



SELF STUDY REPORT

FOR

1st CYCLE OF ACCREDITATION

**NUTAN COLLEGE OF ENGINEERING AND RESEARCH,
TALEGAON, PUNE**

VISHNUPURI, TALEGAON DABHADE (STATION) TAL- MAVAL, DIST- PUNE
MAHARASHTRA (INDIA) PIN- 410507
410507

www.ncerpune.in

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

Nutan Maharashtra Vidya Prasarak Mandal's (NMVPM) Nutan college of Engineering and Research (NCER), Talegaon is pleased to present this Self Study Report (SSR) to the National Assessment and Accreditation Council (NAAC), Bengaluru. NCER is part of Nutan Maharashtra Vidya Prasarak Mandal which is a highly respected education society in Maharashtra and is credited with starting national education schools in the Maval Region of Pune district over 100 years ago. The great freedom fighter Lokmanya Bal Gangadhar Tilak was the founder member of the Mandal and was the Chairman of its Governing Body for almost 12 years.

The late Hon. Vishnu G. Vijapurkar was the first Secretary of "Samarth Vidyalaya" - the first national school started by the Mandal. He was imprisoned by the British authorities for his so called anti British activities. Vishnu Ganesh Pingle was a Vibrant Student of Samarth Vidyalaya. He became a leader of the Gaddar Party of Lala Hardayal and was hanged by the British for his revolutionary activities when he was barely 26. The Mandal and its schools have such rich heritage.

During the first 80 years, the Mandal established good Primary and Secondary Schools in the Maval region with the sole intention of providing education to the youth of relatively backward area of the Pune District. In 1998, it established a Polytechnic College and during the last decade, over 1000 students received quality technical education in the Maval region. The Society (Mandal) has thus helped the nearby community in raising its economic and education standard.

The progressive, dynamic and dedicated management of the Nutan Maharashtra Vidya Prasarak Mandal has decided to start new institute is named "**NUTAN COLLEGE OF ENGINEERING AND RESEARCH (NCER)**" in 2018 committed to provide quality technical education to its students.

NCER is approved by All India Council for Technical Education (AICTE), New Delhi and Director of Technical Education (DTE), Government of Maharashtra. It is affiliated to Dr. Babasaheb Ambedkar Technological University (DBATU), Lonere. The institute runs four undergraduate courses namely Computer Science and Engineering, Computer Science and Engineering (AI), Mechanical Engineering, Electronics & Communication Engineering.

Vision

To be a pioneer institute in technical education to gratify the stakeholders with holistic and techno-economic development through innovation to lead the nation

Mission

To develop and nurture research, entrepreneurial abilities in learners through excellent academics to face global challenges with moral and ethical practices.

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

1. Nutan Maharashtra Vidya Prasarak Mandal has historic and philosophical background of last 116 years which has been inculcated in all the students studying in the institute run by them.
2. Well established systems and procedures certified by ISO (ISO 21001 : 2018 EOMS Certified Institute)
3. The university results are consistently good for all the disciplines.
4. The institute has experienced and qualified faculty.
5. Innovative teaching learning practices are followed.
6. The institute conducts entrepreneurship development activities for encouraging development of entrepreneurial skills in the students under Nutan Incubation Cell(NIC)
7. A State-of-the-art central library is available with adequate titles and number of volumes.
8. NCER is located in Talegaon, with proximity to an industrial hub, the Pimpri Chinchwad MIDC, Chakan MIDC, Mahalunge MIDC, Urse MIDC and Hinjewadi IT Park. It is well connected by railways and roadways to nearby towns like Pune, Lonavala and Chakan.
9. The institute promotes enthusiastic students' participation for social causes, through the NSS Programme.
10. Institute promotes co-curricular and extra-curricular activities.

Institutional Weakness

1. Consultancy activities need to be enhanced.
2. Limited placements in core industries.
3. Rank of students at entry level.
4. The institute lacks sufficient patents, paper publications in reputed journals and research grants.

Institutional Opportunity

1. There is scope for inter-disciplinary research.
2. Revenue generation through resource sharing
3. Industry interface
4. Establishing state-of-the-art laboratories in collaborations with reputed industries and organization.
5. Research publications in index national and international journals, patents, start-ups through incubation.

Institutional Challenge

1. Increasing the number of placements for slow learners in core industries.
2. Student's skill need to be enhanced through additional measures as per the continuous changing requirements of the industry.
3. To ensure quantitative and qualitative admissions as per sanctioned intake in the present competitive scenario due to exponential increase in number of technical institutes.
4. To train and empower students for higher studies in very reputed national and foreign universities and / or entrepreneurial ventures.

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

Curriculum Planning and Implementation

The Vision, Mission and Objectives of the Institute are realistic and well defined which are well communicated to its stakeholders. We follow the curriculum and academic policies prescribed by the University. Plan-Do-Check-Act (PDCA) while implementing the teaching-learning process precisely ensures systematic planning, planned execution, thorough monitoring and essential improvements. Institute and Departmental Academic Calendars are prepared which include curricular, co-curricular and extra-curricular activities. The Course planning is done by faculty members, this include course content, identified curriculum gaps based on pre-defined POs and COs, keeping in line with Institute mission. The implementation and delivery of the curriculum is regularly monitored by Academic Coordinator and HODs. Academic Audit is the part of the process which ensures the quality of the curriculum delivery, and attainment of POs through Unit tests, seminar, projects, practical, assignment, and continuous assessments.

Academic Flexibility.

Institute regularly takes efforts to accomplish institution objectives through the curriculum, add-on and personality development courses. Timely inputs from the stakeholders through surveys are analyzed to enhance the development of the students through various value added programs. The gap between academia and industry is bridged by the value added / add-on training programs & Certificate courses that are offered to strengthen the regular academic programs.

Curriculum Enrichment

As the responsibility towards the society the Institute has a vision to develop engineers to respond to the all the Stakeholders, Society and Industry by providing curriculum enriched programs that help the students to develop their professional & ethical behavior and also support the society through Environment and sustainability and Human valve courses.

Feed Back System

Feedback system of the Institute is in place to collect feedback on curriculum, course content delivery, extension activities, faculty development, infrastructural facilities, Laboratory development and value addition of Departments from various stake holders

The feedback from the employers, alumni, industry and parents is taken through a well-defined formal mechanism; analysis of this feedback is conveyed to the BoS for revision of the curriculum. Suggestions of the stakeholders are implemented through number of enrichment programs at the Institute.

Teaching-learning and Evaluation

The total '985' numbers of students have been admitted in the institute during last five years. Total 42.5% of seats filled against seats reserved for various categories during last five years. In the case of student full time teacher ratio, the institute has fulfilled the criteria. In teaching learning process, the institute followed the

experiential teaching, participative learning, and problem solving methodologies through more than '8' teaching pedagogy viz. peer teaching, flipped classroom, group discussion, quiz competition, NPTEL videos, model based, etc. The institute has 133 % of full time teachers against sanctioned posts and '12' number of full time teachers with NET/SET/Ph.D. The course outcomes (COs) and program outcomes (POs) for all the programmes offered by institution are well stated and displayed on website, departmental notice boards. In teaching learning process, the COs of each course and POs are explained in classroom on the first day of new semester and Cos repeated in each and every session of that particular course. The mapping of COs and POs for all the courses have been done and its attainment has evaluated. The pass percentage of final year students is more than 87%. The institute has followed online student satisfaction survey regarding teaching learning process on regular interval. It is a continuous process and always a chance for continuous improvement.

Research, Innovations and Extension

The research is an integral part in the field of education. It is needed to form the problem statement by observing the daily life problems in society and industrial needs. The students are able to find the problem solution through emerging technologies. The skill based education is a need of industries and technical development of students. The research has been enhanced through research papers, patents, research projects, copyrights, books etc. Funding is the main component towards research to fulfil the requirements of devices, software's and its integration etc. The faculty members are always interested to apply for funding through government and non-government agencies. Extension activities have played important role in the holistic development of students. The outcomes of research are in the form of research paper publications in journals (125+), conference paper publications and books, book chapters(196+), patents (88+), copyrights (71+). Total research funding is more than 20 lakhs. The college is majorly focussed on extension activities through social and societal related programmes. Total more than 20 extension activities have been carried out and outcome in the form of comprehensive development of students. The project based learning is the great initiative taken by college for the collaborative research through multidisciplinary approach and participation in internship to know the current problems faced by industries and its solution through technical means.

Infrastructure and Learning Resources

The institute provides state-of-the-art infrastructure to address the need for an effective teaching and learning process. In addition to the norms laid by the AICTE, DTE, and DBATU for physical infrastructure to co-curricular and extra-curricular activities, the policy is to provide educational infrastructure for students.

Physical Infrastructure: The physical infrastructure consists of 18 classrooms, 6 tutorial rooms, 29 laboratories, 1 seminar hall, 1 Computer Canter, 1 Drawing Hall, 1 language Lab, and adequate faculty rooms with common facilities such as an office, central store etc. As per the norms, the institute has well-equipped ICT facilities such as an LCD projector, Internet connectivity, and well-finished furniture with evaluation of safety and accessibility standards.

The average expenditure incurred by the Institute on infrastructure augmentation is 22.46% of overall expenditure, excluding the salary component.

Learning Resource: The Institute has a collection of a total of 4689 reference books with renowned publications which includes 1233 Title, 4689 volumes, 16 national journals, 9 International journals, 32 collections of competitive books with a well-equipped digital library section with Wi-Fi facilities, and seating capacity of

more than 150 students. The library has subscriptions to DELNET, NDL, J-Gate, E-shod Sindhu, and NPTEL with access to 56 million journal articles covering multiple subject domains. The average percentage of per day usage of the library is 10.61%.

IT Infrastructure: The NCER has consistently deployed best-in-class IT infrastructure and Applications development for Academic and Research support with 500 MBPS bandwidth on 24X7 support. As per the norms, the institute has a total of 624 computers, 21 printers, 11 scanners, and 20 projectors.

Number of computers available for students is 564 with a student-computer ratio of 3:1 for the year 2022-23.

Maintenance of Campus Infrastructure: The average expenditure incurred by the Institute on maintenance of physical and academic support facilities is 22.56% of overall expenditure, excluding salary components during the last five years. The Institute has procedures for utilizing and maintaining the physical, academic, and support facilities.

The institute has a well quality of physical and academic environment, which provides adequate resources to ensure a positive and effective learning experience for its students.

