Experiment' (CAIPEEX) facility, in the institute.

To extend our initiatives, institute provides financial assistance and academic flexibility to teachers for mobilizing research related resources. It also helps teachers and students to participate in renowned conferences and workshops. Institute also organizes the programs/ sessions to motivate students and teachers towards research. Students undergo summer internships at European Universities through UG-fellowships. Institute also promotes culture among students to participate in Techno-social activities, through NSS/YIN.

Infrastructure and Learning Resources

To ensure conducive teaching-learning environment in the institute, NBNSCOE has adequate infrastructure in terms of academic and physical facilities. Department-wise separate buildings are allocated for different branches of Engineering. It has spacious and ample number of class-rooms, laboratories, tutorial-rooms, computing-center, workshops and seminar-halls. Institute has sufficient number of computers, even more than

AICTE norms. The entire campus is connected with secured 50 Mbps internet, through LAN and Wi-fi.

Institute has centralized library with separate reading hall and sufficient number of books having variety of titles. Central Library is available round the clock. Library also has online accession system OPAC, Printed/e-journals, E-books/NPTEL material and manuscripts to enrich learning experience of teachers and students.

Institute provides all kinds of sports facilities for indoor and outdoor games. Separate grounds are available for each sport, with athletic track. Well equipped gymnasium, recreation and Yoga halls, are also available for students and staff. Separate space for cultural activities is provided with stage and required amenities.

Physical and supporting facilities such as transport vehicles, central store, ATM, laundry and residential quarter for teaching and non-teaching staff are available in the campus. Institute is having uninterrupted electrical power supply received through express feeder and also DG set having backup capacity of 125 KVA has been installed. Institute has Sewage Treatment Plant (STP) for the treatment of liquid waste and this treated water is reused for the gardening purpose. There is separate section, which takes care of maintenance of movable and immovable things in the premises.

Student Support and Progression

NBNSCOE is thriving to an inclusive and embedding approaches within institute. Student's progress is ensured through their participation and involvement in all the activities. Various committees exist to facilitate process and mechanisms for smoothening of admission, examination, result improvement, student affairs/grievances, training and employability. Strong student support mechanism goes beyond formal ways to support emotional development and psychological needs through TG scheme. It continuously monitors progress of students and helps in counseling them.

Every department conducts regular review of all aspects of students' academic performance throughout the semester. Extra coaching for slow learners is provided through remedial classes. Along with academic progress, students are supported to develop other aspects of personality with active engagement in co-curricular/extra-curricular activities. Vocational training and VAP's are offered to ensure professional adequacy among the students.

Regular feedbacks are collected from the students and parents with respect to academics and working culture of the institute and students grievances are resolved on priority basis. Students are informed and benefited through government social/insurance schemes and different scholarships.

Guidance for career counseling, competitive examinations and extra coaching for GATE is provided through Higher Studies and Career Counseling (HSCC) cell. Dedicated training & placement cell coordinates with prospective employers and arranges for on-campus interviews. Required Soft-skill/aptitude training is provided to students for enhancing their placement opportunities. Institute has active student council which helps to coordinate all students' related activities. A dedicated alumni cell ensures strong bonding with alumni and contributes for student support and progression.

Governance, Leadership and Management

Governing body is highest apex body in institutional hierarchy, followed by Local Management Committee

(LMC). Both are headed by Hon. Chairman of SPSPM and Principal is the member Secretary. Senior teachers and non-teaching staff have their representation in LMC. Campus is headed by the Director, who guides and supports for all activities happening at campus level. The management of institute extends their full support in accomplishment of institute's vision and mission. Accordingly strategy for the achievement of institutional objectives, short-term and long-term goals is decided and institute plans its activities, in-line with this strategy.

Principal is head of the institute, who has decentralized his authorities through five Deans, six HoDs and a Registrar. Different coordinators are appointed for the smooth conduction of all activities. Weekly meetings of all these office-bearers are conducted, to monitor an execution of planned activities.

The institute has adequate budgetary provisions for academic activities and its mobilization is monitored by the institute to ensure optimum utilization. Regular audits are carried out in this regard. Institute has well defined strategies for staff recruitment and promotion. Improvement in the qualification is appropriately appreciated through internal up-gradation. Performance of every staff is reviewed through appraisal process. In addition to this, staffs are encouraged to participate in workshops/conferences/development programs.

To assure the overall quality, institute has recently established IQAC. It reviews entire teaching-learning process, structures & methodologies of operation and learning outcomes of the institute, at periodic intervals. Suggestions of IQAC are incorporated while defining strategy of the institute.

Institutional Values and Best Practices

Premises of NBNSCOE, provides safe and secured environment. Institute shows gender sensitivity by providing separate facilities for boys and girls as; common rooms and hostels. Internal complaint committee (ICC) is formulated to resolve problems of female staff and students. If required, students counseling is done through TG.

Institute executes many environment-friendly policies which includes plantation, waste management, water harvesting and renewable energy sources. Institute has STP for recycling of liquid waste. Also, the use of e-resources for the academic-administrative purpose as ERP software (GEMS), pinnacle of bulk SMS and MOODLE server have shown our commitment for green environment. Institute has also provided separate facilities for Divyangjan students.

Being located at the outskirts of Solapur, NBNSCOE has taken certain techno-social initiatives such as Cyber-Crime and Road-Safety Awareness. Students and staff also participates in the camps and rallies for the social awareness organized through NSS/YIN such as; save electricity, save girl, save environment, clean India, etc.

To inculcate ethical and moral values among the students, institute regularly conducts expert sessions and workshops along with celebration of national festivals. Students are also motivated to opt for elective subject prescribed in the SUS curriculum. Institute has well defined code of conduct and core values defined for staff and students, which are available on website.

Institute maintains the complete transparency in its overall functioning, through defined set of rules. Institute follows certain best practices such as TG at Home, PBL, SDP, online feedback, CIE Norms, etc. Institute has established CRTD to inculcate research culture.

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, Kegaon, Solapur-Pune National Highway
City	SOLAPUR
State	Maharashtra
Pin	413255
Website	www.sinhgadsolapur.org

Contacts for Communication					
Designation	**Name**	**Telephone with STD Code**	**Mobile**	**Fax**	**Email**
Principal	Shankar Dattatray Nawale	0217-2500610	8380025635	0217-2500611	principal.nbnscoe @gmail.com
IQAC Coordinator	Shashikant Shivaputra Hippargi	-	8788634831	-	hippargi.shashikant 20@gmail.com

Status of the Institution	
Institution Status	Private

Type of Institution	
By Gender	Co-education
By Shift	Regular

Recognized Minority institution	
If it is a recognized minroity institution	No

Establishment Details

Date of establishment of the college	01-07-2010

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

State	University name	Document
Maharashtra	Solapur University	View Document

Details of UGC recognition

Under Section	Date
2f of UGC	
12B of UGC	

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

Statutory Regulatory Authority	Recognition/Approval details Institution/Department programme	Day,Month and year(dd-mm-yyyy)	Validity in months	Remarks
AICTE	View Document	01-07-2017	12	Validity mentioned in the months is for current Academic Year

Details of autonomy

Does the affiliating university Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges?	No

Recognitions

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

Location and Area of Campus				
Campus Type	**Address**	**Location***	**Campus Area in Acres**	**Built up Area in sq.mts.**
Main campus area	Gat. No. 38/1/B, Sinhgad Institutes, Kegaon, Solapur-Pune National Highway	Urban	90	29414

2.2 ACADEMIC INFORMATION

Details of Programmes Offered by the College (Give Data for Current Academic year)						
Programme Level	Name of Programme/Course	Duration in Months	Entry Qualification	Medium of Instruction	Sanctioned Strength	No.of Students Admitted
UG	BE,Civil Engineering	48	HSC		60	47
UG	BE,Computer Science Engineering	48	HSC		60	60
UG	BE,Electronics And Telecommunication Engineering	48	HSC		120	37
UG	BE,Electrical Engineering	48	HSC		60	22
UG	BE,Mechanical Engineering	48	HSC		180	54
PG	ME,Civil Engineering	24	BE		24	20
PG	ME,Computer Science Engineering	24	BE		24	8
PG	ME,Electronics And Telecommunication Engineering	24	BE		24	16
PG	ME,Mechanical Engineering	24	BE		24	3

Position Details of Faculty & Staff in the College

Teaching Faculty											
	Professor				Associate Professor				Assistant Professor			
	Male	Female	Others	Total	Male	Female	Others	Total	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				16				32				96
Recruited	4	0	0	4	9	3	0	12	80	16	0	96
Yet to Recruit				12				20				0
Sanctioned by the Management/Society or Other Authorized Bodies				16				32				96
Recruited	4	0	0	4	9	3	0	12	80	16	0	96
Yet to Recruit				12				20				0

Non-Teaching Staff				
	Male	**Female**	**Others**	**Total**
Sanctioned by the UGC /University State Government				115
Recruited	107	8	0	115
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				115
Recruited	107	8	0	115
Yet to Recruit				0

Technical Staff				
	Male	**Female**	**Others**	**Total**
Sanctioned by the UGC /University State Government				31
Recruited	30	1	0	31
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				31
Recruited	30	1	0	31
Yet to Recruit				0

Qualification Details of the Teaching Staff

Permanent Teachers										
Highest Qualification	**Professor**			**Associate Professor**			**Assistant Professor**			
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	4	0	0	3	2	0	0	0	0	9
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	6	1	0	81	15	0	103

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

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

Details of Visting/Guest Faculties				
Number of Visiting/Guest Faculty engaged with the college?	**Male**	**Female**	**Others**	**Total**
	18	4	0	22

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
PG	Male	20	0	0	0	20
	Female	27	0	0	0	27
	Others	0	0	0	0	0
UG	Male	1396	0	0	0	1396
	Female	642	1	0	0	643
	Others	0	0	0	0	0

Provide the Following Details of Students admitted to the College During the last four Academic Years					
Programme		**Year 1**	**Year 2**	**Year 3**	**Year 4**
SC	Male	131	127	132	118
	Female	91	78	70	65
	Others	0	0	0	0
ST	Male	1	1	3	2
	Female	1	1	1	0
	Others	0	0	0	0
OBC	Male	251	231	223	210
	Female	115	110	89	84
	Others	0	0	0	0
General	Male	661	574	487	453
	Female	334	334	303	275
	Others	0	0	0	0
Others	Male	402	372	355	272
	Female	194	200	203	142
	Others	0	0	0	0
Total		2181	2028	1866	1621

3. Extended Profile

3.1 Programme

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

Response : 1030

Number of self-financed Programmes offered by college

Response : 9

Number of new programmes introduced in the college during the last five years

Response :

3.2 Student

Number of students year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
2181	2028	1866	1621	1111

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

2016-17	2015-16	2014-15	2013-14	2012-13
1614	1506	1398	1266	840

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

2016-17	2015-16	2014-15	2013-14	2012-13
601	493	329	243	1

Total number of outgoing / final year students

Response : 585

3.3 Academic

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Number of teachers year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
124	103	103	96	93

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

2016-17	2015-16	2014-15	2013-14	2012-13
124	103	103	96	93

Number of sanctioned posts year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
180	160	132	96	93

Total experience of full-time teachers

Response : 1549

Number of teachers recognized as guides during the last five years

Response : 19

Number of full time teachers worked in the institution during the last 5 years

Response : 162

3.4 Institution

Total number of classrooms and seminar halls

Response : 30

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

2016-17	2015-16	2014-15	2013-14	2012-13
676.42646	763.87671	805.35050	744.90784	623.82095

Number of computers

Response : 535

Unit cost of education including the salary component(INR in Lakhs)

Response : 0.8

Unit cost of education excluding the salary component(INR in Lakhs)

Response : 0.31

4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curricular Planning and Implementation

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

Response:

Institute inculcates unique and transparent practice for effective delivery of curriculum as stated below:

- **Activities before commencement of semester:**
    - Institute practices allocating work-load for next semester at end of current semester based on expertise and choice of teacher
    - Orientation / Induction / peer team discussion is carried out on subject matter
    - Teachers prepare unit-wise subject notes according to curriculum of Solapur University, Solapur (SUS)
    - Academic calendar of semester is prepared, in-line with schedule of SUS and communicated to students and teachers well in advance. According to academic calendar, departments prepare their activity plans and time-tables
    - All teachers prepare course files according to defined framework, which includes:
        - Academic calendar
        - Class & personal time tables
        - Syllabus, course objectives, outcomes & list of books
        - Teaching plan
        - Subject notes and e-contents
        - University's previous examination question papers & model solutions
        - Unit-wise question bank (subjective/objective)
        - Assignments
        - Previous three years results
        - Monthly attendance
        - In-semester Examination (ISE) / unit test and preliminary examination question papers with answer key, students attendance, result analysis and sample answer-sheets
        - Remedial classes records
        - Internal Continuous Assessment (ICA) / term-work marks
        - Copy of student's feedback
    - Academic Monitoring Committee (AMC) / Internal Quality Assurance Cell (IQAC) assess the course files of teachers and suggest necessary corrections, if required
    - Readiness of classrooms and laboratories is ensured for effective transaction of curriculum
- **Activities during the semester:**
    - 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
    - Theory and Practical sessions commence according to time table and teaching plan

- Teacher Guardian (TG) / Mentor-mentee meetings are conducted fortnightly
- Review of student's attendance is taken at the end of every month and defaulters' list of students along with their attendance is displayed on the notice board and the same is communicated to the parents through SMS and letters
- The review of syllabus is taken thrice in a semester and extra lectures are arranged, if required
- Online student's feedback of teaching is taken twice in a semester and corrective actions are initiated accordingly
- ISE is conducted twice in the semester. The results of ISE are analyzed and communicated to the students and parents. Remedial classes / retests are conducted for weaker students / slow learners
- Parent meet is conducted once in a semester for the communication of student's progress and to take academic feedback
- Continuous Assessment (CA) is conducted throughout the semester
- **Activities at end of the semester:**
  - Preliminary exam and mock Practical / Oral Exam (POE) are conducted before university examinations
  - Final ISE / ICA marks are notified to students and submitted to SUS
  - Outcomes of the semester activities are analyzed and corrective actions are suggested for the next semester

File Description	Document
Link for Additional Information	[View Document](#)

1.1.2 Number of certificate/diploma program introduced during the last five years

Response: 12

1.1.2.1 Number of certificate/diploma programs introduced year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
8	2	1	1	0

File Description	Document
Details of the certificate/Diploma programs	[View Document](#)

1.1.3 Percentage of participation of full time teachers in various bodies of the Universities/ Autonomous Colleges/ Other Colleges, such as BoS and Academic Council during the last five years

Response: 4.07

1.1.3.1 Number of teachers participating in various bodies of the Institution, such as BoS and Academic Council year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
9	4	4	2	3

File Description	Document
Any additional information	[View Document]
Details of participation of teachers in various bodies	[View Document]

1.2 Academic Flexibility

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

Response: 9.71

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

Response: 100

File Description	Document
Details of the new courses introduced	[View Document]

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

Response: 100

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

Response: 9

File Description	Document
Name of the programs in which CBCS is implemented	[View Document]

1.2.3 Average percentage of students enrolled in subject related Certificate/ Diploma programs/Add-on programs as against the total number of students during the last five years

Response: 12.62

1.2.3.1 Number of students enrolled in subject related Certificate or Diploma or Add-on programs year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
720	303	208	65	0

File Description	Document
Details of the students enrolled in Subjects related to certificate/Diploma/Add-on programs	[View Document](#)

1.3 Curriculum Enrichment

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

Response:

In order to draw attention of engineering graduates towards different cross cutting issues, SUS has introduced courses such as Professional Ethics and Human Values, Environmental Sciences, Introduction to Sociology, in its existing curriculum. In the curriculum it is mandatory for BE Mechanical Engineering students to perform 20% case studies on Women entrepreneurship.