Student Support and Progression

It is necessary to build the capacity and enhanced the skills of students through initiating more than '60' activities related to soft skills, language and communication skills, life skills through yoga, health and hygiene related activities. The adoption of ICT is benefited as a good pedagogy for improving the learning skills of students. The institute have taken the initiative for students thought process building capacity programmes viz. competitive examinations and career counselling activities. Averagely more than '50%' students benefited through such an activities. The college has transparent mechanism for timely redressal of student's grievance including sexual harassment and ragging cases but not a single case has been registered because of strict rules and regulations. The mechanisms for the submission of online/offline student's grievances and appropriate committees have been established. The more than '70%' students have been benefited with all scholarships including government and non-government agencies. The '350' students placed in various industries and '11' students promoted for higher education. There are more than '31' awards have been received by students in cultural as well as in sports. The college has registered alumni association. There are total more than '90' programs in sports and cultural in which students have been actively participated. More than '16' awards received by students in sports and cultural activities at university and state level competitions. There are more than '60%' students have been benefitted of career counselling sessions on 'opportunities in IT Industry'. The institute is interested to organize more and more sessions on higher educations and entrepreneurs for the lifelong learning. The thought process of institute is going on for the establishment of guidance cell along with self-learning laboratory through which students will able to get standard materials including videos, other study materials etc. for state government services, GATE examinations and other competitive examinations. It is needed to adopt ICT/computing skills by faculty members as well as students as the world is going towards digitization and utilization of modern tools. The institute has also been thought on the recruitment of full time yoga teacher to get relief from stress and concentrate on health through physical fitness.

Governance, Leadership and Management

The approach of governance and leadership is to involve all the stake holders to achieve vision and mission of

the institute and hence it has been prepared by involving the all the internal members and a stakeholders through the thought process on technological needs of society and future requirement of emerging technologies. Finally, the vision and missions are approved in Governing Body (GB) and College Development Committee (CDC) meeting. The participation in the institutional governance as per organization hierarchy involving governing body, principal, college development committee, central T & P and IQAC are at the top and all Deans, HoDs, institutional coordinators at the middle and attendants at the bottom through teaching staff and departmental coordinators. The institute has prepared its own policy manual and ISO process manuals. The policies including financial support, maternity leave, incubation, appointment of staffs, service rules, IPR etc. The institute has effectively followed performance appraisal system for teaching and non-teaching staff. The institute has provided financial support of total more than '1, 87,800-' rupees to '138' faculty members to attend conferences, workshops and membership of professional bodies. There are more than '271' numbers of teachings and non-teachings staff participated in faculty development programme. The institute has followed the strategies for optimal utilization of resources and funds with regular conduction of financial audits. The institute has established Internal Quality Assurance Cell (IQAC) to review the teaching – learning process, record the learning outcome at periodical intervals and measure incremental improvement in various activities. The internal Quality Assurance Cell (IQAC) proceed with collection of feedback, analyse it and used for further improvements. IQAC helps in enhancing the quality education system of institute. The institute has quality audit in every year through 'ISO 21001:2018 (EOMS Certified)' certification. Currently our institute is ISO certified for next three years up to 2025.

Institutional Values and Best Practices

NCER is governed by NMVPM trust whose objective is to provide value based quality education and best practices in the form of project based learning through innovative ideas, use of modern tools for the purpose of simulation, analyse the ideas with system architecture and methodology, create mini projects for society based applications and competence enhancement programme through various training sessions including soft skills, pre placement training etc. for the overall growth of students. Total participation of more than '90 %' students in the project based learning and more than '60' training sessions have been conducted and its outcome is in the form of placement of more than '350' students and '11' students are promoted for higher education and '05' entrepreneurs as well. A college initiated for the promotion of Gender equity through more than '10' activities ranging from self-defence to women's equality day and college initiatives to organised national and international commemorative days, events and festivals as well through more than '20' activities are celebrated every year. The institution fosters an inclusive environment where students and staff regardless of culture, religious and sociolinguistic background work harmoniously together as a duties and responsibilities of citizen. An alternative energy sources in the form of solar energy through solar panels capacity of '25 kW' for solar roof top solar thermal water system of '24000 litres' capacity. It is necessary to manage various types of degradable and non-degradable wastes and the college has initiated solid waste management, E-waste management and waste recycling system. The college initiated for water conservation, Green campus and barrier free environment. Distinctiveness is achieved through holistic development of student through cognitive, social and societal, corporeal and affective progress. The student's participation in technical activities, research based activities, outreach activities, extension activities, sports activities, cultural activities, yoga activities. It is needed to boost the confidence of students through proper counselling and one to one guidance for examination point of view and handling the interpersonal problems through the scheme of Guardian Faculty Member (GFM). As a lifelong learning students are always follows ethics and moral values.

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the College	
Name	NUTAN COLLEGE OF ENGINEERING AND RESEARCH, TALEGAON, PUNE
Address	Vishnupuri, Talegaon Dabhade (Station) Tal- Maval, Dist- Pune Maharashtra (India) Pin- 410507
City	Talegaon Dabhade Pune
State	Maharashtra
Pin	410507
Website	www.ncerpune.in

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Principal	APARNA PANDE	02114-228175	9595483837	-	ncerpune@gmail.com
Associate Professor	AMOL D. SONAWANE	02114-	9284074687	-	amolsonawane@ncerpune.in

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 minority institution	No

Establishment Details	

State	University name	Document
Maharashtra	Dr. Babasaheb Ambedkar Technological University	View Document

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

Details of recognition/approval by stationary/regulatory bodies like AICTE,NCTE,MCI,DCI,PCI,RCI etc(other than UGC)				
Statutory Regulatory Authority	Recognition/Approval details Institution/Department programme	Day,Month and year(dd-mm-yyyy)	Validity in months	Remarks
AICTE	View Document	30-06-2023	12	Academic Approval

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	Vishnupuri, Talegaon Dabhade (Station) Tal- Maval, Dist- Pune Maharashtra (India) Pin- 410507	Rural	10	8659

2.2 ACADEMIC INFORMATION

Details of Programmes Offered by the College (Give Data for Current Academic year)						
Programme Level	Name of Programme/Course	Duration in Months	Entry Qualification	Medium of Instruction	Sanctioned Strength	No.of Students Admitted
UG	BTech,Computer Science And Engineering	48	Higher Secondary Certificate	English	180	149
UG	BTech,Computer Science And Engineering Artificial Intelligence	48	Higher Secondary Certificate	English	60	50
UG	BTech,Electronics And Telecommunication Engineering	48	Higher Secondary Certificate	English	60	30
UG	BTech,Mechanical Engineering	48	Higher Secondary Certificate	English	60	14

Position Details of Faculty & Staff in the College

Teaching Faculty												
	Professor				Associate Professor				Assistant Professor			
	Male	Female	Others	Total	Male	Female	Others	Total	Male	Female	Others	Total
Sanctioned by the UGC /University State Government	0				0				0			
Recruited	0	0	0	0	0	0	0	0	0	0	0	0
Yet to Recruit	0				0				0			
Sanctioned by the Management/Society or Other Authorized Bodies	6				12				54			
Recruited	3	1	0	4	5	1	0	6	22	32	0	54
Yet to Recruit	2				6				0			

Non-Teaching Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				24
Recruited	16	8	0	24
Yet to Recruit				0

Technical Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				14
Recruited	9	5	0	14
Yet to Recruit				0

Qualification Details of the Teaching Staff

Permanent Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt/ LLD/DM/MCH	0	0	0	0	0	0	0	0	0	0
Ph.D.	3	1	0	4	1	0	0	0	0	9
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	1	0	0	10	7	0	18
UG	0	0	0	0	0	0	0	0	0	0

Temporary Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt/ LLD/DM/MCH	0	0	0	0	0	0	0	0	0	0
Ph.D.	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	11	24	0	35
UG	0	0	0	0	0	0	0	0	0	0

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

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

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

Programme		From the State Where College is Located	From Other States of India	NRI Students	Foreign Students	Total
UG	Male	220	0	0	0	220
	Female	70	0	0	0	70
	Others	0	0	0	0	0

Provide the Following Details of Students admitted to the College During the last four Academic Years					
Category		Year 1	Year 2	Year 3	Year 4
SC	Male	31	64	111	134
	Female	15	43	59	67
	Others	0	0	0	0
ST	Male	2	2	5	4
	Female	1	1	1	0
	Others	0	0	0	0
OBC	Male	53	109	178	221
	Female	21	39	59	82
	Others	0	0	0	0
General	Male	160	346	567	694
	Female	40	89	164	197
	Others	0	0	0	0
Others	Male	16	41	65	102
	Female	6	11	21	29
	Others	0	0	0	0
Total		345	745	1230	1530

Institutional preparedness for NEP

<p>1. Multidisciplinary/interdisciplinary:</p>	<p>The Vision of National Education Policy, to provide high quality education to develop human resources in our nation as global citizens, will be well taken by Nutan College of Engineering and Research. The key principles of NEP such as diversity for all curriculum and pedagogy with innovative ideas in teaching and learning will be initiated for encouraging logical decision making and innovation, critical thinking and creativity. Nutan College of Engineering and Research is affiliated to Dr. Babasaheb Ambedkar Technological University (DBATU). The curricula of DBATU encompass several multi/interdisciplinary aspects. The syllabus of First Year Engineering (FE) includes credit courses on Physics, Chemistry and</p>
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Mathematics in both the Semesters. The course of Mathematics continues for one more Semester in Second Year for all disciplines. FE syllabus is uniform for all disciplines and includes introductory credit courses on all the disciplines like Mechanical Engineering, Basic Electrical and Electronics Engineering, Computer Programming in C etc. This ensures fundamental understanding of the students about the natural sciences and all core branches of Engineering. A few Courses like Data Structures, Computer Architecture & Organization, Computer Networks, Artificial Intelligence Machine Learning are uniform for Computer Science and Engineering and ENTC Engineering disciplines. All the disciplines have audit courses on Environmental Sustainability, Road safety, etc. NCER is a Teaching-intensive and Research intensive Institute. Special efforts are taken by NCER to inculcate multi/interdisciplinary research culture among faculty and students. NCER has been the pioneer Institute among DBATU institutions to adopt Project/Problem Based Learning (PBL) and the pupils are encouraged to identify problems that would need multi/interdisciplinary solution. NCER also insists students of Final Year to procure Sponsored projects, which address the real life problems and which almost always involve multi/interdisciplinary approach to the solution. Students undergo industrial internships in their Third and Final Year of UG course where on the site the interns automatically undergo multi/interdisciplinary training. The Kala-Darpan organizes several events relevant to performing commercial arts, birth and death anniversary celebration of freedom fighters and social workers. Through NSS, several events like Independence Day and Republic Day celebrations, blood donation camps, social work initiatives are taken to instill human values like Truth, Righteous conduct, Non violence, Peace and Love. NCER plans to acquire the status of Autonomous Institute in near future and having acquired thus, the Institute shall certainly plan multidisciplinary curricula that will enable multiple entries and exits. NCER will be proud to be a part of multidisciplinary HEI cluster or to be a Multidisciplinary Education & Research University (MERU) offering quality education in a vast spectrum of domains. On being autonomous, number of disciplines and number of vocational