Although SUS curriculum addresses these relevant issues in limited manner, institute has taken different initiatives to prepare the awareness among staff and students. Accordingly programs are defined and executed through co-curricular or extra-curricular activities.

Gender related initiatives:

Institute has identified issues like gender inequality, sexual harassment, child foeticide and child abuse and have arranged awareness rallies such as 'Save Girl', 'Child sexual abuse' etc. To address gender inequality, institute practices to provide equal opportunities to girls in various committees as coordinators/volunteers/participants, such as:

1. Internal Complaint Committee (ICC): As per the act of 2013, 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.
2. Student Council: Institute forms its student council in every academic year as per the guidelines of SUS, which includes two Ladies Representatives (LRs) as the members. Also it includes the scholarly girl student of every class to be elected as Class Representative (CR).
3. IQAC: Scholarly girl student of the institute is given an opportunity to be the member of IQAC.
4. NSS (National Service Scheme) : To make girl students to be socially active and responsible, they are encouraged to participate in NSS activities
5. YIN (Young Inspirators Network): It is an initiative taken by SAKAL media group where a girl

student was given an opportunity to lead group of students at institute level.

6. Technical Projects and activities: Institute promotes mix gender groups in all forms of project and technical activities.

7. Anti-Ragging Committee: As per the norms, 30% girl students are the mandatory part of this committee. The role of this committee is to avoid the ragging in the institute premises.

8. Hostel and Mess Committee: For the students residing in Hostel and availing Mess facility, this committee is formed to check the quality of the food and 50% girls students are the part of this committee.

9. Students Association: Every department has their Student Association (SA) where all the girls are given equal opportunity to be working in the different committees.

10. Sports and Cultural Events: Indoor/Outdoor Sport events are separately organized for the girl students. In cultural events girls equally participates along with boys. Our girl students have shown excellent representation at University, State and National level events and own the awards and prizes.

Along with these initiatives Institute organizes health related programs like Self defense training camp, Yoga day for girl and motivational audio-visuals for the girl students. Institute also arranges free Health check up camp for girls though NSS activity on the occasion of Women's day and the special lectures are arranged for girls to make them aware about Health issues.

Environmental and sustainability related initiatives:

Environmental Study is a common course for all second year students as per the SUS curriculum. In this course issues related to environmental protection and conservation are identified and discussed. Along with this course, institute takes efforts for participation of students in the campaign such as such as Save Environment, Save Electricity and Save Water. Students also participate in the Tree plantation through NSS activities. Institute has a vision to develop this as green campus and therefore following initiatives are taken:

- Sewage treatment plant
- Rain water harvesting
- Tree plantation
- Solid and liquid waste handling
- Drip irrigation
- Solar water heaters
- LED lamps

Human Values and Professional Ethics related initiatives:

The self learning subject of 'Humanity and Social Sciences' (HSS) is the common course for all the branches of Engineering at fifth semester as per SUS curriculum which has five electives.

Understanding the need of inculcating human values and professional ethics among engineering graduates, they are encouraged to opt for 'Professional Ethics & Human Values'.

In line with this curriculum, institute regularly conducts the events on 'Eid-E-Milan', 'Swami Vivekananda Jayanti', 'Constitution Day', 'Music Therapy', 'Financial Management', 'Meditation and Art of Living'. Students also participate in blood donation camp, traffic rule awareness program, cyber

crime awareness program, to improve their social responsibility. Till now more than 10000 school and graduate students of the nearby region are benefited through these kinds of activities.

File Description	Document
Any Additional Inormation	View Document
Link for Additional Information	View Document

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

Response: 27

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

Response: 27

File Description	Document
Details of the value-added courses imparting transferable and life skills	View Document
Any additional information	View Document

1.3.3 Percentage of students undertaking field projects / internships

Response: 31.78

1.3.3.1 Number of students undertaking field projects or internships

Response: 663

File Description	Document
Institutional data in prescribed format	View Document
List of students enrolled	View Document

1.4 Feedback System

1.4.1 Structured feedback on curriculum obtained from 1) Students 2) Teachers 3) Employers 4) Alumni 5) Parents For design and review of syllabus semester wise/ year wise
A.Any 4 of the above

B.Any 3 of the above

C. Any 2 of the above

D. Any 1 of the above

Response: A.Any 4 of the above

File Description	Document
URL for stakeholder feedback report	View Document

1.4.2 Feedback processes of the institution may be classified as follows:
A. Feedback collected, analysed and action taken and feedback available on website

B. Feedback collected, analysed and action has been taken

C. Feedback collected and analysed

D. Feedback collected

Response: A. Feedback collected, analysed and action taken and feedback available on website

File Description	Document
URL for feedback report	View Document

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrolment and Profile

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

Response: 0.28

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

2016-17	2015-16	2014-15	2013-14	2012-13
1	6	6	5	5

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

2.1.2 Average Enrolment percentage (Average of last five years)

Response: 58.74

2.1.2.1 Number of students admitted year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
735	690	666	723	585

2.1.2.2 Number of sanctioned seats year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
1437	1392	1306	1119	756

File Description	Document
Institutional data in prescribed format	[View Document]

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

Response: 73.67

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

2016-17	2015-16	2014-15	2013-14	2012-13
1186	1120	1076	893	613

File Description	Document
Institutional data in prescribed format	[View Document](#)

2.2 Catering to Student Diversity

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

Response:

Students are admitted at First Year (FE) and Direct Second Year (DSE) through lateral entry, after qualifying 10+2 and Diploma examinations respectively. Initially, learning levels of students are identified on the basis of qualifying examination score.

Inputs are taken from parents regarding learning abilities of their wards by TG visiting their homes (TG at home), which is unique culture of the institute.

NBNSCOE has developed a mechanism of continuous evaluation of students under which performance of students in practical-sessions, classroom interactions, In-Semester Examinations (ISE) and End-Semester Examinations (ESE) is assessed on regular basis. Different third parties such as AMCAT and APPART are also involved in the assessment of students. Students are given opportunities to participate in different activities throughout the semester. TGs closely monitor the performance of their students and communicate to the concerned Class Coordinators (CCs).

Subject teachers, TGs and CCs discuss about overall performance of the students and then identify their learning levels either as advanced or slow learners. Accordingly class-wise measures are taken to enhance learning capabilities of students.

For Advanced Learners: The institute offers opportunities for scholar students to augment their talent and meet learning needs.

- For newly admitted students

- They are encouraged by TGs, CCs and HoD
- Special attention is given by all the teachers towards these students during practical and tutorial sessions

* Extra books are provided for their reference
* Additional assignments are given
* They are encouraged to refer NPTEL Videos, e-books and software modules
* The students and their parents are felicitated during parents meet, as a token of appreciation

* From higher classes, students are motivated:

* To undertake lab innovation, interdisciplinary and sponsored projects
* To participate in project competitions and various technical events
* To prepare and deliver presentations on recent technological developments
* To carry out research and publish their work
* To take-up NPTEL courses, spoken tutorials and online certifications
* To lead students' associations and organize different activities
* To prepare for Competitive exams, GATE and higher studies
* To undergo Value Addition Programs
* To interact with industry experts and faculties from renowned institutes
* Special training is conducted by Barclays in association with NASSCOM

Slow Learners: The institute takes due care of the students with lower learning capabilities and practices following activities:

* Special counseling of such students is done during TG meet and issues are discussed with parents separately.
* Regular review of class attendance & ISE performance is communicated to their parents by TGs.
* Subject wise counseling is done by respective teachers.
* If required, re-examination of ISE is conducted for students.
* Model solutions of ISE & ESE are provided to these students.
* Self learning sessions are arranged after college hours for FE students, which are monitored by subject teacher.
* Remedial classes and self learning sessions for higher classes are arranged beyond working schedule.
* Specially designed soft skill programs are arranged to boost their confidence.

2.2.2 Student - Full time teacher ratio

Response: 15.8

File Description	Document
Institutional data in prescribed format	[View Document](#)

2.2.3 Percentage of differently abled students (Divyangjan) on rolls

Response: 0.05

2.2.3.1 Number of differently abled students on rolls

Response: 1

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

2.3 Teaching- learning Process

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

Response:

Vision and mission statements of the institute focus on experiential and participative learning by incorporating PBL model in teaching-learning process. PBL activities are part of academic calendar. To effectively design and exercise student centric activities, teachers are motivated to undergo Short Term Training Programs, Faculty Development Programs, NPTEL and online courses. Teachers are empowered through workshops on PBL, effective teaching learning methodologies and are promoted to incorporate these practices in regular teaching.

Institute has formulated CIE norms which help students to earn additional marks for participation in PBL activities. Also students are promoted to undergo UG-fellowship for their internship at foreign universities, which improves self learning capabilities.

Detailed learning activities are described below:

Experiential Learning

- Students undergo in-plant training in industries and present case-studies.
- Industrial visits are arranged on regular basis.
- Final year students visit industries to find the problem statements for their project-work.
- Well tailored student enrichment programs under VAP are arranged by respective departments as per thirst of industry. These programs include training and hands-on sessions.
- Students conduct interviews of entrepreneurs to get the insights of entrepreneurial activities.

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 Programs, Workshops, Conferences, Technical festivals and project competitions.
- The list of the activities conducted at institute is :

Activities	Level
DISTA- Annual Technical Festival	National
TechnoSinh- Annual Technical Event	Institutional
Prayog- Annual Project Exhibition	Institutional
Student Development Program	University
Workshop on Nuclear Energy and Health Care	National
Science Exhibition	National
Talent Search	National
Exhibition on BARC Technologies	National
Workshop on Robotics	National

- Institute has organized National conferences on "Engineering the Materials for Technological Applications", and "Communication, Computation and Cyber Security".
- Some of competitions taken up by students outside institute are:

Competition	Level
IIT Techfest	International
Solar Vehicle Design & Racing Competition	International
Go-Kart Design & Racing Competition	National
Robocon	National
Smart India Hackathon	National
Project Exhibition & Technical Events	Local, National
Smart-City Projects	Local

- Students have attained appreciable positions in IIT Techfest, national level Go-kart racing competition, International Solar Vehicle: Design & Racing Competition. Also, numerous students have won prizes at different technical competitions and project exhibitions conducted by different institutes.
- Students are informed about such competitions through different advertisements, campaigns & discussions in TG meet. Further, institute facilitates students by offering round the clock facilities of workshop, laboratories, library & Wi-fi.

Problem Solving Methodologies

- Second and third year students undertake PBL, through lab innovations and mini-projects wherein student groups undertake design and development of small projects/prototypes based on their learning.
- Students are advised to work on real time problems by taking sponsored industrial projects and interdisciplinary projects.

* Final year students are advised to undertake survey for identifying societal problems that can be addressed through technology applications and innovations for their projects.

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

Response: 88.64

2.3.2.1 Number of teachers using ICT

Response: 117

File Description	Document
List of teachers (using ICT for teaching)	[View Document](#)
Provide link for webpage describing the " LMS/ Academic management system"	[View Document](#)

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

Response: 17.83

2.3.3.1 Number of mentors

Response: 117

File Description	Document
Year wise list of number of students, full time teachers and students to mentor ratio	[View Document](#)

2.3.4 Innovation and creativity in teaching-learning

Response:

Teachers are encouraged to attend FDPs and STTPs concerned with effective teaching learning methods conducted by reputed institutes. Institute also provides facilities required for taking online courses conducted by IITs and ISRO where students and teachers participate on their own. Inputs from Centre for Research & Technology Development (CRTD) and AMC/IQAC are incorporated in teaching-learning process on regular basis.

At NBNSCOE, teachers and students are encouraged to use ICT facilities for effective teaching-learning.

Institute is enabled with sufficient internet bandwidth of 50 Mbps and number of computers to cater the needs of student learning. Some teachers have been awarded and recognized by IIT Mumbai to act as local mentors to promote ICT based effective teaching learning methodologies in the local region.

Entire teaching-learning process at the institute helps students and teachers to acquire skills that empower them.

Institute has taken following initiatives as regular practices for students:

- Students participate in ICT based learning through online courses facilitated by NPTEL, ISRO, Spoken Tutorial, TATA Technologies Ltd, etc. Student groups undertake LCD presentations in classrooms on recent technological developments. Faculty members include videos, animations & case studies in their teaching by integrating the available audio-visual aids.
- FTP server is established to facilitate access to course material. MOODLE server is used to evaluate students' progress. Also Students uploads videos of assignments and project work on their blogs.

- Entrepreneurship Development Cell (EDC) arranges talks of inspiring entrepreneurs to make the students understand the need of innovations and creativity in learning. Students are made compulsory to prepare the case studies on different types of entrepreneurs such as male, female and social entrepreneurs. This helps them to understand the attributes of entrepreneurship.
- Student teams undertake lab-innovation projects every semester. This provides a platform to exercise their creative ideas through preparation of models & team work.
- Innovative technique of flip classroom is used in curriculum delivery, based on Think-Pair-Share methodology.
- To enhance the learning environment, institute has developed smart class rooms
- Teachers conduct technical quizzes at the end of every Unit and students actively participates in the same.
- Teachers design role-play based assignments to enhance learning of students.
- Technical debates, group discussions and brain storming sessions are arranged by Student associations through different competitions.
- Students give oral presentations to improve their General Proficiency.

- Innovative competitions are added in technical events.
- Creative projects are given financial support under "Krishna-Kamal" scholarship
- Students learn on their own by participating in national level project competitions such as Go-Kart, HACKATHON, RoboCon, Solar Vehicle, etc.

- Mind mapping technique is implemented to simplify learning.

TGs take care of the students' involvement and progress in all these activities and regular updates are communicated to parents.