	courses being offered will be increased.
2. Academic bank of credits (ABC):	<p>NCER is affiliated to Dr. Babasaheb Ambedkar Technological University (DBATU) and is governed by DBATU as regards curricula, examination and evaluation. NCER will make all the necessary provisions of the Academic Bank of Credits, benefit of multiple entries and exits, as soon as it is instructed by DBATU. Also, it is proposed by NCER to apply for academic Autonomy in the near future and in case it is sanctioned, the Institute shall definitely make all the arrangements to include clauses of NEP in its curriculum structure. PCET's Pimpri Chinchwad University and the International Relations Cell of PCET is taking exhaustive efforts to make tie-ups with foreign universities so as to facilitate students' exchange programme, joint degrees and credit transfers. Due to continuous advancement in technology, faculties endeavor to give contents beyond syllabus (CBS) to the students through extra/value added courses. Faculties design and disseminate the content of these add-on courses either themselves or by inviting an expert from industry. ICT tools and innovative techniques like flipped classroom, participative learning, peer learning, etc. are used to discuss CBS. Assignments on the value added courses are designed by the course in-charge. Student's feedback of such course is taken so as to evaluate the need and worth of the course.</p>
3. Skill development:	<p>Knowledge, skills, attitude, and behaviour are the graduate attributes defined by AICTE and skill development in students and faculty has always been the major focus of NCER right from its inception. Many initiatives like internship, industrial training, PBL, etc. were taken by NCER much before these were included in the University curriculum. Faculty members at NCER are encouraged to undergo industrial training, STTP, FDP and certification courses like NPTEL. Students are also encouraged to enhance their knowledge and skills by undergoing online/offline certification courses. Registrations fees are reimbursed by the Institute for the successful faculty members and students. 100% students of NCER undergo industrial internships. Hands-on experience in internships enhances students' technical skills, interpersonal skills, communication skills, and professionalism. For academic and administrative</p>

processes like teaching learning, monitoring, evaluation, feedbacks, etc., the Institute has an efficient Enterprise Resource Planning (ERP) system, which is used by faculty, staff and students. NCER is endeavouring to achieve paper-less, sustainable and environment friendly processes. Faculty and students are provided with various ICT tools like smart-boards, projectors, computational systems, audio-visual aid in the classrooms and laboratories. Students also make use of virtual labs. Institute also has Divyang (specially able) friendly NVDA software. The Institute has sufficient mechanical workshop area with all the conventional and modern machinery as well as skilled trainers. Various sections like carpentry, tin smithy, machine shop, welding, fitting, CNC etc. are well-equipped. Institute is thus well-prepared to offer a variety of vocational courses. Presently, right from First Year, students are undergoing hands-on training in workshop. Workshop practice is a credit course common for all branches of First Year and later on for Mechanical Discipline. Nutan College of Engineering and Research has been already conducting a few skill development courses in order to enhance the hope of employability among the students. The college has already been running vocational/certificate courses on Automobile servicing, Automotive mechatronics, Electronics manufacturing services, Foundry Technology, Welding Technology, Rubber Technology, and Graphics & Multimedia. The college has also introduced Add-On course such as AWS, Solid edge, Ansys, PROSAP, IoT etc. For the proper implementation of New Education Policy, more vocational courses in collaboration with industry and corporate sector will be introduced in the upcoming days in the College.

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

Every day, academic sessions in NCER begin with National Anthem. NSS Cell celebrates Independence Day and Republic Day on large scales. The Kala-Darpan celebrates birth and death anniversaries of all the and Social Workers and Freedom Fighters as Sri Lokmanya Tilak was first founder President of NCER. During the mentor-mentee meetings, faculties discuss stories from history and ancient history (mythology) so as to make the students aware of our rich heritage and culture. Anecdotes from Ramayan,

	<p>Mahabharat, Shivcharitra and even from fictional compilations like Panch-tantra, Isapniti are narrated so as to teach the students valor and wisdom. The annual social event titled Aagaz has a special section called which is dedicated to the Indian Classical Music. It showcases classical and semi classical singing, Bharatnatyam, Kathak and regional/folk dances, Instrument Playing talents of students and staff. It also showcases Rangoli and Painting talents of the students. Tilgul ornament making competitions are also held by the Women Development Cell during Makara Sankranti Festival. Celebration of Shiv Jayanti sees the traditional Dhol-Tasha performance and procession. The college also celebrates Marathi Bhasha Divas. The Institute also celebrates Raksha Bandhan to uphold the age old tradition. Though the medium of communication is English and students have to appear for DBATU examinations in English language itself, faculty use vernacular language (Marathi) or Hindi at times to make difficult concept simple to understand. Regional languages are deliberately used while mentoring the students' group in mentor-mentee meetings or while addressing academic/personal queries raised by students. This ensures a cozy and at-home atmosphere and enables a more heart-to-heart talk. The staffs engaging the lectures in online mode disseminate information in vernacular language (Marathi or Hindi) as well as English.</p>
5. Focus on Outcome based education (OBE):	<p>The UG programmes of NCER viz Computer Science and Engineering, CSE-Artificial Intelligence, ENTC and Mechanical Engineering are also preparing for NBA accreditation. NCER believes in student centric Four-Pillar philosophy, which includes Academic excellence, Professional Competency, Research and innovations and Social Commitment. NCER Four-Pillar philosophy is aligned with AICTE's Outcome Based Education (OBE) attributes, viz. Knowledge, Skill, Behavior and Attitude. Students are trained from the very First Year up to Final Year keeping in mind the probable walk of career they would choose, viz. Employment, Higher Studies and Entrepreneurship. Academic excellence has always been a strong focus of NCER. A structured process certified by ISO 21001:2018 is followed while executing knowledge dissemination and evaluation tasks. In academics, NCER results are among the best</p>

five at the DBATU level. The Institute has an environment conducive to Research and Innovation. Students of NCER undergo Project/Problem Based Learning from their very First Year. Students are encouraged to procure sponsored projects based on real life industrial and social problems. Plagiarism check and publications on the project are mandatory for the students. NCER has a record of filing maximum copyrights and patents in one day. A unique copyrighted International Conference called ICCIP is organized to bring researchers on a common platform. Students are carefully groomed in soft-skills like communication, aptitude, interviews, GD, etc. As a result of the rigorous training given, the placement of NCER has been more than 70% for the passed out batches, including a few International placements. Training and Placement Cell at NCER ensures that students get all the necessary information, resources and guidance for appearing for competitive examinations and for higher studies. As a result, 10+ passed out students are at present pursuing their higher studies. The IRCPBL organizes seminars and conducts Foreign Universities Internship and gives guidance regarding research studies for students and faculties. The Industry Institute Interaction Cell organizes talks of experts for the students to understand challenges, legal formalities and resources for start-ups and provides space, funds, advice and IP consultation for the budding entrepreneurs. The focus of NCER is on producing Engineering Professionals with high moral and ethical values. Every day, the academic sessions begin with National Anthem. The Kala-Darpan organizes celebrates birth and death anniversaries of freedom fighters and social workers. NSS celebrates Independence Day and Republic Day with dedication and patriotism. Cultural festivals like Shri Ganesh Chaturthi, Deepawali etc. are celebrated by all the students and faculty together. Design-courses in the DBATU syllabus, PBL, Internships, Projects, Patent and copyright filing, publishing research articles make the students aware of the professional ethics and obligations. Audit courses on social and ethical aspects are discussed rigorously. Through NSS and Mentoring scheme, several outreach and social events are organized so that the students develop and nourish a sense of social commitment. Foreign Internship programmes offered by the IRCPBL give our students exposure to global

6. Distance education/online education:	<p>culture and professionalism.</p> <p>NCER is affiliated to Dr. Babasaheb Ambedkar Technological University (DBATU) and is governed by DBATU as regards to syllabus, instructions, examination, and evaluation. The four years undergraduate full-time programmes in Computer Science and Engineering, CSE-Artificial Intelligence, ENTC and Mechanical Engineering offered by NCER are to be completed in offline, physical, on-campus mode and there is no provision or feasibility of distance education. During pandemic, all the academic activities like lecture-practical-tutorial delivery, theory and viva-voce examinations, mentor-mentee meetings, projects, seminars, etc were being conducted purely in online mode using platforms like Google Meet, Zoom, Google Classrooms etc. The whole college has internet facility with projectors installed in all classrooms and hence no obstacle in online education. Google classroom was used for circulation of study material. The online lectures delivered then have been made available as video lectures on YouTube channels and blogs, which created by the faculty members for reference for all students. Library has made available E-journal and e-books accessible from home. As the students were not receiving proper tuitions in pandemic, these programmes received good response from students and even course faculty members. This has indirectly led to Open Distance Learning (ODL). Thus, NCER and its faculty are well-prepared to offer ODL to become a multidisciplinary HEI. As on date too, the faculty members are delivering a portion of their curriculum in online mode. Content beyond syllabus, tutorials, extra lectures and audit courses are nearly always conducted in online mode. The Institute has conducted many co-curricular and extra-curricular events like First Year Induction Programme, signature ICCIP, technical competition Bit2Byte, cultural events and Departmental Students' Association events in online mode. Faculty members of NCER have been enthusiastically involved in delivering on-line talks on Intellectual Property Rights, How to File a Patent, How to File a Copyright, Being Evergreen Forever, Positive Thinking, Pranayam and Surya Namaskaar, Veer sawarkar's Hinduism etc. During Covid-19 pandemic, various programs, meetings, seminars for students</p>
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were also organized by institute via online platform. These efforts can be considered as the new normal, which is envisaged in New Education Policy as well. Later, as the pandemic receded, NCER began to conduct all the curricular, co-curricular and extra-curricular activities in hybrid (offline-online simultaneously) mode.

Institutional Initiatives for Electoral Literacy

<p>1. Whether Electoral Literacy Club (ELC) has been set up in the College?</p>	<p>Yes, Electoral literacy club (ELC) has been set up in the institution in June 2023. This club provides platform to engage students through interesting activities and hands on experience to sensitize them on their electoral rights and familiarize them with the electoral process of registration and voting.</p>
<p>2. Whether students' co-ordinator and co-ordinating faculty members are appointed by the College and whether the ELCs are functional? Whether the ELCs are representative in character?</p>	<p>Yes, Electoral literacy club (ELC) is functioning along with National Service Scheme (NSS). The Principal is the chairperson of the club with NSS Program Officer as the Faculty Coordinator. Two Students are also appointed as student's coordinator and 150 students are members in it. Yes, the ELCs are representative in character and is the ELC ie functioning with the following Objectives.</p> <ul style="list-style-type: none"> • To create awareness and interest among faculties and students through awareness activities and camps. • To educate the targeted populations about voter registration, electoral process and related matters. • To familiarize the targeted populations with EVM and to educate them about robustness of EVM and integrity of the electoral process using EVMs. • To help the target audience understand the value of their vote to ensure that they exercise their suffrage right in a confident, comfortable and ethical manner. • To facilitate voter registration for its eligible members who are not yet registered. <p>The Committee Members for the Electoral literacy club are appointed 01 Dr. Aparna Pande Principal 02 Prof. Bhimrao Gaikwad NSS Program Officer 03 Prof. Swati Narule Member 04 Prof. Sujata Gaikwad Member 05 Prof. Seema Mahalunkar Member 06 Prof. Bhushan Pawar Member 07 Mr. Anil Ekkal Member 08 Mr. Vinay Kamble Student Coordinator 09 Ms. Kashish Upadya Student Coordinator</p>

<p>3. What innovative programmes and initiatives undertaken by the ELCs? These may include voluntary contribution by the students in electoral processes-participation in voter registration of students and communities where they come from, assisting district election administration in conduct of poll, voter awareness campaigns, promotion of ethical voting, enhancing participation of the under privileged sections of society especially transgender, commercial sex workers, disabled persons, senior citizens, etc.</p>	<p>The Institute conducts a number of activities to create sensitization of students. The constitutional day is celebrated on 26th January every year and a pledge is taken by all students and staff members. Under the ELC, the institute conducts voter awareness programs. The Institute conducts a special speech on the importance of the value of casting the vote and how it helps in protecting the constitutional obligations under the ELC. The success of democracy depends upon strong legislation by electing right person for right place to give importance to constitutional values protecting social justice of the citizens and in this connection SVEEP (Systematic Voters' Education and Electoral Participation) program was organized in our Institute to create awareness about the value of vote among the students.</p>
<p>4. Any socially relevant projects/initiatives taken by College in electoral related issues especially research projects, surveys, awareness drives, creating content, publications highlighting their contribution to advancing democratic values and participation in electoral processes, etc.</p>	<p>Yes, many social relevant initiatives were taken by the college namely Program 01-vote for Nation –Marathon on Date: - 25th Jan 2023 Program 02:- Project on online voting system by final year students in the year 2023 Program 03:-Voters Awareness Program Voter Registration. On Date:-27/06/2023</p>
<p>5. Extent of students above 18 years who are yet to be enrolled as voters in the electoral roll and efforts by ELCs as well as efforts by the College to institutionalize mechanisms to register eligible students as voters.</p>	<p>Following activity is conducted in last year to Motivate students above 18 years 1. Voters Awareness Program Voter ID Registration Camp 2. Project on online voting system by final year students in the year 2023 3. Voters Awareness Program Voter Registration More such activities and actions will be taken by ELCs as well as Colleges to institutionalize mechanisms to register eligible students as voters.</p>

Extended Profile

1 Students

1.1

Number of students year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
1530	1230	745	345	94

File Description	Document
Upload Supporting Document	View Document
Institutional data in prescribed format	View Document

2 Teachers

2.1

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

Response: 138

File Description	Document
Upload Supporting Document	View Document
Institutional data in prescribed format	View Document

2.2

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

2022-23	2021-22	2020-21	2019-20	2018-19
72	72	54	36	18

3 Institution

3.1

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

2022-23	2021-22	2020-21	2019-20	2018-19
734.46165	455.51832	236.73668	248.70733	65.92358

File Description	Document
Upload Supporting Document	View Document

4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curricular Planning and Implementation

1.1.1

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

Response:

Academic excellence is an significant pillar among the Four-Pillar-Philosophy of NCER. NCER is committed to conduct all academic tasks in line with the Plan-Do-Check-Act cycle and ISO schedule.

Prior to the Commencement of the odd semester along with the University Academic Calendar and with the inputs given by Internal Quality Assurance Cell (IQAC), Departmental Advisory Board (DAB), Academic Monitoring and Control Committee (AMC), and other stakeholders, curricular, co-curricular & extra-curricular activities are scheduled in Institutional and Departmental activity calendar. Departmental activity calendar is shared with students and faculty members well before the start of semester.

The subjects for the semester are assigned by HOD to faculties as per their proficiency and preference. Time table is prepared to fulfill the subject-wise structure provided by Dr. Babasaheb Ambedkar Technological University.

Faculty prepares course files which consist of lesson plan, content beyond syllabus, and laboratory manuals. Our teachers seek suggestions from Academic Monitoring Committee for improvement in the content delivery & techniques. Monthly Academic Review Meeting by the AMC is an integral part of the teaching learning process, which ensures curricula progress.

Attendance of students is noted for every lecture and progress is observed on regular basis. Defaulter list is displayed every month and parents are informed about progress of their ward. Counseling of defaulter students is done by the respective Guardian Faculty Member.

For enriched teaching-learning involvement the Institute implements outcome based education, use of bloom's taxonomy, innovative pedagogy, participative learning and ICT. Along with the regular curriculum delivery the classroom teaching is supplemented with guest/ expert lectures, seminars/hands-on-sessions, mini/industry supported projects, industry visits, industrial internships, case studies, e-learning, NPTEL lectures, etc.

The gap in the curriculum and industry is identified and conveyed to students as contents beyond syllabus. Soft-skills training, value added courses and counseling for holistic development of students is done. Student feedback is taken twice in semester and feedback from other stake-holders once in a year through ERP/Manually. Inputs from various stakeholders are summarized and communicated to the Board of Studies for curriculum revision.

A Continuous Assessment is done to improve overall performance in internal and external examinations. Continuous Internal Assessment for Theory and Practical, Seminars, Mini Project, Major Projects, internal examination, assignment is conducted and assessed by well-defined rubrics and is monitored by Departmental Academic Coordinator (DAC). Internal Evaluation is carried out with respect to following points:

- Mid Term examinations are conducted every semester. Test papers are set using Unit-wise COs and BT levels and answers are evaluated.
- Assignment is given after completion of every unit and is assessed based on timely submission and quality of answers.
- Review of project is done as Project Phase I and Phase II & final review assessment is done by an external examiner. Students are assessed on all possible assessment tools like internal tests, assignments, project review and in active participation in technical, non-technical events.
- Adherence to the academic calendar is monitored through course file verification, ARM Meetings, Faculty meetings, Feedback on syllabus, Management Review Meeting (MRM), Internal and external ISO Audit.

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

1.2 Academic Flexibility

1.2.1

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

Response: 53

File Description	Document
Institutional data in the prescribed format	View Document
Evidence of course completion, like course completion certificate etc. Apart from the above:	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

1.2.2

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

Response: 76.7

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

2022-23	2021-22	2020-21	2019-20	2018-19
1360	842	384	345	94

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

1.3 Curriculum Enrichment

1.3.1

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

Response:

NCER is affiliated to DBATU, a leading State University. DBATU syllabus has many courses addressing issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability. Institute has added some curricular and extracurricular activities to further strengthen these. Curricular courses addressing Professional Ethics: Advanced Concrete Technology:

Curricular courses addressing Professional Ethics:

- Business Communication: This course helps students build the proficiency needed to succeed in today's technologically enhanced workplace
- Economics and Management: The Economics and Management degree examines issues central to the world we live in.
- Development Engineering: This course aims to introduce the basic principles of engineering for a developing society such as India. It aims to teach students how to study society and its engineering systems, the generation of value, the use of natural resources and the various agents who are involved in this.
- Employability and Skill Development: This course is designed to help students identify the knowledge and skills required for obtaining and keeping employment.

Curricular courses addressing Human Values:

- Basic Human Rights: The course provides an introduction to basic human rights philosophy, principles, instruments and institutions, and also an overview of current issues.

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

1.3.2

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

Response: 73.86

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

Response: 1130

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

1.4 Feedback System**1.4.1**

Institution obtains feedback on the academic performance and ambience of the institution from various stakeholders, such as Students, Teachers, Employers, Alumni etc. and action taken report on the feedback is made available on institutional website

Response: A. Feedback collected, analysed, action taken& communicated to the relevant bodies and feedback hosted on the institutional website

File Description	Document
Feedback analysis report submitted to appropriate bodies	View Document
At least 4 filled-in feedback form from different stake holders like Students, Teachers, Employers, Alumni etc.	View Document
Action taken report on the feedback analysis	View Document
Link of institution's website where comprehensive feedback, its analytics and action taken report are hosted	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1

Enrolment percentage

Response: 48.5

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

2022-23	2021-22	2020-21	2019-20	2018-19
313	216	165	94	85

2.1.1.2 Number of sanctioned seats year wise during last five years

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

File Description

Document

Institutional data in the prescribed format

[View Document](#)

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

[View Document](#)

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

[View Document](#)

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

[View Document](#)

2.1.2

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

Response: 40.97

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

2022-23	2021-22	2020-21	2019-20	2018-19
169	101	79	47	33

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

2022-23	2021-22	2020-21	2019-20	2018-19
198	198	198	255	198

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

2.2 Student Teacher Ratio

2.2.1

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

Response: 21.25

2.3 Teaching- Learning Process

2.3.1

Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences and teachers use ICT- enabled tools including online resources for effective teaching and learning process

Response:

NCER believes in developing their students by adopting student-centric methods and they involve through participative learning, experiential learning, project-based learning, problem-solving methodologies and collaborative learning for slow, advanced, and average learners.

Faculties have attended professional development programs and training to enhance their skill sets related to ICT. Each department has an overhead projector and computer system with internet connectivity to make teaching more exciting.

The various student-centric methods adopted by the institute for enhancing student's learning experiences are:

Experiential Learning:

- Project-based learning approach in courses like departmental core courses, Mini project, and Major projects improves experiential learning.
- Students are designing prototypes and projects at different levels. Courses are having hands-on practical components.
- Students undergo summer internships and Project Based Learning to learn about the latest technology, this teaches students to mine data from various sources and adopt various approaches.
- Students present their project work in the form of presentations, which improves their communication and presentation skills.
- To enhance self-learning, learning material created by faculty is made available through Google classroom, and YouTube channels.

Participative Learning:

- Flipped Classroom aims to increase student engagement and learning. Students are encouraged to actively participate in additional courses such as NPTEL/Coursera etc. For advanced learners, these courses are mandatory to promote higher-order thinking.
- Activities like Enduro, Hackathon and Kavach provide an opportunity for the students to work as an individual and in teams.
- Teachers conducted various active learning activities like Flipped classroom, Jig Saw, Roleplay, Think-pair-share, Group discussion, one-minute paper etc. to enhance the participation of students in the teaching-learning process.

Problem-Solving Methodologies:

- Multiple activities are carried out to familiarize students with real-world industry issues.
- Institute conducts activities to boost their problem-solving abilities like puzzles, quizzes, etc. through knimbus platform, ERP etc.
- The seminar helps to understand fundamental concepts, recent trends/technologies, and the expression of practical skills and knowledge gained.

Some of the ICT tools used in NCER are given below;

- Classrooms (equipped with network connectivity, LCD projector, standard teaching aids, audiovideo components, smart boards, etc.)
- ERP System (<https://ncer.nmvpmerp.com/>)
- Knimbus Platform (<https://nmiet.knimbus.com/user#/home>)
- Google classroom, Google meet, Google form
- YouTube channels
- Simulation software
- Online material like E-books, E-Journals etc.

Extensive use of Google classroom, Google meet, Knimbus platform etc. was observed during the pandemic and it has been continued in the post-pandemic period in hybrid mode. Institute encourages students to use the available tools for the conduction of various workshops, hands-on training, and technical events with an emphasis on the use of the software.