2.4 Teacher Profile and Quality

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

Response: 82.26

File Description	Document
Year wise full time teachers and sanctioned posts for 5 years	View Document
Any additional information	View Document

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

Response: 6.21

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

2016-17	2015-16	2014-15	2013-14	2012-13
11	5	7	6	4

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

2.4.3 Teaching experience of full time teachers in number of years

Response: 11.73

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

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

Response: 6.38

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

2016-17	2015-16	2014-15	2013-14	2012-13
27	3	2	3	2

File Description	Document
Institutional data in prescribed format	[View Document](#)
Any additional information	[View Document](#)

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

Response: 6.56

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

2016-17	2015-16	2014-15	2013-14	2012-13
14	9	9	9	3

File Description	Document
List of full time teachers from other state and state from which qualifying degree was obtained	[View Document](#)
Any additional information	[View Document](#)

2.5 Evaluation Process and Reforms

2.5.1 Reforms in Continuous Internal Evaluation(CIE) system at the institutional level

Response:

As NBNSCOE is committed to develop an overall engineer, it has been following transparent and robust mechanism for carrying out Continuous Internal Evaluation (CIE) of students over the years. CIE system designed by institute accommodates guidelines of SUS and feedbacks from all stakeholders. The different inputs are discussed in AMC/IQAC meetings to bring reforms in CIE norms. It has developed two-tier system; one as per SUS and other as per PBL approach. The stages of CIE reforms since the inception of institute are as follows:

CIE norms till 2013-14 included performance of students in the following parameters:

- Attendance in theory and practical sessions
- Unit tests & preliminary examinations
- Continuous assessment of Assignments/Tutorials/Lab-journals
- Mock practical/oral examinations

In 2014-15 following parameters were added in existing norms:

- Attendance in TG meets, student presentations and T&P sessions
- Performance in student presentations, group discussions and project presentations
- Over and above marks are added based on performance in previous university examinations, lab-innovations, VAPs, E-journals, paper presentation, sports & cultural activities.
- Considering academic level of students, variation in distribution of marks is done from FE to BE

(Refer table below for 'g' & 'h')

Additions in 2016-17:

- Over and above marks are divided equally among all subjects limited to maximum 5 per subject

CIE Norms

Sr. No.	Particulars	FE	SE	TE	BE
1	Attendance (Theory, Practical, TG Meeting, LCD, T&P)	50	50	50	50
2	ISE Marks (I & II)	20	15	15	20
3	Prelim Examination Marks	20	15	15	-
4	Continuous Assessment of Practical/Assignments/ Tutorials/Design Experiments	10	10	10	15
5	Mock Practical Examination	-	10	10	15
TOTAL		100	100	100	100

'Over And Above' Marks

Sr. No.	Particulars	Marks
1	If Student has secured 60% and above Marks in Previous University Exam	Total 5
2	Lab Innovation / Project Competitions An Individual Lab Innovation / Mini Project of Good Quality Industry Sponsored Projects/ Special Effort Projects such as Go-Kart, Robocon, IIT TechFest, etc/ Social Contributory Projects	Out of 10
3	Value Addition Program (VAP) If students under-go any VAP and completes a Good Quality Project	Out of 10
4	E-Journal Papers: A Good Quality of literature survey papers using E-Resources in the area of student's interest and submit it to the departmental Coordinator	Out of 05
5	Paper Presentation Published/ Presented in' International Journal or Conference Published/ Presented in' National Journal or Conference'	Out of 10 Out of 05

6	Sports & Cultural Winners / Runners at Institute Level Competitions Winners / Runners at University Level Competitions Representation at State Level Competitions Representation at National Level Competitions Representation at International Level Competitions	Winner/Runner 03/02 05/04 Total 07 Total 09 Total 10
7	Designated Presentations on Soft Skill, LCD, GD, Projects etc.	Out of 10 SE Out of 10 TE Out of 15 BE-I Out of 25 BE-II

CIE system takes care of students' performance in curricular, co-curricular and extra-curricular activities throughout the semester and promotes holistic development.

File Description	Document
Link for Additional Information	[View Document](#)

2.5.2 Mechanism of internal assessment is transparent and robust in terms of frequency and variety

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, Practical, TG, LCD, T and P sessions
2. ISE and preliminary examination
3. Continuous Assessment of Practical/Assignments/Tutorials/Design Experiments
4. Mock practical/oral examination
5. Students' performance in previous SUS examination
6. Students' involvement in PBL activities such as lab-innovations, VAPs, technical projects and research publications
7. Students participation in NSS, sports and cultural activities
8. Students' contribution in designated activities such as LCD/GD/Soft skill sessions.

To maintain the transparency and robustness in implementation of this CIE system, institute practices following sequential processes:

- The CIE norms are permanently displayed on departmental notice boards.
- CIE norms are discussed in the induction programs conducted for newly admitted students. Teachers explain the CIE norms to the students of all classes during initial lectures and practical sessions.
- TGs give detailed explanation about the CIE process which appeals students to take benefit of the scheme.
- Assessments are carried out in practical/tutorial sessions on daily basis.
- Monthly attendance of students is displayed on notice boards and also communicated to parents.
- Mid-semester submission marks are conveyed to students to make them understand the scope for further improvement. Counseling of students and parents is done as per requirement.
- ISE and preliminary exam marks are displayed and communicated to students and parents.
- Evaluated answer sheets of ISE and preliminary examination are shared with students and doubts (if any) are solved by the subject teachers. Corrections in marks (if any) are included in the records.
- Performance of students in CIE is monitored by TG in fortnight TG meetings and progress is discussed with the parents during parents meeting and TG's visit at student's home.
- Mock practical/oral examination is carried out to assess the preparation of students for University examinations and suggestions (if any) are given for improvement.
- TGs collect the records of students' performance in co-curricular and extra-curricular activities for calculation of over and above marks.
- Finally, Internal Continuous Assessment (ICA)/Term-work marks are calculated by compiling marks of students in all the parameters of CIE. Students are asked to refer these marks displayed on notice board and any grievances reported by students are addressed by the concerned faculty member.
- AMC/IQAC conducts meeting to review and define the CIE norms for next semester.

By maintaining transparency, variety and rigorousness in the implementation of this robust CIE process, institute has succeeded in achieving active participation of students in various multi-faceted activities. Institute has received a positive feedback about CIE practices from its stakeholders.

File Description	Document
Link for Additional Information	[View Document](#)

2.5.3 Mechanism to deal with examination related grievances is transparent, time-bound and efficient

Response:

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

- The Institute has separate Internal Examination Committee which takes care of invigilation, smooth conduct of examination, assessment and internal grievances. Internal examination related grievances are addressed to quality of question papers, conduct of examination, evaluation of answer sheets.
  - Initially a notice regarding submission of question papers is circulated to faculty members well before the commencement of examination. After receiving the question papers, a scrutiny committee consisting of 2-3 faculty members assesses the quality of question papers in terms of adherence to university marking scheme and setting of appropriate difficulty level. Any shortcomings found in the scrutiny are conveyed to the concerned subject teacher and due care is taken to minimize grievances.
  - Internal examinations are scheduled as per the academic calendar. The time tables of internal examinations (ISE and preliminary examination) and seating arrangements are displayed on notice board within time. During internal examinations every subject teacher remains present to address the grievances arising (if any) in the question paper. Internal squad is appointed for ensuring smooth conduct of internal examination.
  - 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.

- During University exams, flying squad appointed by University visits the examination office and 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
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

2.5.4 The institution adheres to the academic calendar for the conduct of CIE

Response:

The institute prepares academic calendar in-line with SUS' academic calendar. It incorporates all curricular, co-curricular and extra-curricular activities in the calendar which ensure CIE. This calendar is displayed on notice board and institutional website at the beginning of semester and also circulated among all the faculties as well as students.

Regular meetings and reviews are conducted by teachers, coordinators, HoDs and deans. The reviews and corrective actions if any are discussed in the Principal meeting. This way the institute adheres to the academic calendar for conduct of CIE.

Provision of CIE in academic calendar:

- Academic calendar includes schedule of monthly attendance display, schedule of ISEs and preliminary examination. This helps students to prepare for the same well in time. It also includes schedule of display of results of these examinations.
- At the middle of semester, when students are done with their half of practical and assignment work; academic calendar ensures CIE by introducing Mid-semester Submission. This helps students to understand their status at the mid of semester and they plan corrective actions if required and improve their performance.
- Final year students carry out their project presentations as per academic calendar.
- Before the practical/oral examinations of SUS, mock practical/oral examinations are arranged for the students. Schedule of this mock examination is also prescribed in the academic calendar.
- The academic calendar also gives the schedule of various experiential/participative activities designed by the institute as per the Project Based Learning (PBL) Model such as Lab Innovations, Industrial Visits, Value Addition Programs (VAP), Technical Events (DISTA and TechnoSinh). Apart from these technical activities, academic calendar describes tentative schedule of extra-curricular activities such as sports and cultural. The participation and performance of students in all such technical and extra-curricular activities is also a part of Continuous Internal Evaluation process.
- The schedule of ICA (Internal Continuous Assessment) is strictly followed as per academic calendar.
- In order to ensure the satisfactory performance of the students in the evaluation process, parents are also involved in discussions through parent meet organized as per academic calendar. The institute takes efforts to communicate the requirements and progress of students in the evaluation process through the Teacher Guardian scheme. This helps in ensuring effective conduct of CIE and achieving desired outcomes.

File Description	Document
Link for Additional Information	[View Document](#)

2.6 Student Performance and Learning Outcomes

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

Response:

The institute is affiliated to Solapur University, Solapur. 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 participates in syllabus formation process of SUS where they contribute in stating POs and COs according to the expectations of stakeholders. Apart from these stated outcomes, institute defines its own COs for different activities.

Institute takes due care for informing POs and COs to all the stake holders

- POs and COs for all programs and courses offered by the institution are displayed on institute website for reference of all stakeholders.
- Teachers refer SUS syllabus to understand POs and COs thoroughly before delivering the courses to students.
- Teachers write COs of their respective course in the attendance registers and refer them while executing the teaching plan.
- Induction programs help students to understand the POs and COs.
- Even teachers discuss POs and COs of respective program and course with students during theory and practical sessions.
- The feedback of attainment of these COs and POs is been taken by every teacher guardian from the students.

Reviews of these POs and COs are taken by the stakeholders and suggestions are discussed in AMC/IQAC meetings. Revisions are done wherever required.

File Description	Document
Link for Additional Information	View Document

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

Response:

NBNSCOE is committed to attain POs, PSOs and COs defined by SUS and by institute. To measure the attainment of these outcomes, institute has developed mechanism as follows:

Continuous evaluation during semester: As institute practices CIE rigorously where performance of each candidate is continuously assessed (CA) by the respective subject teacher during practical/tutorial sessions. The understanding of every subject is also confirmed through evaluation of ISE by subject teacher. Through analysis of CA and ISE, TGs review attainment of outcomes in their fortnight meetings. The level of attainment of COs is evaluated through students' performance during entire semester by subject teacher.

Evaluation at the end of semester: At the end of every semester preliminary and mock practical/oral examinations are conducted. Every subject teacher ensures the attainment of respective COs by evaluating students' performance in these examinations. Also TGs gather all the information regarding students' participation in activities conducted to attain additional COs defined by the institute and evaluate the level of attainment.

Evaluation at the end of academic year: Students' performance is evaluated at the end of every academic year through analysis of University examination (theory and practical/oral) results. It gives understanding of attainment of COs of the courses undertaken by the students during the academic year. It also helps in mapping attained COs with prescribed POs.

At the graduation level: At the time of completion of graduation, students' overall performance

throughout their education is analyzed. Performance in final university examinations, project work, placements, GATE/competitive examinations and participation of students in holistic developmental activities are included in the analysis. This explains level of attainment of the prescribed POs and PSOs.

Feedbacks from stakeholders: Regular feedbacks are taken from all the stakeholders to analyze the level of attainment of COs, POs and PSOs. The analysis includes feedback from students, alumni, employers, academicians, examiners and parents.

Review meetings about the attainment of these outcomes are conducted by AMC/IQAC and necessary reforms are carried out at institute level. If required, these reforms are further put up in SUS syllabus revision meetings.

File Description	Document
Link for Additional Information	[View Document](#)

2.6.3 Average pass percentage of Students

Response: 95.2

2.6.3.1 Total number of final year students who passed the university examination
Response: 1586

2.6.3.2 Total number of final year students who appeared for the examination
Response: 1666

File Description	Document
Institutional data in prescribed format	[View Document](#)

2.7 Student Satisfaction Survey

2.7.1 Online student satisfaction survey regarding teaching learning process

Response:

File Description	Document
Database of all currently enrolled students	[View Document](#)

Criterion 3 - Research, Innovations and Extension

3.1 Resource Mobilization for Research

3.1.1 Grants for research projects sponsored by government/non government sources such as industry ,corporate houses, international bodies, endowment, chairs in the institution during the last five years

Response: 0.66

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

2016-17	2015-16	2014-15	2013-14	2012-13
0.3	0.36	0	0	0

File Description	Document
List of project and grant details	[View Document]

3.1.2 Percentage of teachers recognised as research guides at present

Response: 0

3.1.2.1 Number of teachers recognised as research guides

File Description	Document
Institutional data in prescribed format	[View Document]

3.1.3 Average number of research projects per teacher funded by government and non government agencies during the last five years

Response: 0.03

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

Response: 5

File Description	Document
List of research projects and funding details	[View Document]

3.2 Innovation Ecosystem

3.2.1 Institution has created an ecosystem for innovations including incubation centre and other initiatives for creation and transfer of knowledge

Response:

In line with its vision, institute has taken following initiatives for the promotion of innovation and creativity:

Incubation Centre:

- Institute has initiated "Dr. A. P. J. Abdul Kalam Incubation Center" which has created the platform for students to carry out interdisciplinary and industrial projects. In a short duration of one year it has come out with society usable product.

Centre for Research and Technology Development (CRTD):

- Center for Research and Technology Development (CRTD) promotes research culture and capacity building among teachers and students.
- In Collaboration with Bhabha Atomic Research Center (BARC), CRTD has conducted the Multi Mega Event "Innovative Technologies for Rural Development and their Commercialization" (ITRDC-2017) in February 2017.
- CRTD has submitted proposal for "Atal incubation center" initiated by Government of India which aims to contribute for 'Make in India' program. It focuses to resolve problems related to farmers, water insufficiency and un-employability. This incubation center will help to promote entrepreneurship amongst students.
- It is proposed to develop various research labs in each department, under this center.

Project Based Learning (PBL) Culture:

- Under PBL initiative, a group of students is promoted to implement innovative ideas through 'Lab Innovation' scheme. These innovations are exhibited and evaluated from the industry experts, at the end of the every semester.
- Students are asked to identify social and industrial problems through their field experiences. These problems later on become starting point for interdisciplinary projects. Students have developed innovative products like Universal Shake Table, Incubator for Jaundice, e-learning portal etc. through this initiative.

MoU with Indian Institute of Tropical Meteorology (IITM):

NBNSCOE has signed MoU with IITM, Pune, for starting the research in the area of Cloud Physics. The main objectives of Tropical Meteorology Research Lab are:

1. To provide research exposure and training to UG and PG students.
2. To provide research fellowship to the students and teachers.

Through this MoU, IITM has established "Cloud and rain gauge monitoring lab" in the premises of the institute. Also Cloud Monitoring RADAR is being installed at the top of the Mechanical Engineering

Department Building, which monitors the Cloud parameters.

PLC, Industrial Automation and Mechatronics Research Centre

- Institute has signed MOU with SKADA Technology solutions Pvt. Ltd. Pune for the establishment of "PLC, Industrial Automation and Mechatronics Research Centre".
- In the research lab, it is proposed to carry out research work on various areas like industrial automation, variable frequency drive, Mechatronics, Internet of Things etc. SKADA will provide the facility for doing the research work at institute.

Other initiatives:

Apart from above initiatives R&D Cell also looks after improving quality of teachers and students' publications via promoting and supporting them for publishing in reputed journals. For the same purpose seed funding is provided for meritorious and selected students as well as teachers. 'Krinsha – Kamal' Scholarship is made available for the innovative projects every year.

Travel grants and registration fees are provided to teachers and students for participating in conferences. Teachers are also granted duty leaves for the same.

File Description	Document
Link for Additional Information	[View Document](#)

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

Response: 33

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

2016-17	2015-16	2014-15	2013-14	2012-13
11	11	8	3	0

File Description	Document
Any additional information	[View Document](#)
List of workshops/seminars during the last 5 years	[View Document](#)

3.3 Research Publications and Awards

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

Response: Yes

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

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

Response: Yes

File Description	Document
e- copies of the letters of awards	View Document
List of Awardees and Award details	View Document

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

Response: 0

3.3.3.1 How many Ph.Ds awarded within last five years

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

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

Response: 0.16

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

2016-17	2015-16	2014-15	2013-14	2012-13
29	33	11	6	6

File Description	Document
List of research papers by title, author, department, name and year of publication	View Document

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

Response: 0.18

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

2016-17	2015-16	2014-15	2013-14	2012-13
74	6	13	5	7

File Description	Document
List books and chapters in edited volumes / books published	[View Document](#)

3.4 Extension Activities

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

Response:

The institute promotes community networking and engagement program for contribution to good citizenship, service orientation and holistic development of students, through following ways:

Initiatives by CRTD:

CRTD has conducted a multi-mega event "Innovative Technologies for Rural Development and their Commercialization" (ITRDC 2K17) in collaboration with Bhabha Atomic Research Center (BARC), Mumbai in February- 2017. Different activities carried over in this event are:

- **National conference**: To create platform for sharing and exchanging ideas from science and engineering and to interact with research scholars, eminent scientist from BARC, NIT's, IIT's and other research technology institutes
- **Urja Jyot Rally**: To create awareness about use non-conventional energy sources
- **Workshop on "Nuclear Energy and Health Care"**: To train teachers, students and medical practitioners about use of efficient energy practices in health care
- **Exhibition on BARC Technologies**: To display and create awareness among school/college students, farmers and common people regarding technologies/projects developed by BARC
- **Science Exhibition**: To develop scientific aptitude in school children
- **Farmer's workshop:** To motivate and make aware farmers new scientific techniques of farming
- **Talent Search Quiz Competition:** To explore talent among UG students of Science and

Engineering

- ○ **Robotics workshop:** To provide fundamental knowledge about robotics to students
- ○ More than 5000 students, teachers, researchers, medical practitioners and farmers were benefited.

National Service Scheme (NSS) Cell:

Under this cell following social and techno-social activities have been organized:

- **Social Activities** include tree plantation, blood donation camp, cleaning camp, health check up camps, etc. NSS team also focuses on the awareness rallies and camps on various social issues like, "Save Girl Child", "Save Electricity", "Save Water", "Save Trees" etc. To empower the girl students and make them self dependent, NSS cell and women's grievances cell organize self defense camp, health checkup camp and guest lectures on issues related to women's health.
- **Techno-Social Activities:** NSS promotes various initiatives announced by Government of India (GoI), like *'Digital India', 'Cash less India'* and *'Swacchha Bharat Abhiyan'*. The team of NSS has organized special camp at Mohol entitled ***"Swacchha Mohol- Cashless Mohol"*** for about 2000 local residents.

Cyber crime awareness program:

To generate the awareness regarding cyber crime in society, institute has started "Cyber Crime Awareness Program" in collaboration with Maharashtra Police. Under this collaboration, students and staff of NBNSCOE conduct various sessions at colleges and schools of Solapur and Osmanabad districts. So far more than 7000 participants have been benefited through these sessions.

Traffic Rules awareness program:

Institute has conducted "Traffic Rules Awareness Program" in collaboration with RTO and Solapur Police. Under this activity, staff members deliver presentations at various schools and colleges in nearby areas about road safety and traffic regulations. Till date, around 3000 students have undergone these sessions.

By encouraging active participation of students in these extension activities for the neighborhood community, institute envisions social upbringing and holistic development of students. In this way, institute continuously tries to inculcate ethical values among students for the integrity and prosperity of our nation.

File Description	Document
Link for Additional Information	[View Document](#)

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

Response: 6

3.4.2.1 Total number of awards and recognition received for extension activities from Government

/recognised bodies year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
6	0	0	0	0

File Description	Document
e-copy of the award letters	View Document
Number of awards for extension activities in last 5 years	View Document

3.4.3 Number of extension and outreach programs conducted in collaboration with industry, community and Non-Government Organisations through NSS/NCC/Red cross/YRC etc., during the last five years

Response: 31

3.4.3.1 Number of extension and outreach programs conducted in collaboration with industry,community and Non-Government Organisations through NSS/NCC/Red cross/YRC etc.,year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
7	11	8	4	1

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

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

Response: 31.73

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

2016-17	2015-16	2014-15	2013-14	2012-13
902	579	1304	290	11

File Description	Document
Any additional information	[View Document](#)
Average percentage of students participating in extension activities with Govt. or NGO etc.	[View Document](#)

3.5 Collaboration

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

Response: 116

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

2016-17	2015-16	2014-15	2013-14	2012-13
33	33	21	24	5

File Description	Document
Number of Collaborative activities for research, faculty etc.	[View Document](#)
Any additional information	[View Document](#)

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

Response: 15

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

2016-17	2015-16	2014-15	2013-14	2012-13
6	6	3	0	0

File Description	Document
Details of functional MoUs with institutions of national, international importance,other universities etc. during the last five years	View Document
Any additional information	View Document

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

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

Response:

The institution has adequate instructional, amenities and circulation area as per AICTE norms. For the ease of functioning, different blocks are identified as specified and the details with actual area and the particulars are mentioned as follows:

Instructional Block- Classroom, Tutorial Room, Drawing Hall and Laboratories:

Sr. No.	Particulars	Requirement as per AICTE Norms		Available in the Institute		
		Area in Sq. mtrs.	Number of rooms	Area in Sq. mtrs.	Number of rooms as per area	Total room
1	Class rooms	66	26	144	18	26
				72	8	
2	Tutorial	33	12	72	12	12
3	Laboratories	66	54	144	30	60
				108	2	
				72	28	
4	Workshop	200	4	200	4	4
5	Computer Center	150	1	144	1	1
6	Drawing Hall	132	1	72	4	4
7	Library	400	1	900	1	1
	Reading room			900	1	1
8	Seminar Hall	132	4	288	1	4
				144	3	

The institute is having sufficient Computing Facilities along with wired as well as Wi-Fi internet and also the facilities available are as per requirement.

Sr. No.	Particulars	Requirement as per AICTE Norms	Available in the i
1	Computers	458	535
2	Legal System Software	03	04
3	Legal Application Software	20	27
4	LAN & Internet	ALL	ALL
5	Mail Server and Client	Desired	Available

- As per the guidelines of AICTE, along with above computing facilities institute encourages students and staff, to use open source software.
- Institute has provided 50Mbps leased line for the internet facility through LAN as well as Wi-fi, throughout the campus with 10 outdoor and 12 indoor hotspots.

- Institute has also signed MoU with Reliance Jio who has provided free Wi-fi facility with 84 hotspots.

File Description	Document
Link for Additional Information	[View Document](#)

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

Response:

In view of the overall developments of student, institution is providing adequate facilities for psychological and physical development of students. Institute has separate cell for the students, which is coordinated by Dean, Student welfare. The cell organizes different competitions at institute level and then promotes the students to participate at higher level at university, state and national level. Student Council (SC) of the college along with teacher coordinators for sports and cultural help the Dean, student welfare to carry out all these events smoothly. Institute organizes annual social gathering through student welfare cell, which includes all kind of sports and cultural events.

Sports coordinator looks after all the sports facilities including indoor/outdoor games and motivates students to participate in various events. Institute has provided separate Recreation Hall and Gymnasium for the students. For the students participating at higher level competitions are provided with financial assistance for the T.A. and D.A. and also separate sports kit is made available to the individual students.

Cultural coordinator handles all the cultural activities happening in the institute and also promotes students to participate at university level competitions. It helps students to showcase their inherent talent and improves their stage courage.

The details of all available indoor and outdoor sports facilities with well-equipped Gymnasium are as follows:

Sr. No.	Available Sports facility for	Year of establishment	Area allotted in Sq.mtrs.	Number of students participation / year	User ra
1	Volley Ball	2010	200	328	13.3
2	Kabaddi	2010	35	451	18.33
3	KHO-KHO	2010	250	420	17.07
4	Carom	2011	144	240	9.6
5	Chess	2011	144	321	13.04
6	Table tennis	2011	144	120	4.8
7	Cricket	2012	17662.5	615	55.3

8	Foot ball	2012	5000	310	19.14
9	Hand Ball	2014	200	198	10.16
10	Fencing	2014	144	41	2.0
11	Athletics	2015	400mtrs x8 lane	270	13.31
12	Gymnasium	2015	288	60	2.7
13	Yoga	2016	144	150	6.0

Cultural Facilities:

Sr. No.	Available Cultural facility	Year of establishment	Area allotted in Sq.mtrs.	Number of students participation / year	User ra
1	Main Stage	2012	120	1000	56.78
2	Open sitting space	2012	20000	1000	56.78

Equipments at Gymnasium

Sr. No.	Available Cultural facility
1	8 Station Gymnasium
2	One Incline
3	Flat Bench
4	Olympic Bar
5	Dumbbells

Apart from this, students not only proactively participate at institute level but also represent at University/state level competitions. Best performing students at University/State /National level are provided special coaching with required facilities.

To encourage our students to participate and coordinate at University level, institute has organized university's Youth Festival in academic year 2015-16 and it was one of the successful events of its kind.

Institute has also organized various sports events at state and national level for Maharashtra Police, Treasury Department, State Reserve Police Force, Fencing competitions, Hand Ball competitions. Because of state of art sport infrastructure Sinhgad Institute has become center of attraction for the sportsman of nearby region.

Our students have made us pride by participating and securing the good positions at university and national level competitions in cultural as well as sports events. All these could have been possible because of the facilities provided at the institute.

File Description	Document
Link for Additional Information	[View Document](#)

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

Response: 100

4.1.3.1 Number of classrooms and seminar halls with ICT facilities

Response: 30

File Description	Document
Number of classrooms and seminar halls with ICT enabled facilities	[View Document](#)
any additional information	[View Document](#)

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

Response: 20.98

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

2016-17	2015-16	2014-15	2013-14	2012-13
13	16	60	325.67290	310

File Description	Document
Details of budget allocation, excluding salary during the last five years	[View Document](#)
Any additional information	[View Document](#)

4.2 Library as a Learning Resource

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

Response:

The library is automated using Integrated Library Management Systems with different softwares like

Master Soft ERP (Library Management Systems- LMS), M-OPAC etc. The details of procurement of software, procurement year, version according to the academic year is as tabulated below.

Year	Name of the Software	ILMSNature ofautomation (fully or partially)	Version	Vendor	Cost Rs. /-

4.2.2 Collection of rare books, manuscripts, special reports or any other knowledge resources for library enrichment

Response:

Institute has a rich collection (93) of Special reports in terms of PhD thesis from the other universities which is used by our students and teachers for their research work. List of all special report is prepared and distributed among the teachers so that they can encourage students to refer it. A separate arrangement in the library is done for easy access of the same. Also, the collection of rare books, manuscripts, special reports or any other knowledge resources for library enrichment is under process.

File Description	Document
Link for Additional Information	View Document

4.2.3 Does the institution have the following:

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

A. Any 4 of the above

B. Any 3 of the above

C. Any 2 of the above

D. Any 1 of the above

Response: B. Any 3 of the above

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

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

Response: 15.37

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

2016-17	2015-16	2014-15	2013-14	2012-13
17.54115	12.07517	6.25921	27.18308	13.81466

File Description	Document
Any additional information	View Document
Details of annual expenditure for purchase of books and journals during the last five years	View Document

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

Response: Yes

File Description	Document
Details of remote access to e-resources of the library	View Document

4.2.6 Percentage per day usage of library by teachers and students

Response: 14.38

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

Response: 319

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

4.3 IT Infrastructure

4.3.1 Institution frequently updates its IT facilities including Wi-Fi

Response:

Institute upgrades the IT facilities as per the requirements and the norms prescribed by AICTE, time to time. The facilities can be categorized as follows

- Internet Bandwidth: The internet bandwidth has been upgraded as per the requirement and keeping in view of making campus Wi-fi enabled. The total bandwidth is divided for all the computers through LAN and also through Wi-fi hotspots. The up gradation of internet bandwidth is as follows,

Academic Year	Upgradation of Bandwidth	Date of Installation	Natu
2017-18	50 Mbps	7/10/17	1:1 Fi
2014-15	40 Mbps	27/04/2015	1:1 Fi
2013-14	10 Mbps	01/04/2014	1:1 Fi
2010.-11	4 Mbps	7/10/2010	1:1 Fi

- **Hardware Facility:-**

Particulars	2012-13	2013-14	2014-15	2015-16	2016-17	2017-
Computers	420	420	460	535	535	535
Wi-Fi	Nil	Nil	Entire Campus is Wi-Fi With CISCO Systems	Entire Campus is Wi-Fi With CISCO Systems	Entire Campus is Wi-Fi With CISCO Systemsand Reliance JIO	Entire Wi-Fi With Syste Relia
LCD Projector	5	10	15	18	19	23
Firewall	Fortigate 80 C	Fortigate 80 C	Fortigate 80 C	Fortigate 80 C	Fortigate 80 C	Cyber
FTP Server	-	-	-	At each department	At each department	At ea
Moodle Server	-	-	At each department	At each department	At each department	At ea & Serve
Printers	12	25	34	42	45	51
Scanners	9	9	9	9	9	9
Dot Matrix Printer	23	23	23	23	23	23
Plotter	1	1	1	1	1	1

- **Software Facility:**

Licensed Software

Sr. No	Department	List of software
1	Mechanical Department	CreoParametric1.0,Ansys14.5,Autocad2014,TURBOC++, MSC MDFEA Motion Bundle, Altair Hyperworks, CNC Milling Trainer Machine, MatLab 2012a, CATIAV6, Automation Studiov
2	Electronics and Telecommunication Engineering	AltiumDesigner6, Xilinx Xc9572 , Multisim(10 User), MATLAF
3	Computer Science Engineering	Windows Server Standard 2003 MediaKit, Vstudio, MSOffice Pro2005 Molp LINUXRedHat4.0, MS WIN2003Server(Molp) WIN2003 Server(MediaKit)
4	Civil Engineering	AutoCad-2013, ETAB and SAP 2000 (S/W), ANSYS 14.5, Hyp
5	Electrical Engineering	Power World, MATLAB (shared with Electronics and Telecomm
6	Administrative Office and Library	Office Automation, SMS Software, Library Management System

4.3.2 Student - Computer ratio

Response: 3.9

File Description	Document
Student - Computer ratio	[View Document](#)

4.3.3 Available bandwidth of internet connection in the Institution (Lease line)
<5 MBPS

5-20 MBPS

20-35 MBPS

35-50 MBPS

Response: >=50 MBPS

File Description	Document
Details of available bandwidth of internet connection in the Institution	[View Document](#)

4.3.4 Facilities for e-content development such as Media Centre, Recording facility, Lecture Capturing System (LCS)

Response: Yes

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

4.4 Maintenance of Campus Infrastructure

4.4.1 Average Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component, as a percentage during the last five years

Response: 3.38

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

2016-17	2015-16	2014-15	2013-14	2012-13
23.89711	66.03585	12.64720	10.58775	10.79151

File Description	Document
Details about assigned budget and expenditure on physical facilities and academic facilities	View Document
Any additional information	View Document

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

Response:

Institute has established transparent and robust procedure for the utilization and maintenance of all physical, academic and support facilities and is well communicated among all the staff members. The detailed procedure is as follows:

1. For the utilization of facilities:

- The query is been generated by any of the concerned staff.