A summary of various students-centric methods is given below;

Experiential Learning	Participative Learning	Problem Solving Methods
Industrial Visit	Group Discussions	Case Studies
Field Visit	Presentations	Projects
Seminar	Technical Events	Puzzles
Project Based Learning	Student Committees	Quizzes
Projects	NPTEL/ Courcera	One minute paper
Softwares	Flipped Classroom	Crossword
You Tube Videos	Hands on Experience	Online tests
Industry Internship	Resource Pooling	
Virtual Labs		

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

2.4 Teacher Profile and Quality

2.4.1

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

Response: 100

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

2022-23	2021-22	2020-21	2019-20	2018-19
72	72	54	36	18

File Description	Document
Sanction letters indicating number of posts sanctioned by the competent authority (including Management sanctioned posts)	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

2.4.2

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

Response: 9.52

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

2022-23	2021-22	2020-21	2019-20	2018-19
12	8	2	1	1

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

2.5 Evaluation Process and Reforms

2.5.1

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

Response:

The institute is affiliated with Dr. Babasaheb Ambedkar Technological University (DBATU), so procedures are strictly adhered to in accordance with DBATU website circulars and notifications. Through the administration and exam departments, notices and a circular about evaluation are delivered to every department.

Students were informed about the fairness and complete transparency of the evaluation procedure through the dissemination of information.

- DBATU notices and circulars about the assessment process are posted on notice boards and shared with students by their teachers via Whats App groups.
- First-year engineering students participate in an orientation program at the start of the academic year where parents and students learn about the assessment procedures.
- Students' term work is evaluated using a continuous assessment methodology.

Faculty members' knowledge of the assessment procedure

- The purpose of the induction program is to familiarise newly recruited faculty with the internal and external assessment policies that are currently in place.
- Faculty members receive notices and circulars via WhatsApp groups and department meetings.
- Through parent-teacher conferences that are held each semester, parents and students are also informed about outcome-based assessment techniques.

These methods are used to carry out assessments:

- Theory exam at the end of the semester
- Project assessment
- Oral and Practical Exam

Direct Evaluation Methods

- Unit Test (CA1, CA2)
- Theory Assignment
- Mid-term

Indirect Assessment Methods

- Surveys
- Passing Out survey
- Course exit survey
- Alumni Survey
- Parent Survey.

- Activities (Co-Curricular and Extracurricular)

Pupils offer input on every facet of instruction and learning, and remedial actions are implemented as needed.

The adoption of Blooms Taxonomy has resulted in the improvement of the student academic standards both at teaching and evaluation stages.

For end-of-semester exams, grievance procedures are in place at both the university and institute levels. The following is the grievance redressal method with regard to evaluation.

Institute level:

Nutan College of Engineering and Research, Pune

- At the start of each semester and as needed, students are informed about the procedures used for assessment.
- Students receive the graded internal test answer sheets (CA1, CA2, MidSem), and the course instructor discusses performance.
- Students who are dissatisfied with the internal evaluation process can speak with the relevant faculty members directly and address their concerns.
- If a student has any complaints, they can speak with the department head.

University level:

Paper setting, testing, assessment, and result announcement are handled by Dr. Babasaheb Ambedkar Technological University.

Students can view their grades on the university portal using their unique login credentials once the university has announced the results.

Students can petition for revaluation using the university site if they have complaints about their course marks. If a student fails a topic, they are eligible to apply for remedial tests in that subject.

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

2.6 Student Performance and Learning Outcomes

2.6.1

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

Response:

Our Institute adheres to the NBA's Program Outcomes (POs). These are twelve in number and are similar to and in line with the Graduate Attributes. Programme Specific Outcomes (PSOs) are also defined for all programs.

Every Department has Department Advisory Board (DAB), Program Assessment Committee (PAC), and Modules. Course Teachers and Module-coordinators define Course Objectives and Course Outcomes (COs) for every Course. The CO statements and CO-PO/PSO mapping matrix are defined using Bloom's Taxonomy and communicated to all stakeholders.

For POs, a graphical presentation is shown to ensure that all stakeholders have a clear understanding. It is mandatory for the course in-charge to prepare the course presentation at the start of each semester and present it at the ARM. Students are detailed about CO/PO/Mission and Vision of the Institute and Department.

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

2.6.2

Attainment of POs and COs are evaluated.

Explain with evidence in a maximum of 500 words

Response:

Our Institute adheres to the NBA Program Outcomes (POs). These are twelve in number and are similar to and in line with the Graduate Attributes. Programme Specific Outcomes (PSOs) are also defined for all programs. Every Department has Department Advisory Board (DAB), Program Assessment

Committee (PAC), and Modules. Course Teachers and Module-coordinators define Course Objectives and Course Outcomes (COs) for every Course. The CO statements and CO-PO/PSO mapping matrix are defined using Bloom's Taxonomy and communicated to all stakeholders.

For POs, a graphical presentation is shown to ensure that all stakeholders have a clear understanding. It is mandatory for the course in-charge to prepare the course presentation at the start of each semester and present it at the ARM. Students are detailed about CO/PO/Mission and Vision of the Institute and Department. Following are some methods/avenues for disseminating information;

- ? Institute website
- ? Laboratories
- ? Class Room
- ? Lobby
- ? H.O.D. Cabin
- ? Faculty Presentation

CO, PO, and PSO Attainment

The attainment process of POs/PSOs is divided into Direct and Indirect Attainments. Direct attainment includes the attainment of each CO contributing towards the attainment of PO and Indirect attainment includes views of stakeholders on the PO/PSO attainment. 80% weightage is given to Direct and 20% weightage is given to indirect attainment. CO attainment is further divided into two parts viz. Course attainment (direct) and course

end survey (indirect). Course attainment is further divided into internal attainment and External attainment. The internal attainment is done at Department as per Institute's academic calendar and the External attainment is done at University.

With the help of the above-mentioned tools, CO attainment is calculated by Course In-charge as per the CO attainment levels decided by PAC.

Level 1: If a student scores 40% to 49.99% marks out of the relevant maximum marks allocated for a particular CO.

Level 2: If a student scores 50% to 59.99% marks out of the relevant maximum marks allocated for a particular CO.

Level 3: If a student scores 60% and above marks out of the relevant maximum marks allocated for a CO.

CO Attainment is calculated as follows

Calculated CO attainment is compared with target CO attainments set by PAC. If the calculated CO attainment is more than the target CO attainment, the targets are raised by the decided policy, and if not, corrective actions are planned to achieve the target.

Final PO/PSO Attainment is calculated as the sum of Direct PO/PSO Attainment (80% weightage) and Indirect PO/PSO Attainment (20% weightage).

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

2.6.3

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

Response: 86.59

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

2022-23	2021-22	2020-21	2019-20	2018-19
223	242	0	0	0

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

2022-23	2021-22	2020-21	2019-20	2018-19
293	244	0	0	0

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

2.7 Student Satisfaction Survey

2.7.1

Online student satisfaction survey regarding teaching learning process

Response:

File Description	Document
Upload database of all students on roll as per data template	View Document

Criterion 3 - Research, Innovations and Extension

3.1 Resource Mobilization for Research

3.1.1

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

Response: 20.35

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

2022-23	2021-22	2020-21	2019-20	2018-19
13.126	5.69085	0.53668	1.00042	0

File Description

Document

Upload supporting document

[View Document](#)

Institutional data in the prescribed format

[View Document](#)

3.2 Innovation Ecosystem

3.2.1

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

Response:

The institute has a separate research and development cell. The R&D cell comprises faculty members from various departments of the institute. This committee oversees the smooth and efficient coordination of research and development activities in the institute, thereby promoting overall development. Dr. Ashwini Shinde heads this cell in the capacity of Dean (R&D), with the principal presiding over it.

Initiatives have been taken to inculcate the spirit of research among the faculty and students through research policy. Financial assistance is provided for publishing facilities such as conference fees and rewards for reputed journal publications, and facilities like flexibility in time, use of laboratories, etc. are provided to the faculty as per requirement. Faculty with aptitude for research have been identified, and we have implemented a policy for testing and distribution of consulting fees to motivate faculty to provide consulting. More experienced faculty are required to apply for and receive research grants from various government and non-government, create awareness among researchers, and deal with various

proposal formats, budgets, research schemes of various funding agencies, and purchase of equipment and materials under the same, accounts and Providing assistance is encouraged. The project proposal submitted by Professor Ravindra Gahane and Dr. Aparna Pandey has received funding of Rs. 300000 from DBATU Lonre (Govt.). Research grants of approximately Rs. 1500000 have been approved for various projects submitted by Dr. Sagar Shinde to non-government companies. Also, a project proposal submitted by Dr. Ashwini Shinde has been provisionally accepted by SERB with a requirement of Rs. 2700000 under the CRG 2023 scheme. Collaborative research partnerships with academic institutions and industry are encouraged and promoted.

Assistance is provided for filing patents and copyrights. An Industry Institute Interaction Cell works in close coordination with the industries and the institute to encourage both students and faculty to work on live projects. Since only two batches have passed out in 2021-22 and 2022-23, 04 project groups of the Department of Mechanical Engineering have completed Industry Sponsored Research Projects (collectively Rs. 58500/-).

The institute organized the ICCIP International Conference from 2019 to 2023 and around 400+ papers were presented by various researchers, faculty members, and students. NCER faculty members have collectively published about 122 journal papers, 196 conference papers, and book chapters in the last five years. The institute has also filed 88 patents out of which 01 was granted and 71 copyrights have been filed in the last 5 years. An initiative has been taken by the R&D Cell to help researchers understand the recent updates of their publications in terms of citation index, H-index etc. VIDVAN profile has been created for each faculty member.

Nutan Incubation Foundation has been established with a vision to become the premier one-stop support arm for students and the student community at NCER College Trust, empowering them to unleash their entrepreneurial potential to solve real-life problems. Collectively, 51 industry visits were organized by the institute for students and faculty members to enhance institute-industry linkages and learn about the recent problems in the industry.

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

3.2.2

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

Response: 53

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

2022-23	2021-22	2020-21	2019-20	2018-19
17	13	8	12	3

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

3.3 Research Publications and Awards

3.3.1

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

Response: 0.91

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

2022-23	2021-22	2020-21	2019-20	2018-19
46	32	9	7	31

File Description	Document
Link to re-directing to journal source-cite website in case of digital journals	View Document
Links to the papers published in journals listed in UGC CARE list or	View Document
Institutional data in the prescribed format	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

3.3.2

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

Response: 1.42**3.3.2.1 Total number of books and chapters in edited volumes/books published and papers in national/ international conference proceedings year wise during last five years**

2022-23	2021-22	2020-21	2019-20	2018-19
97	7	12	2	78

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

3.4 Extension Activities**3.4.1**

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

Response:

NCER is part of Nutan Maharashtra Vidya Prasarak Mandal which is a highly respected education society in Maharashtra and is credited with starting national education schools in the Maval Region of Pune district over 100 years ago. The great freedom fighter Lokmanya Bal Gangadhar Tilak was the founder member of the Mandal and was the Chairman of its Governing Body for almost 12 years. The institute is committed to contribute to the holistic development of students in research, innovation and social aspects. Students participated in various activities like cleaning of the fort, cleaning of river and lake and pollution reduction etc. Also students are encouraged to take up projects on topics based on agriculture, ease of farming and renewable energy. The institute is actively engaged in conducting various activities like digital awareness, voting awareness and government schemes and developments in nearby schools, colleges and villages. The college adopted Yelase village for regular development engagement with the rural community.