- Accordingly requisition slip is prepared specifying the requirements and the reason for usage.
- Availability of resource is verified with the concerned In-Charge.
- Permission for the utilization is taken from the respective authorities.
- It is communicated in written to the In-Charge so as to make the resource available.
- It becomes duty of the person who has generated the query to take care of the belongings.
- After the end of utilization of facility concern staff returns all the resources in working condition to the respective In-Charge and gets the written communication for the same.

1. Maintenance of facilities:

- Every In-Charge regularly checks the resource available in their custody and verifies its working condition.
- Accordingly report of non working material is communicated to the respective authority.
- It is forwarded to the maintenance In-Charge available in every department.
- Maintenance In-Charge compiles all the complaints and segregates them in urgent and annual maintenance categories.
- The follow up of the urgent maintenance equipment or resources is taken immediately after the approval of the concerned authority.
- The annual maintenance resources are forwarded at the end of every academic year after thorough inspection of the equipment.
- Also, depending upon the cost of equipment and its maintenance requirement the quotations are invited and the detailed procedure is followed through purchase committee, if this cost exceeds more than Rs. 10,000/-.
- After the maintenance of particular resource it is informed and satisfactory remark is taken from the concerned In-Charge.
- After getting the remark from all the concerned the authority approves the bill for payment and accordingly payment is released.

The duties of different In-Charges are well specified and communicated to everyone and are also available on the website.

There is designated lab in-charge available for every lab. The lab in-charge looks after various activities as outlined in the policy called "Duties of Lab In-charge" which is also available on the website of the Institute. Apart from this lab in-charge is paying attention to availability and utilization of lab as demand and requirement of Curriculum and Co-curriculum projects of students. The labs are made available for students as well as staff as per their demand.

The laboratories are also used to provide consultancy services to government as well as private organization. A policy for distribution of revenue generated among the institute, administrative posts, teachers, assisting and menial staff has been jotted down. The same is available on the website of the Institute. 5% of departmental share is used for maintenance and enrichment of lab concerned. Similar norms are also applicable to revenue generated through value added program (VAP). These norms are clearly specified for Sinhgad Institutes as a whole.

The institute is having adequate number of well-maintained computers and connected to each other by LAN facility. All required facilities like printers, plotters and scanners are also available in sufficient

numbers, these facilities are made available as per need to teachers, staff and students. These computing facilities are also made available for online examination of various government and non-government organizations. Institute has conducted more than 50 online exams in association with TCS till date. The institute is pioneer for such examinations in this region and signed MoU with TCS.

All mentioned physical facilities are supported by continuous electrical supply with generator set of adequate power. The gen-set and all supporting activities are well maintained for undisturbed performance.

Institute has established Sewage Treatment Plant in the campus for the treatment of liquid waste and this water is reused for gardening purpose which maintains the greenery in the campus.

In view to develop excellence in the respective field, academic facilities are supported by well-maintained and timely updated library. There is separate facility of digital library for enrichment of information. Library is available 24 X 7. Separate reading rooms are available for girls and boys.

Well-equipped Gym and indoor sports facility are available for overall development of students.

A policy entitled "Guidelines for Internal Communication" is also available on the website of the Institute. This policy defines the organization chart, parallel positions, reporting procedure etc. It also defines action to be taken in case these guide lines are violated.

Criterion 5 - Student Support and Progression

5.1 Student Support

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

Response: 69.84

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

2016-17	2015-16	2014-15	2013-14	2012-13
1659	1461	1235	1071	765

File Description	Document
Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years	[View Document](#)
Any additional information	[View Document](#)

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

Response: 0.2

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

2016-17	2015-16	2014-15	2013-14	2012-13
22	0	0	0	0

File Description	Document
Number of students benefited by scholarships and freeships besides government schemes in last 5 years	[View Document](#)

5.1.3 Number of capability enhancement and development schemes –

1.For competitive examinations

2. **Career counselling**
3. **Soft skill development**
4. **Remedial coaching**
5. **Language lab**
6. **Bridge courses**
7. **Yoga and meditation**
8. **Personal Counselling**

A. 7 or more of the above

B. Any 6 of the above

C. Any 5 of the above

D. Any 4 of the above

Response: A. 7 or more of the above

File Description	Document
Details of capability enhancement and development schemes	[View Document](#)

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

Response: 49.5

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

2016-17	2015-16	2014-15	2013-14	2012-13
2129	1312	881	388	156

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

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

Response: 19.12

5.1.5.1 Number of students attending VET year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
556	553	392	288	45

File Description	Document
Details of the students benifitted by VET	[View Document](#)

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

Response: Yes

File Description	Document
Details of student grievances including sexual harassment and ragging cases	[View Document](#)
Any additional information	[View Document](#)

5.2 Student Progression

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

Response: 36.26

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

2016-17	2015-16	2014-15	2013-14	2012-13
192	100	36	44	1

File Description	Document
Any additional information	[View Document](#)
Details of student placement during the last five years	[View Document](#)

5.2.2 Percentage of student progression to higher education (previous graduating batch)

Response: 2.5

5.2.2.1 Number of outgoing students progressing to higher education

Response: 15

File Description	Document
Details of student progression to higher education	
Any additional information	

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

Response: 26.22

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

2016-17	2015-16	2014-15	2013-14	2012-13
6	11	4	8	1

5.2.3.2 Number of students who have appeared for the exams year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
150	124	82	60	1

File Description	Document
Any additional information	
Number of students qualifying in state/ national/ international level examinations during the last five years	

5.3 Student Participation and Activities

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

Response: 10

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

2016-17	2015-16	2014-15	2013-14	2012-13
0	1	8	1	0

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

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

Response:

NBNSCOE is committed to promote student leadership and organizational skills through the different initiatives taken at institute level. The transparent mechanism is adapted wherein students from all classes of society can represent through different bodies/committees depending upon their skill sets and opportunities given to them accordingly.

- **Presence of Active Student Council:**

The Student Council (SC) of institute contributes and supports in the overall development of students. It acts as a mediator between the Institute administration and the students. SC has following composition:

1. General Secretary
2. Sports Secretary
3. Cultural Secretary
4. Ladies Representatives
5. NSS Secretary
6. Technical Secretary
7. All Class Representatives (CRs)

The role and responsibilities of SC mainly include smooth conduction and organization of events and maintaining academic ambience. Members of SC are actively involved in planning and executing technical, social, techno-social, sports and cultural activities initiated by the institute. SC helps in promoting and implementing institute's PBL model through its members (CRs). Also, SC coordinates functioning of departmental student associations in the institute and provides necessary inputs for overall

development of students. SC is actively engaged in grooming of newly admitted students and guiding students as per their needs. SC regularly arranges sessions on 'Code of Conduct' and sensitization programs.

- **Representation of students on academic & administrative bodies/committees:**

1. ICC: Students have representation in ICC as per the norms
2. Anti-Ragging Committee: Sufficient number of students are given representation
3. NSS: 90 student volunteers are actively engaged in NSS activities
4. YIN: A group of 21 students leads in YIN activities initiated by *Sakal Media Group*. This group leads and provides platform for all other students to participate in these activities in the institute.
5. Technical Committee: Institute regularly conducts technical events and festivals. All these programs are for the students and by the students. Students shoulder the entire responsibility of these events under the mentorship of faculty coordinators.
6. Magazine Committee: Annual Magazine of the Institute is being Published named as 'Sahityagad'. This committee has dedicated editorial board and various sections of magazine are headed by students. 'Sahityagad' and its committee members have been receiving awards since three years from Student Welfare Department of SUS.
7. Students Association: Every department has Student Association (SA) led by a group of 10-15 students. This group ensures involvement of all other students of department in organizing activities throughout the year.
8. Sports and Cultural Committee: A dedicated team of students is actively involved in organizing sports and cultural events at the institute.
9. Hostel and Mess Committee: The Committee is formed to check the quality of the food and facilities provided in the hostel for the student residing in Hostel and availing Mess facility. Students are also the member of this committee.

File Description	Document
Link for Additional Information	[View Document](#)

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

Response: 23.4

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

2016-17	2015-16	2014-15	2013-14	2012-13
24	40	19	17	17

File Description	Document
Number of sports and cultural activities / competitions organised per year	[View Document](#)

5.4 Alumni Engagement

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

Response:

Institute has strong belief that alumni are great role models for current students and are often well placed 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. 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- Maha-731/2015. Every pass out student is eligible for life time membership and can become a member by completing registration process.

NAA has organizational structure as President, Vice-President, Secretary, Treasurer and members. It has total 9 members on this committee where there are 4 alumni who are the part of this committee. 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. These committee members meet twice in a year. 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. Recently NAA has inaugurated its official Logo and the idea of logo design is floated through student's competition.

Alumni Cell organizes the annual alumni meet on last Saturday of February. 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 this institute is important for maintaining and expanding an institute's development. By establishing channels that can facilitate closer ties between the alumni, students and institute, it can provide crucial benefits in enriching the student's experience while being at the institute.

Although at its beginning stage; our alumni are serving their alma mater in following ways-

- Participation in the programs, as a resource person.
- Regularly 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.

- Helping their juniors for getting the placements.
- Suggesting modifications in the curriculum.
- One of our alumni has spared a handful amount of fund for innovative ideas and projects for final year students by name – 'Krishna Kamal Scholarship'. This Scholarship is given every year to deserving students. Although not demanded, Institute does not deny voluntarily 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, hence they find the potential for contributing back for the development of the institute and support the institute's reputation.

File Description	Document
Any additional information	[View Document]()
Link for Additional Information	[View Document]()

5.4.2 Alumni contribution during the last five years
<1 Lakh

1 Lakh - 3 Lakhs

3 Lakhs - 4 Lakhs

4 Lakhs - 5 Lakhs

Response: ? 5 Lakhs

File Description	Document
Any additional information	[View Document]()
Alumni association audited statements	[View Document]()

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

Response: 12

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

2016-17	2015-16	2014-15	2013-14	2012-13
6	5	1	0	0

File Description	Document
Number of Alumni Association / Chapters meetings conducted during the last five years.	View Document
Report of the event	View Document

Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

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

Response:

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

Nature of Governance:

The Governing Body and LMC act as a top management and carry a responsibility to take policy decisions. The IQAC (Internal Quality Assurance Cell) is formulated to ensure the quality enhancement and to make the policies in line with the vision and mission of the institute.

Perspective Plan:

The institute has designed its perspective plan for next five years. Following are the main points of the plan-

- To obtain the accreditation from competent authorities such as NAAC, NBA
- To get the approval for Research Center from Solapur University, Solapur.
- To be recognized by National Institutional Ranking Framework with high ranking.
- To strengthen the available infrastructure by procuring high quality sophisticated equipments through funding from Government/Non Government organizations for enhancing research and consultancy.
- To establish the centre of excellence in the respective area by signing MoUs with highly reputed industries/Organizations.

Participation of Teachers in Decision Making Bodies:

Teachers are the most important part of teaching learning process. They are the core members who are directly dealing the students. Their participation in decision making plays a vital role. Hence they are involved in all major decision makings.

The teaching as well as non teaching staff members are nominated in all the apex bodies like LMC, Governing Body and IQAC. The policies and Strategic Plans are decided in the periodic meetings. Implementation is carried out based on the decision taken in the regular meetings after getting the approval from the management. Periodic review is taken during implementation process.

File Description	Document
Link for Additional Information	[View Document](#)

6.1.2 The institution practices decentralization and participative management

Response:

Institute believes in participative management and hence the powers are decentralized. Academic decentralization is done through Dean (Academics) in coordination with Dean (PG) with the support of HoDs, teachers of various departments.

Administrative decentralization is achieved through Dean (Administration) in coordination with registrar and other support staff from office.

Student affairs are dealt through Dean (Students welfare) in association with HODs, students council and teacher coordinators.

Institute provides guidance and counseling in view of higher studies and career counseling (HSCC) through Dean (HSCC) in association with HoDs and teacher coordinators.

Regular activities are carried over through HoDs as per the guidelines of Principal. Registrar takes care of all the matter related with administrative office.

However all the activities need prior approval of the Principal and the management, if necessary.

This decentralization reduces wastage of time in decision making addressing students and staff issues more effectively and quickly.

Case Study

The Annual Technical Fest – DISTA

The Annual technical fest DISTA is organized every year. Over 1500 students of   Degree and Diploma Engineering institutes from various colleges in district and nearby area participate in the event. The technical programs like project exhibition, paper presentation, quiz etc. are the gist of this mega event.

The event is conducted in a systematic manner as follows:

Initially, central DISTA staff and student coordinator are appointed.