The historical background of Talegaon Dabhade dates back to the time of Chhatrapati Shivaji Maharaj. Most of the prominent forts of Maratha dynasty are in Maval area and nearby Pune. Apart from this, the Commander in Chief of Maratha Army is from Talegaon Dabhade. Students are always ready to do

something for the forts of Chhatrapati Shivaji Maharaj. Thus more than 30 forts (such as Raigad, Lohagad, Visapur, Rajgad, Purandhar, Sinhgad, Tikona, Induri, Chakan Torna) were visited and cleaned by the college students through Swachh Bharat Abhiyan and NSS camps in last five years.

The college has undertaken continuous tree plantation drives every year to create and maintain a green campus. During Covid-19, faculty members and students planted trees at their homes. More than 250 trees have been planted by NCER staff and students on the occasion of Anna Saheb Vijapurkar Jayanti (Founder Secretary of the Trust). Faculty Development Cell, Student Development Cell and NSS have been celebrating International Yoga Day every year with training sessions on Yoga, Surya-Namaskar, Paranayam, Healthy Habits and Diet. Two blood donation camps have been organized in the college in the last two years to make students aware about blood donation and its benefits. Faculty members of the institute have participated in the distribution of raincoats, shoes, socks and school bags to 279 school students through "Spreading Happiness Foundation" as a social activity.

The institute celebrates Mahatma Gandhi Jayanti and Lokmanya Bal Gangadhar Tilak Jayanti every year to make students aware of the contributions to Indian independence movements. The students of the institute organized a short drama on the streets of Talegaon Dabhade on the occasion of Independence Day against corruption. COVID-19 Vaccine Awareness has been conducted on 03rd May 2021. A total of 200 masks were distributed on 04th June 2021. The Institute was COVID-19 Vaccine centre for Vaccination.

These service activities have enabled the students to observe many social problems and develop empathetic orientation. These programs help students understand the importance of responding to society.

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

3.4.2

Awards and recognitions received for extension activities from government / government recognised bodies

Response:

Nutan College of Engineering and Research (NCER) is affiliated to Dr. Babasaheb Ambedkar Technical University. Students are motivated to participate in social activities while enhancing professional career. Institute continuously supports the students to participate in extension activities to create social awareness among them.

Social Awards and Recognition: Extension activities are conducted by the NSS team of the Institute. One of the outstanding activities arranged in last two years is Blood donation camp. This activity is organised by NCER NSS Unit in Association with Rotary Club of Talegaon City. NSS team organized several

events and activities in the villages, which were appreciated by the villagers such as adoption of Yelase villege.

The Blood donation camp activity is recognised by the “Pimpri Chinchwad Blood Centre” as 69 persons from college donated blood.

Faculty members of the institute have participated in the distribution of raincoats, shoes, socks and school bags to 279 school students through "Spreading Happiness Foundation" as a social activity. They are honoured with certificate of participation in the social event.

To inculcate an environmentally friendly approach in the students, “Plastic Mukh Wari” activity was conducted by NSS unit. Student collected the plastic waste from the Sant Tukaram Maharaj palki sohala. This activity is covered by local newspaper and also by news channel ABP Majha (https://youtu.be/8h3V4319uYA?si=9ziRf_YzDLizZifa).

The student activity “short play on road against corruption” is also recognised by local news channel AAWAJ NEWS. (<https://www.youtube.com/watch?v=TYC1bb2LoX4>)

Along with these recognition institute received following awards:

The Institute has been awarded "Gold Rank" in AICTE - CII Survey of Industry - Linked Technical Institutes 2020.

The Institute is awarded "Best Skill Based Engineering Institute in Maharashtra, 2019".

The Institute received Award for Educational Institute with Best Academic and Industry Interface (20/12/2019).

The Institute received Certificate of Excellence, Winner of "Make in India Emerging Leader 2021" in the Category of Top Ranked Engineering College of the Year (Maharashtra).

The Institute received Award For Educational Institute with Best Academic and Industry Interface from Stars of the Industry Award presented by ETnow, Rise with India For Excellence in Education on 20th December 2019.

The Institute received Certificate of Excellence for "9th Asia Education Summit 22", The National Awards in Education Excellence- Best Private Engineering College in Maharashtra from IBARC Asia International Consumer Research and Process Evaluate with the Support of the JournalStory.com on May 21, 2022.

The Institute has received Certificate from Indian Patent and Trade Marks Office, Boudhik Sampada Bhavan, Antop Hill, Mumbai, Maharashtra for “Maximum Number of Patents (14 number) filed by Engineer Couple in a Day”

Faculty Awards:

Our Executive Director Dr. Girish Desai Sir got award from Times group (ET Gen Next Icons 2020 Award): "Exemplary Contribution in the Field of Education - Engineering".

Prof. Prasad Baban Dhore received Teaching Excellence Award 2021 from (I2OR) International Institute of Organized Research on the occasion of World Teacher's day on 5th Oct 2021.

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

3.4.3

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

Response: 20

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

2022-23	2021-22	2020-21	2019-20	2018-19
14	4	2	0	0

File Description	Document
Institutional data in the prescribed format	View Document
Detailed report for each extension and outreach program to be made available, with specific mention of number of students participated and the details of the collaborating agency	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

3.5 Collaboration

3.5.1

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

Response: 30

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

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

4.1.1

The Institution has adequate infrastructure and other facilities for,

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

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

Response:

The institute provides state of the art infrastructure to address the need of an effective teaching and learning process. In addition to the norms laid by the AICTE, DTE and DBATU for physical infrastructure to cater co-curricular and extra-curricular activities, the policy is to provide educational infrastructure for students in terms of **laboratories, software and equipment, library resources, and well-furnished classrooms** etc. The facilities of audio-video and ICT tools help to strengthen the infrastructure of the institute.

The physical infrastructure consists of **18 classrooms, 6 tutorial rooms, 29 laboratories, 1 seminar halls, 1 CC, 1 Drawing Hall, 1 language Lab and adequate faculty rooms**. Moreover, the institute has supporting academic and administrative rooms for undergraduate programs. Classrooms and seminar halls have all ICT tools such as LCD projector, Internet connectivity, Digital smart board, well finished furniture, ventilation, and luminance. As per the norms, the institute has well equipped laboratories and seminar hall to conduct different activities such as seminars, STTPs, The institute follows the guidelines for facility development and submits the report to the AICTE for ensuring the available resources to suffice the infrastructure needed for academic growth. As per the requirement of physical infrastructure was duly identified, planned and constructed to meet the needs. All the classrooms are equipped with CPU, LCD Projectors and screens and internet accessibility. The lab Charts and models are displayed in the laboratories for better understanding of theory and practical concepts. All computer Laboratories consist of open source and latest proprietary software such as Matlab, ANSYS, AUTOCAD etc.

Library has a compilation of books, journals, web based resources, audio/video materials, etc with latest software for efficient functioning with 150 seating capacity. The institute has a digital Library facility with more than 200 Journal Access. The workshop consists of different facilities for mechanical based practical like machine, fitting, carpentry, welding, black smithy and tin smithy shops.

For Internet access and computing purposes, the institute has a massive network of 624 computers with 500 Mbps bandwidth with 24x7 supports. Over 1000+ LAN points were augmented across the campus computer and office spaces. All computers connected through LAN and Internet. Some computer laboratories are equipped with high end servers and computers with high end processors.

Enterprise resource planning (ERP) is deployed for effective academic planning and monitoring which handles student records, attendance and performance. Exclusively, the Training and Placement (T & P)

cell provides adequate infrastructure for training, placement and co-curricular activities such as seminars, Interviews, Soft Skill training and Workshops etc.

For the physically impaired (Divyangjan) students, the institute provides Ramps and other facilities. For identifying malicious activities on campus, the electronic surveillance system has been installed. It helps to identify theft on campus which provides security to staff and faculties. Separate housekeeping and security agencies have been appointed for security and cleanliness of the Institute.

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

4.1.2

Percentage of expenditure for infrastructure development and augmentation excluding salary during the last five years

Response: 12.18

4.1.2.1 Expenditure for infrastructure development and augmentation, excluding salary year wise during last five years (INR in lakhs)

2022-23	2021-22	2020-21	2019-20	2018-19
111.96	48.50	3.50	17.67	30.45

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

4.2 Library as a Learning Resource

4.2.1

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

Response:

Library is having good collection of 4689 Reference books which are published by renowned publisher such as Elsevier, John Wiley, CRC Press, Blackwell, Britannica illustrated Science Ltd, Wordsworth Cengage, Society of Automotive Engineers, McGraw Hill, Kluwer Academic, etc.

The reference books have a large variety of titles such as Signal Processing, Digital Image Processing, Artificial Intelligence, Computer Organization and Architecture, Engineering Economics, Fundamental Physics, Basic Human Rights, Industrial Management etc.

We have a collection of books on verbal and Non-verbal reasoning as well as 10 dictionaries and encyclopedias. We are in the process of collecting a stock of Competitive examination books such as useful for GATE, GRE and MPSC, UPSC Exams. These books covers various aspects such as reasoning, aptitude, and course objective-type questions, puzzles, economics, Verbal Ability and reading Comprehension, Data Interpretation, General Knowledge, etc. Library also has a collection of university question papers of all departments and all years.

The library regularly organizes events like Marathi Rajbhasha Din, Vachan Prerana Din and Saraswati Pujan at Institute Level. Library details such as book information, library facilities information is updated with the Institute website.

Digital Library: This section is provided for use of e-resources i.e. e-books, e-journals, video-lectures on the internet. Institute Library has registered to NDL (National Digital Library) for all faculty and students. It includes millions of databases , e-books and audio -video lectures in many languages. These video lectures can access students and faculties through LAN and Wifi which helps students to enhance their technical concepts.

A well-equipped Digital Library having 20 terminals with a scanning facility is provided. NPTEL videos and lectures have been downloaded on the hard disk and access is given to all students and staff. E-resources such as DELNET, NDL, NPTEL, J-Gate, E-Kumbh, Shodhganga, etc. are available.

Reading Hall with Wi-Fi connectivity: Well-furnished reading hall is made available to students for self-study. The facility of a separate reading hall for the preparation of competitive examinations is provided. The library has seating capacity of more than 150 students with modular furniture for students.

NPTEL Local Chapter: For NPTEL online courses NPTEL Local Chapter was established in 2023.

Library Services: Additional services from Library is Open access system to all students and staff (to approach the shelves and search for any title), Current Contents Alert (in which, an update regarding latest additions in journal titles is sent to all the faculties by email), Documents Scanning facility, Access of resources from Dr. Babasaheb Ambedkar Technological University, NewsPaper Clipping File which includes institute news and updates.

J-Gate database which is a useful informative database for engineering students and staff. We have the J-

Gate database access, currently we have the 10-user access for all NCER students and staff, coordinator from each department. J-Gate is the most comprehensive database & gateway to access research information from over 56 million journal articles with access to 11 million full text articles covering multiple subject domains.