- HODs appoint departmental faculty and students coordinators.
- A joint meeting is held for fixing committees and their responsibilities
- Various committees are formed like campaigning, hospitality and inauguration, transportation, registration, project exhibition, technical quiz etc. under the central coordinator.
- Each committee is usually headed by a faculty member and supported by one or two non teaching members and several student volunteers.
- These committee members are counseled to carry out the necessary activities of the concerned committee.
- The Principal conducts the meeting of all these members prior to event and issue the guidelines regarding the smooth conduction of the program. On successful completion of program the Institute appreciates concerned student and staff coordinators. In case of highly commendable efforts put in by a staff actively involved in execution he/she is also felicitated.
- Review meeting with student and staff coordinators is conducted to know any difficulties, problems they faced in organizing the event and their suggestions for improvements in the future implementation.

Outcome:

Such events give exposure to work in a team and to work as team leader. Accept real life challenges and complete them in coordination with other members in stipulated time. This eventually increases smartness amongst the students and they become ready to face the interviews of multinational companies thus increasing chances of selection.

File Description	Document
Any additional information	[View Document](#)

6.2 Strategy Development and Deployment

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

Response:

The institute aims at developing students in all aspects of the profession one has chosen. Curriculum does not necessarily cover all of them. Hence, from view point of overall development, various strategies have been drawn for training students continuously from second to fourth year of their course. Plans are prepared by concerned departments to train students in soft skills and interpersonal relations, various core subjects for advancements in the same under value addition program, for handling field conditions, for current practices through a series of expert lectures on various topics, through participation in practical solution of simple problems etc. Institute also provides students an opportunity to avail various training programs that help them prepare for GATE, Competitive exams, placements or acquiring attributes necessary for developing them as entrepreneurs. Project Based Learning is our motto. Most of the

problems in real life are interdisciplinary in nature, so institute encourages students to take interdisciplinary projects.

Interdisciplinary Projects

From A.Y. 2014-15 a strategy was developed to motivate the students to take up interdisciplinary projects, which is part of their curriculum. The strategy was developed as follows-

- Small projects of lab innovations and Value Addition programs are made compulsory to the students of Second Year and Third Year Engineering.
- The class teachers will allot one subject per group of the students. The lab in-charges will take the follow up and get the mini projects done.
- The Dean (Academic) takes the periodic review of the completion of this activity and guides further improvements if any.
- For final year students, students themselves will form the interdisciplinary group and choose a project in consultation with their guide.
- For motivation of the students, best interdisciplinary projects is rewarded Rs. 10,000/- every year. If multiple projects are found at par the amount is distributed. This amount is sponsored by one of our esteemed alumni.

Outcome:

This initiative encourages students to work in interdisciplinary projects and enhance their ability to work in coordination with other department students and staff.

File Description	Document
Any additional information	[View Document]()

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

Response:

The Governing body is the apex body of the institute followed by LMC (Local Managing Committee). The Principal is the Head of the Institution. Principal is followed by Dean Academics, Dean Administration, Dean PG, Dean Student Welfare, Dean Higher Studies and Career Counseling and Registrar.

The registrar is responsible for the day to day activities concerning the administrative office. Similarly, the Librarian, T&P Officer and Alumni coordinator report to the Principal.

Service rules, procedures, recruitment and promotional policies: The recruitment of the teaching and non teaching staff members, their service rules and promotional policies are as per the rules and regulations of All India Council for Technical Education, Government of Maharashtra and Solapur University, Solapur.

Grievance redressal mechanism: The Grievance Redressal Committee is formed as per the guidelines issued by AICTE. The ombudsman is appointed by Solapur University, Solapur, in case the applicant is not satisfied with the result of the committee and wishes to appeal to the University. The institute has developed the online grievance system for all the stake holders including students and parents to facilitate the speedy disposal of the complaints if any.

File Description	Document
Link for Additional Information	View Document

6.2.3 Implementation of e-governance in areas of operation: 1.Planning and Development 2. Administration 3. Finance and Accounts 4. Student Admission and Support 5.Examination

A. All 5 of the above

B. Any 4 of the above

C. Any 3 of the above

D. Any 2 of the above

Response: B. Any 4 of the above

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

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

Response:

Various committees are in force for the smooth conduction of the day to day work of the institution such as:

- Internal Quality Assurance Cell (IQAC)
- Internal Complaint Committee (ICC)
- Backward Class (BC) Cell
- Anti-Ragging Committee
- Higher Studies and Career Counseling (HSCC) Cell
- Alumni Cell
- Student Welfare Cell

- Enterpreneurship Development (ED) Cell
- Hostel and Mess Committee

To state the successful implementation of the activities/cell for the smooth functioning of the institute and for satisfaction of the student one **example of BC cell** is explained as follows

The Backward Class Cell is formed to facilitate the various schemes to the backward class students and staff members to comply with the norms of the Government in force.

Entry level admissions are normally done after clearing and fulfilling class 12th and Diploma Engineering . These students are new in the system hence they need guidance and assistance in filling online Scholarship / Freeship forms on online portal of Social Welfare, Government of Maharashtra to avail the benefit of Scholarships applicable to their category. The Registrar of the institute with Scholarship section support staff organizes demo session for these students in and guides them filling the online form. This scheme helps students avoid confusion, clarifies doubts as question answer session is arranged at the end of the program.

Outcome:

Once student fills his/her form online in first year of his/her admission, he/she will not face any difficulty in future. Thus students become independent and confident without relaying on any body.

File Description	Document
Link for Additional Information	[View Document](#)

6.3 Faculty Empowerment Strategies

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

Response:

NBNSCOE believes in the strength of human resource in the institute. It believes that without the proper mental and physical health of the staff member, they cannot deliver at their level best for the implementation of the vision and mission of the institute. Fortunately institute has self motivated and deterministic staff members who contribute in the progress of institute. NBNSCOE could mark its footprint around Solapur region, within very short span of time because of the involvement of staff members aligned with institutional goal.

Therefore institute also takes care for the welfare of these staff members. Some of the initiatives taken by the institute are listed below.

List of effective welfare measures:

1. Financial support to teaching, non-teaching staff and students for attending conferences, workshops, STTPs & FDPs etc. separate budget has been allocated for the staff and student welfare.
2. Availed the Mediclaim policy for nuclear family (Self + Spouse + two children) for every employee in a bare minimum cost of Rs. 2300/- for the cover of Rs. 1,00,000/-
3. All the employees decided to create the 'staff and student welfare fund' and invested some amount in it. The fund is generated for the contingencies and emergency, if any.
4. The institute provides study leaves to acquire the higher education to all teaching and non teaching staff.
5. The institute provides six months paid maternity leaves to all female employees for their first two Children.
6. The institute every year felicitates the staff members with 'Best Teacher and Best Employee award'.
7. Institute organizes free dental and health checkup camps to ensure the better health of all the employees.
8. The relief fund of Rs. 85,600/- was paid to the mother of Mr. Tejas Waddekar (Peon) who died in road accident. The relief fund of Rs. 38,000/- was paid to Mr. Rafique Mujawar (Driver) who was a victim of paralysis.
9. For special achievements of teaching and non teaching staff, they are felicitated in college functions.

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

Response: 4.51

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

2016-17	2015-16	2014-15	2013-14	2012-13
5	13	5	1	0

File Description	Document
Details of teachers provided with financial support to attend conferences,workshops etc. during the last five years	[View Document](#)

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

Response: 5.2

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

2016-17	2015-16	2014-15	2013-14	2012-13
13	9	1	2	1

File Description	Document
Details of professional development / administrative training programs organized by the Institution for teaching and non teaching staff	[View Document](#)
Any additional information	[View Document](#)

6.3.4 Average percentage of teachers attending professional development programmes viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programme during the last five years

Response: 71.91

6.3.4.1 Total number of teachers attending professional development programs, viz., Orientation Program, Refresher Course, Short Term Course, Faculty Development Programs year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
124	91	103	57	11

File Description	Document
Details of teachers attending professional development programs during the last five years	[View Document](#)

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

Response:

The performance appraisal system has been designed according to the class of the employees' viz. Class A, Class B, Class C and Class D. Accordingly these forms are designed in different colors to differentiate the class.

- Class A – Pink Form (for Principal, Deans, HoDs & Teaching Staff)
- Class B & C – Sky Blue (for Registrar, Librarian, Accountant, Clerks, Technical Staff)
- Class D – Yellow (Peons, Drivers, Security Guards, Sweepers, Gardeners)

Appraisal forms are submitted and assessed annually. This appraisal period is normally defined by the date of joining of the staff members in the institute. These appraisal forms consist of various parameters supposed to be carried over by individual staff during the appraisal period, according to their roles and positions for the institutional and self progress.

The process of appraisal is as follows-

1. The employee fills appraisal form each year and submits to the concerned HoD or immediate superior.
2. After viewing the details filled by the employee the HoD, if agrees to the information filled, puts his remark and forwards to the Principal.
3. The Principal after receipt of the form calls the employee personally for the discussion and discusses on his/her strengths and weaknesses and qualities with which he/she is rendering the services. Finally takes decision on performance.
4. Based on the recommendations/adverse remark of the Principal, the Office Order is issued to the concerned staff member accordingly. If the performance of the staff is not up to the mark the Head of department issues the warning notice/Memorandum. The institute offers enough time periods for the improvement of the performance to such employees. If the employee receives more than three notices or memorandums in one appraisal period, he/she is recommended for the administrative action as per the rules.

File Description	Document
Any additional information	[View Document](#)

6.4 Financial Management and Resource Mobilization

6.4.1 Institution conducts internal and external financial audits regularly

Response:

The institute has a strategy to conduct the internal and external audit every year. The management has appointed the retired senior Government officials for conducting the internal audit. The internal audit team checks all the accounts, journal vouchers, leave record, service books etc. and submit their report to the Hon. Chairman.

The external audit team conducts the annual audit of the unit as well as statutory audit and issues the audit reports.

The Principal has to submit the compliance report on the queries raised by the audit team (the sample compliance report of last audit is attached for reference)

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

Response: 38.54

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

2016-17	2015-16	2014-15	2013-14	2012-13
10.45762	7.05292	6.78557	13.37066	0.87316

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

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

Response:

- The major source of the funding is Tuition fee from students (Government supports Backward class students in terms of scholarships) in addition to revenue generated from Testing and consultation, Charges for conducting online/offline examination from outsiders, Charges levied to research organization to carry out collaborative research. Since this is a self financing institution, funds so generated are utilized for salary and other expenses of the institution.
- Fee of students is decided and approved by the Fee Regulating Authority (FRA) as per the norms.
- Salary expenses include salary paid to teaching, non teaching and guest lecturers and non salary expenses include purchase of equipments, maintenance, infrastructure maintenance, furniture, repair and maintenance, office expenses, printing & stationary and miscellaneous expenses, etc.
- The funds are utilized in accordance with the budgetary provisions made by the LMC and with prior approval of the management.
- The purchase committee is formed to monitor and to negotiate on the rates of purchase of any material whose cost is more than Rs. 10,000/-. Call for quotations are floated on website of institute www.sinhgadsolapur.org.
- So long as practicable the simple tools and equipments, furniture are fabricated in institute's labs/workshops. Unless necessary maintenance jobs are not allocated to outsiders.

6.5 Internal Quality Assurance System

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

Response:

Institute has established IQAC in April 2017 for quality improvement and standardization of the activities carried over in the institute as per the norms and guidelines of different statutory bodies. Though IQAC is recently formed, but institute has always taken care of its quality education since its inception in 2010. For this purpose it has its own Academic Monitoring Committee (AMC) who uses to guide to all the teachers and administrators about their roles and responsibilities. As per the suggestions by AMC institute has adopted some of the best practices which has helped to monitor and report all the activities to promote transparency and student centric approach in the institute. Some of the examples are as follows,

1. **Implementation of Online Feedback:** From very beginning of the institute it emphasizes more on its Teaching Learning process. All the teachers prepare their course file and teaching plan according to the guidelines of AMC and it is well communicated to all the students. Still to ensure the quality of teaching and the learning level difficulties institute has developed two tier feedback systems. It is kind of satisfaction survey from the students for teacher regarding every individual subject they are teaching in the particular semester.

For the effective implementation of the scheme AMC has developed its software to take online feedback from the students. In this process following parameters of the teachers are considered

- Low Voice
- Improper Board Writing
- Improper Presentation
- Poor English
- Poor Preparation
- Less syllabus covered
- Lack of interaction
- Incorrect Pronunciation
- Doubt Not cleared
- Less Explanation

All the students studying in the particular class gives their feedback. It is ensured that at least 80% students of the class are present at the time of online feedback. Depending upon this feedback 'no problem percentage' for the individual subject and teacher is observed and if teacher has this percentage less than 50, then they are advised to improve in their teaching methodologies.

This type of feedback is taken twice in a semester to assure the satisfaction of the students and to ensure the quality delivery by the teacher in stipulated time frame. Now, according to the suggestions given by IQAC some of the parameters in the above feedback are modified and a new system is developed.

1. **Implementation Teacher Guardian (TG) Scheme:**

NBNSCOE is committed to develop student centric approach. As, most of the students admitting in the institute are coming from diversified family background therefore it requires continuous monitoring and mentoring of the students. For this purpose institute from its inception has adopted the unique TG scheme as per the guidelines of AMC. This scheme ensures performance and overall development of students and communicates same to the parents of students. As per AMC guidelines TG is appointed for 15 to 20 students who keep the overall data of students like their contact numbers, home address, test marks, monthly attendance, etc. TG conducts meeting with these students once in a fortnight. Students are supported by Teacher Guardian as a counselor to ensure academic progress along with their involvement in

technical, co-curricular and extra-curricular activities.

For effective implementation of this scheme institute has taken further steps to adopt the concept known as 'TG at Home'. It helps every TG to better understand the family as well as social background of every student. It creates strong bonding between TG with student and their parents. This scheme resulted in improving institutional performance in terms of results, placements and discipline among students.

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

Response:

Institute continuously upgrades in its teaching learning methodologies to make our graduates industry ready or to be self employed. For this institute has defined its own structure in line with SUS curriculum. Some of the initiatives taken by institute to take the review of learning outcomes through teaching learning process and defined methodologies are as follows:

1. **Review of Teaching-Learning Process and its Outcomes**: Due to its defined curriculum NBNSCOE has limited scope to analyze the learning outcomes of the students. Student's performance can be known only after evaluation of ISE and ESE. It gives very less exposure for the students to think out of the box.

To resolve this problem NBNSCOE continuously takes feedbacks from its stake holders and these feedbacks are discussed in AMC meetings. It has been identified that our students are lagging in practical approach; therefore NBNSCOE has created an academic environment where students 'learn by doing'. To develop this culture AMC has given the guidelines for implementing Project Based Learning (PBL) approach in the institute. Depending upon the learning levels of the students from SE to BE students undergoes different projects which are of innovative kind. Thus, learning outcomes are reviewed periodically through different activities as follows:

- These projects are evaluated at the end of every semester by the experts from industry and academia. The students are judged based on their understanding level in the implementation of these projects and accordingly marks are given in the scale of 10.
- Students also give technical presentations throughout the semester based on any of the topic either from the curriculum or from recent trends. These presentations are analyzed by the panel of teachers which assures the learning and understanding level of individual students.
- Group discussions and technical quiz competitions are organized for the students where they showcase their understanding level.
- Research paper presentation competitions are arranged where students participate to present their idea in front of the mixed audience and are been judged by the expert panel.

The outcome of this PBL model have reflected through students participation and awards at different national level competitions such as ROBOCON, HACKATHON, GO-KART, IIT Techfest and so on.

1. **Review of Structures & Methodologies of Operations:** NBNSCOE follows the transparent model, which helps every teacher and the student to know the academic planning for every

semester. Therefore, it has implemented the rigid structure for preparation of the course file. The guidelines for the preparation of this course file are given by AMC/IQAC, which contains all the details required for the implementation of the SUS curriculum. The details of the review process for this course file is as follows:

- Every teacher prepares their course file before the commencement of next semester.
- AMC/IQAC form department wise expert committees to verify the content and completion of course file and report it to higher authorities.
- Suggestions (if any) are communicated to the respective teacher and its fulfillment is ensured by HoD.
- Teacher gives monthly attendance which is displayed for the students for their verification and their queries are solved, if any.
- Teacher feedback is taken twice in a semester to ensure the quality of teaching and teachers are counseled if required.
- Regular reviews for the timely completion of syllabus are taken and accordingly remedial actions are suggested.
- Data from all the teachers and TGs are collected to finalize the CIE/ICA marks.

This process ensures the transparent structure of the institute through different parameters for the evaluation of teachers and students simultaneously. The guidelines for this evaluation and related suggestions are discussed in AMC/IQAC meetings and accordingly further actions are taken.

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

Response: 7.2

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

2016-17	2015-16	2014-15	2013-14	2012-13
11	8	15	1	1

File Description	Document
Number of quality initiatives by IQAC per year for promoting quality culture	[View Document](#)
IQAC link	[View Document](#)

6.5.4 Quality assurance initiatives of the institution include:

1. **Regular meeting of Internal Quality Assurance Cell (IQAC); timely submission of Annual Quality Assurance Report (AQAR) to NAAC; Feedback collected, analysed and used for improvements**
2. **Academic Administrative Audit (AAA) and initiation of follow up action**

3.Participation in NIRF

4.ISO Certification

5.NBA or any other quality audit

A. Any 4 of the above

B. Any 3 of the above

C. Any 2 of the above

D. Any 1 of the above

Response: C. Any 2 of the above

File Description	Document
Details of Quality assurance initiatives of the institution	[View Document](#)
Annual reports of institution	[View Document](#)

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

Response:

Though institute has short history of seven years still it has its own well planned system because of which institute is progressing day by day. Some of the improvements related with the Institute, teachers and students progress are listed below:

- Institute has formed Internal Quality Assurance Cell (IQAC) in April 2017.
- Different Deans for Academic, Administration, Student Welfare, PG program and Higher Studies and Career Counseling are appointed to monitor related activities
- To inculcate the research culture amongst students and teachers, Institute formed Research Centre (Centre for Research and Technology Development - CRTD).
- Institute has decided to go for NAAC Accreditation and National Institute Ranking Framework (NIRF).
- Institute has adopted transparent policy for CIE/ICA.
- To inculcate the culture of discipline, Institute defined Code of Conduct for students and teachers.
- Institute follows a well defined Academic Calendar made according to schedule of Solapur University, Solapur.
- To evaluate the departmental development, it is decided to publish Annual Reports and News Letters by all departments.
- To improve the Teaching-Learning process, Institute has motivated students and teachers to register for NPTEL Certification courses.
- Teachers are motivated for organizing and attending STTP/FDP/Workshops/Seminars/PIP.
- To motivate the teachers and staff, Institute has initiated to give Best Teacher and Best Employee

awards.
- Student result of the university examination (ISE/ ESE) is improving day by day.
- Number of university rankers are increased
- Students participation at University, State and National level competition is increased
- To increase the campus placements, Institute has started to train the students for aptitude tests as well as soft skills and conducts the "Aspiring Minds Computer Adaptive Test" (AMCAT).
- To improve the technical skills amongst students, Institute has initiated Value Addition Programs.
- To inculcate the culture of Project Based Learning, the system of Lab Innovations has been initiated.
- Students participated in National Level Competitions like GO-Kart, Robocon, and Hackathon etc.
- To develop the culture of entrepreneur, Institute formed Entrepreneurship development Cell.
- Institute has established the Alumni cell to work as link between the alumni and institute.This cell regularly performs the function of maintaining constant and close touch with the alumni.
- To create awareness about social responsibility amongst students, Institute has started organizing Techno-Social Awareness camps through National Service Scheme (NSS).
- To improve students presentation skill, they are made compulsorily to give technical presentation
- To gain additional technical knowledge each department has started to organize expert lectures from academics and industries.
- Institute has started Prayog, TechnoSinh competitions at institute level and DISTA competition at state level at the end of academic year.
- Student's participation in PBL has been increased.

Student started coordinating activities through student council and departmental association

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

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

Response: 8

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

2016-17	2015-16	2014-15	2013-14	2012-13
6	1	1	0	0

File Description	Document
List of gender equity promotion programs organized by the institution	[View Document](#)
Report of the event	[View Document](#)

7.1.2

1. **Institution shows gender sensitivity in providing facilities such as:**
   1. **Safety and Security**
   2. **Counselling**
   3. **Common Room**

Response:

All staff and students, enjoy the same rights, resources, opportunities and protections in the institute as envisaged by UNICEF. Following practices are adopted in the institute to ensure gender equity:

- Regarding Safety and Security

- Highly secure campus guarded by adequate number of security guards working 24x7.
- Separate hostel facility for girls and boys in the campus.
- Anti ragging committee has been constituted and contact details of its members are displayed at prominent places.
- Anti ragging squads visit hostels frequently. Female faculty on campus visits ladies hostels.
- Full time wardens are available in hostels to provide daily attention towards all the students
- Separate reading room allotted for girls in central library. Security men accompany girls to hostel during night library hours in preparatory leave period.
- Transport facility (24X7) to reach hospital in emergency medical situation is also available.
- Reserved seats for females are available in institutional transport buses.

- A structured system of facility; facility for the students is available which is monitored strictly.

- Regarding Counseling of staff and students:

- During annual appraisal, every staff member is being heard by the Principal and their queries are solved, if any
- Also institute have adopted the open approach system where every staff and students can access to any of the authority, to resolve their problems
- Appropriate bodies/cells are formed to address every issue
- In the Principal's address for fresher's and Parents' meet announcement of statutory bodies is made
- Teacher guardian scheme is available for mentoring of all the students
- The Internal Complaint Committee (ICC) has been formed and contact details of its members are displayed at prominent places.
- Reservations for female candidates and their representation are strictly adhered to norms.
- Maternity leaves as per rules are provided.
- There is no discrimination in pay, fees, perks, amenities, accountabilities, responsibilities, powers, recognitions etc.
- Online Grievances registration portal is available.

- Common Room:

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

- Institutional Initiatives to address gender sensitivity issues:

- Self defense training classes are conducted with the help of professionals and alumni for girl students.
- Free Hemoglobin check up camp was conducted for girls to make them aware of health issues.
- International Women's Day is celebrated every year to boost the morale.
- An Expert Lecture on "General awareness of Medical Fitness" was organized in the institute.
- To create awareness about sexual Harassment, half day workshop was conducted. In this workshop Prevention, Prohibition and Redressal act was discussed with students by the eminent lawyer Sarojani Tamshetty.

Due to these facilities and initiatives, all the students and staff members feel comfortable during their stay in the campus

7.1.3 Alternate Energy initiatives such as:

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

Response: 18

7.1.3.1 Annual power requirement met by the renewable energy sources (in KWH)

Response: 63

7.1.3.2 Total annual power requirement (in KWH)

Response: 350

File Description	Document
Details of power requirement of the Institution met by renewable energy sources	View Document
Link for Additional Information	View Document

7.1.4 Percentage of annual lighting power requirements met through LED bulbs

Response: 33.33

7.1.4.1 Annual lighting power requirement met through LED bulbs (in KWH)

Response: 4

7.1.4.2 Annual lighting power requirement (in KWH)

Response: 12

File Description	Document
Details of lighting power requirements met through LED bulbs	View Document

7.1.5 Waste Management steps including:
- **Solid waste management**
- **Liquid waste management**
- **E-waste management**

Response:

Organic and inorganic waste is dealt as follows:

Waste from kitchens, messes, canteens, snack-bars and leftovers are identified and collected separately. These wastes along with biomass available from the campus after grazing trees and lawns are taken for composting. The manure so produced is utilized for maintaining vegetation in the campus.

Remaining organic waste from sanitary annexes of staff quarters, hostels and institute's premises is collected using severing line. The sewage treatment plant of Capacity 750 m3/day worth rupees 26, 25,000/- was installed in the year 2013-14 treats sewage and its output is used for gardening purpose.

Different types of e-waste generated in the Institute like damaged C.D.s, CPUs, Hard Disk Drives, Monitors, Keyboards, Cables, and Cartridges etc. are collected together from all departments and handed over to an external e-waste recycling agency.

Paper waste, cardboards, carton boxes, used files etc are sold to external agency for recycling after frequent intervals.

Scrap from workshop is used to manufacture various articles like paper weight, mementos etc under the heading of 'best from waste' to help our students to gain hands on practice and at the same time to reduce our expenses, wherever possible. The remaining waste from workshop is sold out.

File Description	Document
Link for Additional Information	[View Document](#)

7.1.6 Rain water harvesting structures and utilization in the campus

Response:

Annual average rainfall of Solapur city is around 550 mm. For study four different options were proposed in the year 2013 which are discussed below.

- Option I – Roof top rainwater harvesting –

For each building one separate storage tank was proposed

Total volume of water available for collection = 6,72,000liters

- Option II Roof top rainwater harvesting

For each building two storage tanks are proposed

Total volume of water available for collection = 6,72,000 litres

- Option III- Artificial Lake System which also can be used for recreational purpose

  Volume of water available from entire campus =2crore litres

- Option IV For each building one excavation pit with plastic sheets is proposed

Total volume of water available for collection = 6,72,000 litres

However after considering all above option management decided to go for collection of surface runoff that will be impounded by constructing earthen embankment (bandhara). The details of are as follows:

1. Size of water bank :- L x B x H = 150x50x3 m
2. Water capacity:- = 22,500,000 liters.
3. Water stored:- = 6,375,000 liters.

This has increased the water recharge of four wells in the campus and sufficient water is made available during the summer.

File Description	Document
Any additional information	[View Document](#)

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

Response:

Institution has taken lots of efforts to make the campus green and pleasant. There are 13084 various trees and plants attractively positioned all over the campus. The tree plantation is still in progress.

The nourishment process includes watering trees by drip irrigation system and providing timely and optimum fertilizers and pesticides for their better growth.

To promote the awareness of environmental conservation, institute offers/presents in the form of plants/shrubs (instead of bouquets) to guests and experts invited to the institute. The institute believes in **"Save trees, save environment."**

Air Pollution is controlled by encouraging use of bicycles, Shared cars and buses.

Burning of garbage is prohibited.

Plastic free campus

Plastic free campus is practiced by following activities:

1. Use of plastic carry bags is banned.
2. Water coolers are situated at every building; hence use of plastic water bottles is minimized.

Paperless office

The paperless office is maintained by executing following activities:

1. Soft copies of notices are served.
2. Minimal printing that too on both sides of papers.
3. Leave records through GEMS Software.
4. Students' response/data collected through Google forms.
5. GATE exam practice tests are conducted on line

File Description	Document
Any additional information	View Document

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

Response: 1.04

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

2016-17	2015-16	2014-15	2013-14	2012-13
1.19045	1.54415	0.51044	4.09413	26.25000

File Description	Document
Details of expenditure on green initiatives and waste management during the last five years	View Document

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

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

A. 7 and more of the above

B. At least 6 of the above

C. At least 4 of the above

D. At least 2 of the above

Response: B. At least 6 of the above

File Description	Document
Resources available in the institution for Divyangjan	[View Document](#)
link to photos and videos of facilities for divyangjan	[View Document](#)

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

Response: 11

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

2016-17	2015-16	2014-15	2013-14	2012-13
7	1	1	1	1

File Description	Document
Number of Specific initiatives to address locational advantages and disadvantages	[View Document](#)

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

Response: 10

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

2016-17	2015-16	2014-15	2013-14	2012-13
5	2	3	0	0

File Description	Document
Details of initiatives taken to engage with local community during the last five years	

7.1.12
Code of conduct handbook exists for students, teachers, governing body, administration including Vice Chancellor / Director / Principal /Officials and support staff

Response: Yes

File Description	Document
URL to Handbook on code of conduct for students and teachers , manuals and brochures on human values and professional ethics	

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

Response: Yes

File Description	Document
Provide URL of website that displays core values	

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

Response: Yes

File Description	Document
Details of activities organized to increase consciousness about national identities and symbols	
Any additional information	

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

Response: Yes

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

Response: Yes

7.1.17 Number of activities conducted for promotion of universal values (Truth, Righteous conduct,

Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties during the last five years

Response: 13

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

File Description	Document
List of activities conducted for promotion of universal values	[View Document](#)
Any additional information	[View Document](#)

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

Response:

- Independence Day(15th August) and Republic Day(26th January)

Institute celebrates Independence day and Republic day on grand scale. Guests of Honour are invited. Flag is hoisted at the auspicious hands of Guests. March pass is done by security guards of Institute, Students of various houses of Sinhgad Public School. Cultural programs displaying patriotism are performed. Speeches by students, staff and chief guests are delivered. Sweet distribution to students and faculties is done.

- Maharashtra din(1st May)

Maharashtra din i.e. May 1st is celebrated with great zeal in the similar manner as above.

- Birth Anniversary of Savitribai Phule (3rd January)

Birth Anniversary of Savitribai Phule the Pioneer in women education in Maharashtra is celebrated in the institute with Great Spirit. Various odds she had to overcome for the said noble purpose, annoying situations she had to face are told to the audience. Her consistent and relentless efforts have culminated in great jump in the women education in the region as well as country over a period of time to the extent that women claim and acquire same status at par with men in all respects.

- Birth Anniversary of Dr Babasaheb Ambedkar (14 April)

Contributions of Dr. Babasaheb Ambedkar in bringing parity among various sections of society are recalled. It is emphasized that in spite of tough times he faced he never gave up and achieved what seemed to be impossible. His great contribution to the nation including 'Constitution of India' various reformatory enactments passed by the parliament in his tenure as minister of law Government of India, Number of other books authored by him, various agitations led by him are narrated to the audience.