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

4.3 IT Infrastructure

4.3.1

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

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

Response:

1. The NCER has consistently deployed best-in-class IT infrastructure and Applications development for Academic and Research support.
2. The campus has enabled internet service with 500 MBPS bandwidth on 24x7 supports, providing anytime anywhere access to knowledge and learning resources, keeping in line with demand from students and faculty. Updating and maintenance of all systems is carried out regularly.
3. The internet bandwidth has been enhanced from 10 Mbps to 500 Mbps over the last four years, so that the academic and research activities can be handled with better connectivity.
4. Over 1000+ LAN points were augmented across the campus computer and office spaces.
5. The campus backbone network was upgraded from 10 MBPS to 500MBPS and Wi-Fi Access points over 20+ numbers were deployed across the campus in both academic blocks and hostel blocks for 24X7 internet service for enabling students and faculty to stay connected and access the academic content, anywhere in the campus.
6. A State-of-Art Data Centre was built with an area of 900 Sq.Ft, to manage network operations efficiently and hosted all the Rack & Blade servers with continuous power supply.
7. In our Data Centre the Servers and Networks are maintained and provide a Computing facility with Network connectivity, across the Data Centre and other buildings of NCER.

8. Server infrastructure includes high power computing 1 Rack and 1 Blade Servers with 1TB capacity of Storage Area Network (SAN) storage.

9. The Computer Maintenance cell (CMC) consisting of all the system staff will work under one roof taking care of the Network, Hardware, Software, Projector and Ups maintenance activities of the Institution. In this connection email ids are created for the queries related to system services, Network Issues and Hardware Issues

11. Created and provided internet connectivity to Digital Library with 24/7 Central Computing service with CMC system staff on day and night shifts.

12. Provided internet connectivity to Common Computing Centre with 24/7 service with CMC system staff on day and night shifts.

13. The Cyberoam 1500 iNG Firewall has been deployed for handling enhanced load on Network and Applications catering to academic and Administrative processes, thereby providing a secure campus Network Additional 500E Fortigate Firewall is ordered for scalability.

14. Over 650+ Desktops were deployed in the Computer labs across the Campus to give Computing facility to the Students and Faculty for Hands on practical sessions.

15. Implemented VMware virtualization solution to enhance the Server availability for the various applications hosted on Campus, to increase the Server's space and performance on the fly as and when needed. Implemented Biometric Systems for Staff attendance across the campus. An exclusive centralized Service Desk named CMC

16. CMC (Computer Maintenance Cell) is implemented to provide all System, Network and UPS related support for the Students and Staff.

17. AMC (Annual Maintenance Contract) for IT equipment's & UPS

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

4.3.2

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

Response: 2.71

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

Response: 564

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

4.4 Maintenance of Campus Infrastructure

<p>4.4.1</p> <p><i>Percentage expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component, during the last five years (INR in Lakhs)</i></p> <p>Response: 10.39</p>														
<p>4.4.1.1 Expenditure incurred on maintenance of infrastructure (physical facilities and academic support facilities) excluding salary component year wise during the last five years (INR in lakhs)</p> <table border="1"> <thead> <tr> <th>2022-23</th> <th>2021-22</th> <th>2020-21</th> <th>2019-20</th> <th>2018-19</th> </tr> </thead> <tbody> <tr> <td>31.45</td> <td>80.14</td> <td>44.17</td> <td>22.60</td> <td>2.60</td> </tr> </tbody> </table>					2022-23	2021-22	2020-21	2019-20	2018-19	31.45	80.14	44.17	22.60	2.60
2022-23	2021-22	2020-21	2019-20	2018-19										
31.45	80.14	44.17	22.60	2.60										
File Description	Document													
Institutional data in the prescribed format	View Document													
Audited income and expenditure statement of the institution to be signed by CA for and counter signed by the competent authority (relevant expenditure claimed for maintenance of infrastructure should be clearly highlighted)	View Document													
Provide Links for any other relevant document to support the claim (if any)	View Document													

Criterion 5 - Student Support and Progression

5.1 Student Support

5.1.1

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

Response: 79.18

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

2022-23	2021-22	2020-21	2019-20	2018-19
1224	970	564	305	60

File Description

Document

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

[View Document](#)

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

[View Document](#)

Institutional data in the prescribed format

[View Document](#)

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

[View Document](#)

5.1.2

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

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

Response: A. All of the above

File Description	Document
Report with photographs on Programmes /activities conducted to enhance soft skills, Language and communication skills, and Life skills (Yoga, physical fitness, health and hygiene, self-employment and entrepreneurial skills)	View Document
Institutional data in the prescribed format	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

5.1.3

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

Response: 42.85

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

2022-23	2021-22	2020-21	2019-20	2018-19
707	425	264	200	94

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

5.1.4

The institution adopts the following for redressal of student grievances including sexual harassment and ragging cases

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

Response: A. All of the above

File Description	Document
Proof related to Mechanisms for submission of online/offline students' grievances	View Document
Details of statutory/regulatory Committees (to be notified in institutional website also)	View Document
Annual report of the committee motioning the activities and number of grievances redressed to prove timely redressal of the grievances	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

5.2 Student Progression

5.2.1

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

Response: 64.44

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

2022-23	2021-22	2020-21	2019-20	2018-19
198	159	0	0	0

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

2022-23	2021-22	2020-21	2019-20	2018-19
310	244	0	0	0

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

5.2.2

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

Response: 3.55

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

2022-23	2021-22	2020-21	2019-20	2018-19
3	4	0	0	0

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

5.3 Student Participation and Activities

5.3.1

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

Response: 16

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

2022-23	2021-22	2020-21	2019-20	2018-19
11	1	0	3	1

File Description**Document**

list and links to e-copies of award letters and certificates

[View Document](#)

Institutional data in the prescribed format

[View Document](#)

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

[View Document](#)

5.3.2

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

Response: 28

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

2022-23	2021-22	2020-21	2019-20	2018-19
35	32	17	29	27

File Description**Document**

Upload supporting document

[View Document](#)

Institutional data in the prescribed format

[View Document](#)

5.4 Alumni Engagement

5.4.1

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

Response:

The NCER was founded in 2018, and the first graduating class was in 2022. Two batches have graduated thus far. There have been 554 alumni there in the past two years. The alumni stay in touch with NCER and their respective departments on a regular basis. The association's goal is to unite all of the alumni on a single platform so they can connect, share experiences, offer support, and mentor the students.

Our graduates have held a variety of roles at numerous MNCs, the public sector, and government organisations at the global, national, and state levels, including managers, design engineers, entrepreneurs, and plant heads. Every year, the Institute has an alumni gathering. More than 150 alumni typically attend the occasion. They interact with the administration, faculty, and students throughout the meeting and contribute their suggestions for enhancing the overall development of the institute and department. Other than the annual event, alumni visit the department throughout the academic year to offer guidance through guest lectures, seminars, workshops, and support for industry visits and internships, among other things. A small number of our alumni are members of our department advisory board (DAB) and college development committee (CDC). The institute's alumni help the students obtain sponsorship (which isn't necessarily in the form of cash) for their projects or competitions. In addition, they offer facilities at their end whenever a technological requirement arises. Alumni offer input on the college's infrastructure and other academic-related issues and suggest gaps in the curriculum taking into account the needs of the market. Through activities like Endura, Tech Fest, Nuthaon, Hackathon, etc., our alumni support the college and the department in an indirect manner. Alumni help students develop academically, skillfully, psychologically, and professionally. The department asks them to serve on juries at events. By sharing their personal experiences, they encourage and inspire the learner to strive for excellence.

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

Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

6.1.1

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

Response:

NCER is governed by its Vision and Mission. The Vision and Mission have been developed with the active participation of all internal members and stakeholders. It is set taking into consideration the present day technical needs of the society and forecasting the future requirements in various technological fields so as to become an element in the growth of the society and nation.

Vision of the Institute

To be a pioneer institute in technical education to gratify the stakeholders with holistic and techno-economic development through innovation to lead the nation

Mission of the Institute

To develop and nurture research, entrepreneurial abilities in learners through excellent academics to face global challenges with moral and ethical practices.

The governing body (GB) is supreme and is responsible for articulating the organization Vision and Mission and major policy decisions. The GB has been formed as per AICTE norms involving all stakeholders. Every year, at least two meetings are held.

The College Development Committee (CDC) is operating in accordance with Section 97 of the Maharashtra Public University Act 2016. (More information in attachment about structure formation/roles/responsibilities).

CDC has representation of all HoDs, faculty members, supporting staff and students representative. It regularly reviews and monitors the overall development of the institute. It meets twice a year. The review is conducted on Academics, Financial Planning, Utilization and Administration. (Sample MoM, Agenda of CDC with role and responsibilities in attachment).

Internal Quality Assurance Cell (IQAC) has been formed as per NAAC guidelines. It has representation from all staff. It gives guidelines about the overall audit of the Institute, particularly on academic front.

In the year 2021, IQAC decided to obtain ISO 21001:2018 EOMS certification for achieving quality and excellence in the overall functions.

ISO certification was obtained from TUV SUD and NCER is functioning as per the ISO standards.

PDCA cycle is followed in the ISO process.

There are five sections under ISO, where internal and external audits are conducted and reviewed in Management Review Meeting.

Around 30 different portfolios have been formed to provide decentralized administration. Faculty members are portfolio in-charges and faculties and supporting staff are representing their departments. Around 70% of faculties are in-charge at Institute/Department level portfolio.

All portfolios have defined roles and responsibilities and overall progress is monitored by the Principal through meetings with the relevant committees.

On the same lines in all departments, portfolios have been formed and are functioning.

In all five departments, Students Association and Clubs have been formed in order to strengthen Institute Mission under students' leadership.

Expenses required for different co-curricular/extra-curricular activities are included in Institute budget. Portfolio in-charges are authorized to spend as per sanctioned budget.

Thus, the approach of governance and leadership is to involve all the stakeholders to achieve Vision of the Institute.

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

6.2 Strategy Development and Deployment

6.2.1

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

Response:

NCER has established organizational structure as mentioned in 6.1. The Governing Body (GB) is the highest decision making body constituting members from the Management, Principal and nominated faculty members. College Development Committee (CDC) includes members from the Management, members from industries, principal, society representatives, three members elected from teaching faculty, one member of non-teaching staff and student representatives.

There are 5 Departments including the First Year Engineering Department. Each department has a

Department Advisory Board (DAB) and Department level portfolios/committees for effective implementation of policies.

In view of staff, faculty and student development, NCER has some additional policies as recommended by GB, CDC and PCET-NMVPM. The Service Rules, Code of Conduct, Procedure, Recruitment policies and promotional policies are governed by the Maharashtra University Act, 2016, University Statutes and AICTE. All the amendments are binding on the Institute.

NCER has prepared its own Policy Manual and ISO process manuals to streamline and support academic processes and overall administration. Staff, faculty, student development policies, Policy manual and ISO Process Manuals (Academic and Administration) are available with HoDs and Section In-charges and on the college website. These have also been disseminated among all students and faculties.