- Death anniversary of Dr A P J Abdul Kalam(27th July)

Death anniversary of Dr A P J Abdul Kalam is celebrated by remembering his contributions towards the nation especially satellite launching vehicle and missiles.

- Birth Anniversary of Dr S Radhakrishnan (5th September)

Birth Anniversary of Dr S Radhakrishnan, the great philosopher, teacher and second President of India is celebrated with great enthusiasm. He is a great inspiration to every teacher. Students greet teacher on this occasion and express their gratitude in the function.

- Birth Anniversary of Sir M. Visvesvaraya (15th September)

Birth Anniversary of Sir M. Visvesvaraya is celebrated as Engineers day on grand scale. His technological contributions are shared with students. Eminent personalities are called as chief guests. Institute level technical event 'Techno-Sinh' is conducted wherein hundreds of students participate.

- Birth anniversary of Mahatama Gandhi and Lal Bahadur Shastri (2nd October)

Birth anniversary of Mahatama Gandhi and Lal Bahadur Shastri are celebrated with lot of spirit and joy. Contribution of these great leaders in the movement of Independence is commemorated. Their values and love for the country are recalled. Various incidences proving their greatness are shared with the audience. Students from hostels, staff, and management representatives grace the function.

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

Response:

Academic Transparency

- Workload & academic calendar is made known to teachers in advance.
- Monthly reviews of performance and attendance are taken. Defaulters are identified and heard.
- Decisions of weekly HoD meeting are communicated next day to all.
- Various parameters of assessment of CIE and individual credits are displayed.

Administrative Transparency

- Details of all activities/charts/norms/policies are displayed on the website
- Assessment records of best staff and students are displayed
- Teaching feedback is made known to respective teacher.
- Every employee is heard before finalizing the appraisal by reviewing authority
- An open ended system is followed where in any stake holder can reach any authority and represent under critical circumstances.

Financial transparency:

- Involvement of faculties and Heads in Budget preparation.
- Purchase committee floats 'Call for quotations' on website
- Norms for share through revenue generation are made known
- Policy for use of 'Staff and student welfare fund' is made known to everyone
- Periodic Auditing is carried over

Auxiliary functions:

While conducting various programs such as STTP/STPs/FDPs/Refresher courses/ counseling programs/ Career guidance programs/exhibitions/ technical events they are given wide publicity so that all aspirants in society can participate.

7.2 Best Practices

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

Response:

1. Best Practice No.1: Project Based Learning

Title: Project Based Learning

Objectives:

- To identify day to day problems and find its optimal solution.
- To encourage students for interdisciplinary, industrial sponsored and real time projects
- To transform theoretical concepts into deliverable real life applications.
- To develop inter personality skills, team spirit, leadership qualities

Context:

Besides basic knowledge of the core subjects pertaining to the branch, student studying in institute and professional working on field requires to possess graduate attributes. They must know how to mould themselves to align with requirements and aims of the group and organization they are working with. If they are unable to acquire graduate attributes then, despite of excellent capabilities not only an individual but the entire group fails to accomplish goals.

In a project, students learn how to take initiative and responsibility, build their confidence, solving problems in time, work in a team, communicate ideas and manage themselves more effectively. Learning happens only when they performs tasks on their own. Project-based learning provides an intentional and effective opportunity to integrate above personality traits in a disciplined manner with various notional developments in the curriculum to solve practical problems.

Practice:

To implement PBL, institute follows various steps in addition to the University syllabus, to make students to learn through practical approach:

- **Lab innovations**: This scheme is carried out every semester for all students of second and third year, in which students develop their small innovative ideas. This helps them to implement their theoretical knowledge to be converted in small projects. This also helps them to build their focus for mini and major projects. Majority of students actively carry out these projects.
- **Interdisciplinary projects**: Practical problems involve application of various disciplines of Engineering so institute encourages students to take interdisciplinary projects. Depending upon the requirement of project students from different disciplines form group in consultation with their guide. These groups' provide working solution to be utilized in real world problems. This also increases the student's capability to work in coordination with other department students, which helps them in their further career.
- **Product based projects**: To make industry ready engineers, institute encourages taking product oriented projects. Problem statement for these projects is formulated after rigorous field survey. Students identify actual societal need and provide readymade solution to them. They also get the financial and resource support from the external agencies, through which they get to know about financial management.
- **Value Addition Programs**: To acquire the skills to carry over any of the project students require extra knowledge other than university syllabus according to the current needs. Institute offers specially designed VAPs to address these skills. At the end of every VAP evaluation is done only if students complete the given projects/assignments.
- **Project Evaluation**: Students completing any kind of projects exhibits it at different competitions held at institute such as TechnoSinh, PRAYOG and DISTA. These projects are evaluated by experts from industry and academia. These students are promoted to participate at higher level competitions outside institute and even at HACKATHON, AVISHKAR initiatives of GoI.

Evidence of Success:

PBL model initiated by the institute is successful as it has reflected in

- Improvement of students in understanding core concepts
- Achieving skills required for the professional practice
- Applying academic knowledge and key skills to solve real-world problems

Two evidences among the various projects to showcase the success of PBL model are:

1. **Design and Development of Super Phototherapy of Neonatal Jaundice:** This was real time project to cure jaundice of new born babies. 'Dr. Kasliwal Medical Care and Research Foundation' gave grant in terms of finance and resources. Also, 'Achintya Automation and Medical Instruments' sponsored this project and these students have been recruited in the same company to develop it as a product. After successful implementation and testing it has been widely accepted by many hospitals. This project has also won many awards at state and national level competitions.
2. **Breaking System of racing Car (Go-Kart):** This project is developed to participate at National Kart Racing Championship conducted by Virtualis Motors Sports, Indore. For this project college has sponsored students to develop their idea through student welfare fund. It has won 14th rank at National level and awarded with Best Acceleration Runner- up in Indian Karting Championship.

Problems encountered and resources required:

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

1. Financial Assistants: Most of the students coming from economically poor background so they depend upon sponsorships provided either by institute or external agencies. Therefore, institute provides support for students' innovative ideas through seed money. Institute also strives hard to get financial assistants through partner organizations by signing MoUs.

2. Unavailability of Equipment due to lack of large scale industries: For product based problem statements students require to work in large scale industry. Also, they require industrial instruments/equipments to implement and validate their project outcome. To resolve this problem institute facilitates interested students to utilize its laboratories and workshop round the clock.

2. Best Practice No.2: Student Development Program (SDP)

Title: Student Development Program

Objectives:

- Assist students to develop their academic and career interests
- Help students to achieve their short term and long term goals
- Train students to improve to match with industry needs
- Organize pre-placement trainings, workshops, seminars for students
- Provide resources and facilities for their career planning
- Analyzing students skill sets by third party assessment

Context:

There is rigorous requirement for SDP as majority of students in institute are from rural background and they lag in following skills,

1. Presentation skills: Being professional graduates students are required to acquire presentation skills to deliver their thought process using modern aids

2. Communication Skill: Majority of engineers' works in corporate where English is globally accepted language; therefore it requires to groom their verbal skills.

3. Public speaking: Students find it difficult to talk in front of group due to lack in confidence and non verbal skills.

4. Soft skill: Engineering is professional course where students require knowing etiquettes and manners while dealing with others.

5. Inexpressive: As these students are strong in technical and analytical skill but due lack of impressive representation they face problems during interviews.

6. Leadership quality: Due to lack of interpersonal skills student does not take lead in most of the activities.

Practice:

To implement SDP model in institute following initiatives are taken,

1. Student presentations: To improve student presentation, communication and public speaking skills institute provides platform from second year onwards where students give presentations using LCD projector. It is planned activity which is incorporated in time-table as Student Activity Hour. Institute appoints dedicated coordinator to monitor the implementation of this activity. Every CC ensures smooth conduction of student presentations. TG/subject-teacher/allotted-guide use to help students to prepare and finalize their contents. Every student is evaluated separately during presentations depending upon their skill sets and knowledge.

This activity is carried out in two phases:

- Technical presentation: At second year, group of students gives presentation on any of the technical topic of their interest. They are free to choose this topic either from curriculum or recent trends.
- Profile presentation: At third year, individual student prepares and present his/her profile in the class. Student is required to present self introduction, goals, achievements and projects carried over during graduation period.

Student presentation helps them to increase their stage courage, confidence along with verbal and nonverbal skills.

1. Student training: To make students to face final interviews, institute takes efforts from first year itself which is monitored by TPO where departments help in smooth conductions of these trainings. This training module is carried out in four stages

- Communication skill: Students at first year undergo communication skill training. A dedicated teacher is available to conduct these sessions. A separate language lab with required ICT facilities is available in institute.
- Soft-skill: For second year students separate soft-skill training is provided by external experts, which helps students to improve their nonverbal communication and leadership qualities
- Aptitude training: Third year students undergo aptitude training which has different modules as quantitative and logical reasoning. This helps students to prepare for aptitude tests required for placements and competitive examinations.
- Pre-placement training: When students enter in final year they are trained on company specific modules which include soft-skills and aptitude training from corporate trainers.

Along with these trainings students are analyzed by third party professionals on the basis of their technical and not technical skills from second year onwards and their results are shared with every individual and TG. Accordingly TG counsels students in their merits and demerits.

To help institute, alumni also join their hands in this training program and share their expertise as and when required.

Evidence of Success:

By following SDP at institute level it has reflected in many ways

1. Placements: Since only four batches have passed out till date and institute has started implementing SDP model from academic year 2014-15. Year wise number of placements are as, 2013-14(44 students), 2014-15(36 students), 2015-16(100 students) and 2016-17 (192 students). Thus, from

2013-14 till date an exponential rise in students' placement can be observed after implementation of SDP model.

2. Participation at various events: Now a day most of the co-curricular and extracurricular activities in the institute are conducted by the students where students play different roles as coordinators, volunteers and participants to develop their leadership and soft skills. Students have participated and won various prizes and awards in the competitions outside institutes based on their presentation and communication skills

3. Recognition at their work place: It has significantly observed that our alumni have shown remarkable progress at their respective workplaces. Most of them have received best employee awards for their contributions. It is due to the active participation of these alumni during their graduation days in overall SDP modules.

Problems Encountered and Resources Required:

Some of the problem arose at different levels in full fledged implementation of SDP due

to geographical location of institute as,

1. Student level: Students don't get the exposure to develop their soft skills since they are from rural area. So, it becomes difficult and time consuming for them to prepare, participate and perform well in both SDP and academics simultaneously.

2. Trainer level: Since SDP is implemented in time table it becomes difficult to find full time trainers to be residing in the campus throughout the semester as these kind professional trainers are not available at Solapur.

7.3 Institutional Distinctiveness

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

Response:

In line with its vision as imparting value based education with research orientation, the institute has established Centre for Research and Technology Developments (CRTD) under able guidance of Ex-VC and Emeritus Scientist Dr. S. H. Pawar. The center has constituted number of committees and 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.

With a view to provide a platform for students and faculties of our institute along with intending outsiders of proven capabilities to get associated and interact with scientists/researchers/professionals of eminence CRTD has triggered process of establishment of specialized research laboratories.

CRTD has submitted four research proposals requesting funding worth rupees 11.32 Crores

1. For carrying out research –

- On brain mapping using SQUID to DST(CSIR)
- Ground water management using isotopes to BRNS
- Impact of radon and thoron levels in earthquake hit areas to BRNS

1. For establishing Atal Incubation Center to NITI Ayog

CRTD has organized a Multimega Event 'Innovative Technologies for Rural Development and their Commercialization' with emphasis on renewable energy and DAE technologies. It was four days program which comprised of interaction with Scientists, Exhibition on BARC Technologies, Science Exhibition, Farmer's Workshop, Talent Search, ROBOTICS, National Conference and Trade Show. This has resulted in dissemination of technology among common people including farmers, students and pupils of various age groups as many a discussions during interaction sessions with scientists and researchers took place in vernacular.

Dr. Anil Kakodkar presided over the function. The chairman of BARC along with a team of scientists also attended the function. Eminent personalities from various universities, Indian Institute of Tropical Meteorology (IITM), independent consultants have attended the programs and guided audience in the field of their expertise. Accepting its own social responsibility institute has borne majority of the expenses. Grants worth Rs. 4 lakhs by BRNS and 75 thousand by DST were sanctioned on request.

Being drought prone area, Solapur district receives less precipitation which is ill- spread and precarious in nature. The institute has signed MoU with IITM, Pune to support its research in the field of cloud physics to address this region specific problem. 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 and software.

Other Initiatives-

- Institution provides financial assistance to faculties for attending National Conferences, STTPs, FDPs related to current research topics to the extent of 50% of registration fees.
- Travel grant for attending International Conference at Sweden was sanctioned by CSIR.

- To facilitate the research environment one day workshop was arranged on 'Writing research proposals and PhD thesis' for all faculty in the region.
- Arranged a session for Physicians and Oncologists with the help of senior scientists from BARC related to Nuclear Energy and Health care.

File Description	Document
Link for Additional Information	[View Document](#)

5. CONCLUSION

Additional Information :

Name	Designation and Affiliation
Dr. S. D. Nawale	Principal
Prof. S. S. Hippargi	Head, IQAC
Prof. Y. B. Shete	Coordinator, IQAC
Prof. A. M. Kalaje	Dean, Academics
Prof. J. G. Kulkarni	Dean, Administration
Dr. S. M. Jagade	Dean, HSCC
Dr. Vagesh Mathada	Dean, PG program
Dr. S. H. Kshirsagar	Dean, Student Welfare
Prof. P. P. Tapkire	HoD, Civil Engineering
Prof. A. A. Phatak	HoD, Computer Science Engineering
Prof. R. B. Gharse	HoD, Electrical Engineering
Prof. S. S. Shirgan	HoD, E&TC Engineering
Prof. A. K. Shaikh	HoD, Mechanical Engineering
Prof. V. S. Biradar	HoD, Genereal Science Engineering
Mr. S. V. Joshi	Registrar

Concluding Remarks :

NBNSCOE is committed to provide high quality education through continuous improvement in available infrastructure, facilities and human resource. It tries to enhance the systematic approach with use of best teaching methodologies for improving students' learning abilities. Institute also develops competencies, creativity, empowerment and accountability among students. This is achieved by designing appropriate programs and life skill activities for students.

For achieving these expectations, institute regularly takes the feedback from its stake holders. In-line with stakeholder's suggestion and guidelines, institute defines its strategy for further modification in its functioning. Till date, many innovative practices are initiated by the institute and have shown its positive results in terms of academic performance and student's development.

Still, NBNSCOE believes in continuous up-gradation in academic and administrative processes to provide the quality engineering education. The process of accreditation helps Institute to ensure the quality of the education which will satisfy the needs of all the stake holders. To be recognized at the national level NBNSCOE considers an opportunity to get evaluated by NAAC. The outcome of this accreditation will validate the academic culture of the institute as well as will give the chance to introspect the institutional progress for accomplishment of its vision and mission.