For Teaching and Non-teaching Staff all administrative Rules, Procedures and Policies are as per directives of Norms of All India Council for Technical Education, New Delhi. GR from DTE, Government of Maharashtra.

List of policies:

Policy for Academic and Admin Staff to Attend Conferences/Seminars/Workshops

Policy on Sponsorship for Higher Studies (Ph.D. Programs)

Policy on Sponsorship for Higher Studies (Post-Doctoral Research Programs)

Policy for Leaves and Vacation

Policy on Awards/Prizes for Meritorious Students of NCER

Policy for distribution of charges for conducting Practical Sessions, Practical Examinations

Policy for Consultancy, R&D, Industry Sponsorship and Collaboration

Policy for Intellectual Property (IP)

Policy Patent and IPR

Policy for Incubation, Entrepreneurship and Start-ups

E-Governance Policy

Process for appointment of staff and Service rules

In 2018, the Institute prepared a perspective plan for 10 years by involving all HODs which was revised in February 2023 and it has been approved by GB.

Long Term Goals and their status		Short Term Goals and their status	
Long Term Goals	Status	Short Term Goals	Status

To get accredited with NBA and NAAC for continual progress of Institute (Once eligible).	In progress	To be in top 10 institutes in the university	In progress
to have more than 30% faculties with PhDs		To achieve the target of more than 65% all clear result.	?
100% placements for interested students	63% achieved	To achieve the target of more than 60% placement for interested students	?
To create 10% entrepreneurs	In progress	To have minimum 02 PhDs per department.	?
encourage 20% students for higher studies	In progress	To publish at least 01 SCOPUS/Peer reviewed technical research paper	In progress
To be in the list of top 200 institutes in NIRF ranking	Not eligible yet	To fetch research funds from various funding agencies	?
Establish innovation and incubation Centre	?	To organize various faculty development activities	?

File Description	Document
Upload Additional information	View Document
Institutional perspective Plan and deployment documents on the website	View Document
Provide Link for Additional information	View Document

6.2.2

Institution implements e-governance in its operations

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

Response: A. All of the above

File Description	Document
Screen shots of user interfaces of each module reflecting the name of the HEI	View Document
Institutional expenditure statements for the budget heads of e-governance implementation ERP Document	View Document
Annual e-governance report approved by the Governing Council/ Board of Management/ Syndicate Policy document on e-governance	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

6.3 Faculty Empowerment Strategies

6.3.1

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

Response:

NCER has established a set of well-defined welfare measures to ensure employee's wellbeing. Some of the measures adopted are given below;

Eligible staff as per the Staffs' Provident Fund legislation is given EPF. Equal contribution of Rs. 1800/- per person per month by NCER and individual staff is done.

Institute has a gratuity scheme.

Retirement benefits are provided to staff members as per EPF norms.

The DA is updated as per GR. Current DA is uniform to all and a rise is proposed, which is under process.

Around 90% faculty is on AICTE/DTE recommended pay scale.

The salary has always been regular.

Over and above the leaves that come under Institute Policy (Casual/Vacation/Earned/Medical/Maternity/On-duty) faculty and staff members are given special leaves under singular situations.

Additional medical leaves for prolonged treatments, special sabbatical/study leaves for improving qualification, special relieving-hours for lady faculty members with infants at home are given.

It is the strategy of NCER to promote internal eligible candidates rather than employing outside talent. Further, the Institute absorbs back eligible and competent candidates, who have previously left employment due to genuine reasons.

Staff Development and Welfare Cell takes various initiatives for staff welfare. Several programmes like get-together, cultural programme, Yoga sessions, picnics are organized annually.

Many formally known Welfare Measures have actually been implemented by Institute as Policies

Appraisal System

NCER follows a systematic Performance Appraisal System for teaching and non-teaching staff. Institute has designed a Self-Appraisal Form (SAF). SAF is shared with staff well in advance.

Institution evaluates teaching staff on four categories viz. teaching-learning-evaluation, co-curricular and extension activities, research, professional development and special achievement. Due importance is given to all the activities. NCER evaluates non-teaching staff on professional competence, responsibility, attendance, punctuality, discipline, interaction with colleagues, etc.

A structured SAF is used for this purpose, wherein they give the details of their performance and participation in all the activities.

Concerned HOD gives their remarks on the performance of the faculty member. Principal gives his remarks and suggestions to each staff member after personal interaction.

Additional Increment is introduced while awarding annual increments. HoDs and Principal evaluate the faculty members and staff by merit rating based on their performance and have one-to-one interaction. For non-teaching staff, increment is given based on their performance in the department, up-gradation in qualification, interpersonal behaviour and punctuality.

Above welfare measures and appraisal system has helped the Institution to positively motivate all the employees and to identify and reward meritorious ones. It has also helped staff and students to perform progressively on all four-pillar fronts.

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

6.3.2

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

Response: 54.76

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

2022-23	2021-22	2020-21	2019-20	2018-19
38	22	19	19	40

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

6.3.3

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

Response: 77.81

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

2022-23	2021-22	2020-21	2019-20	2018-19
82	68	42	39	39

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

2022-23	2021-22	2020-21	2019-20	2018-19
32	20	13	16	14

File Description	Document
Institutional data in the prescribed format	View Document
Copy of the certificates of the program attended by teachers.	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

6.4 Financial Management and Resource Mobilization

6.4.1

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

Response:

The college has a well formulated financial policy which ensures effective and optimal utilization of finances for academic, administrative and development purposes which help ultimately in realizing the institute's vision and mission.

Institute has made the necessary provision in the books of account towards efficient use of available funds for each academic year. As per the guidelines of the management, Variance reports of sanctioned budget and actual expenditure are regularly maintained.

The Institute has a well-defined procedure to monitor effective and efficient utilization of available financial resources for infrastructure development and academic processes every year.

The Principal and the Head of Departments discuss the requirement and decide the priorities while allocating financial resources for various purposes; and also ensure optimum use of available financial resources.

Budget requirements from all heads of department are taken before the beginning of every financial year and approval sought from the management. This takes into consideration the recurring and non-recurring expenditure requirement, equipment's, computer as well as consumable required for next academic session.

The budget is discussed in CDC meetings and approved by the management. As and when required, the institute makes a provision for advance additional funds. The approved budget is expended as per SOP

taking CA approvals as per laid down government procedures.

The Management supports organization of various co-curricular & extra-curricular activities like technical events, sponsoring of faculty & staff for various skill development programs, providing financial support for attending conferences, workshops etc.

The purchase procedure such as calling quotation, technical bid, preparing comparative statement, negotiation meetings are followed for effective and efficient use of available financial resources. The committee ensures that suitable equipment with right specification is procured at competitive and optimal prices.

Apart from this, the college also provides financial assistance to students for participation at various national & state levels technical, cultural & Sports competitions which have led to our students' excellent performance in these events.

Institution conducts internal and external financial audits regularly

Our Institution has maintained a very transparent financial system. There are well defined processes for sanction of budget to expenditure. An internal approval system for all expenses is in place. Accordingly, the bill/voucher is recommended by the Head of the Department and approved by the Principal and our Chairman.

All the bills/vouchers are audited by an Internal Auditor on a routine basis. Proper record of all the expenses is maintained by the accounts department.

An external auditor executes the statutory audit. Finalization of the account is completed in June/July and audited statements are prepared in June/July duly signed by the Principal, and chartered accountant. Then an audited report is submitted by a chartered accountant.

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

6.5 Internal Quality Assurance System

6.5.1

Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes. It reviews teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals and records the incremental improvement in various activities

Response:

Internal Quality Assurance Cell (IQAC) was constituted in July 2019. NCER has a defined EOMS Policy approved by IQAC with effective participation from all the stakeholders. IQAC meets twice in a year to review the Academic and Administration systems and their progress. It was decided to apply for NAAC/NBA accreditation on being eligible as per the inputs provided by IQAC.

EOMS Policy:

Nutan College of Engineering and Research is engaged in imparting Quality Education for Engineering to strengthen holistic development of undergraduate students as per the needs and expectations of relevant interested parties.

We are committed to achieve this through continual improvements in:

1. Teaching and Learning process in line with relevant educational developments
2. Scientific and technical skills for career growth of the students
3. Staff competencies
4. Compliances of all applicable Legal and other requirements
5. Satisfying Social Responsibilities
6. Management of Intellectual Property
7. Education Organization Management System

IQAC recommended applying for ISO Certification and Institute got ISO Certification by TUV SUD in the second semester of academic year 2020-21. Since then regular audits are done and reviews are taken by the IQAC.

An Academic Monitoring Committee (AMC) have been formed with Coordinators from all departments. AMC conducts academic review meeting before commencement of semester in the presence of Principal and members of AMC and other portfolio in-charges. AMC conducts three academic reviews in a semester to ensure smooth conduction of Teaching Learning process. Once in a year, External Academic Audit is conducted by academicians from other Institutes and the audit report is discussed in IQAC. As per ISO guidelines, for semester I and II, internal audits and Management Review Meetings (MRM) are conducted and at the end of academic year, surveillance audit is carried out.

Seven sections viz. academic, administration, library, training and placement and EOMS are audited under ISO, which ensures the standardized and established systems and procedures of Institute for maintaining the physical, academic and support facilities.

Various aspects of maintenance and utilization are taken care of by concerned sections and committees. It is ensured that the facilities are created, maintained and updated to facilitate effective teaching-learning process in a conducive academic ambience and for overall development of students.

Continuous improvement is achieved through periodic audits satisfying statutory requirements. The recommendations and guidelines provided by the College Development Committee (CDC), Governing Body (GB) and Department Advisory Board (DAB) are implemented effectively in coordination with the IQAC.

Various initiatives taken under IQAC are as follows;

1. Roles and Responsibilities of departmental portfolios
2. Academic Monitoring Control (AMC)
4. Management Review Meetings (MRMs)
5. ISO Process initiation
6. Academic and Administrative Audit
7. NAAC/NBA process initiation

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

6.5.2

Quality assurance initiatives of the institution include:

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

Response: B. Any 3 of the above

File Description	Document
Quality audit reports/certificate as applicable and valid for the assessment period.	View Document
List of Collaborative quality initiatives with other institution(s) along with brochures and geo-tagged photos with caption and date.	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document
Link to Minute of IQAC meetings, hosted on HEI website	View Document

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

7.1.1

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

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

Response:

Gender equality/Justice is a culture of NCER. Institute has 42% of female staff and 25% female students. Women faculties are leading as Principal, HoD and coordinators in portfolios/activities. In academics/R&D/social activities girls and boys are getting equal opportunity.

NCER celebrates Women's Day every year. Students and staff are sensitized on Gender-Equity through webinars/seminars/counselling/guidance sessions.

NCER has Women Empowerment Cell, for promoting women's leadership and mentorship programs. Which looks after the welfare of girl students and lady staff. Motivational talks by eminent speakers, Health check-up camps, speech on health and diet, hands-on training on self-defence are conducted for girl students and staff for well-being of women. Professional Counsellor Counsels over depression/anxiety/distress/disabilities/disorders/phobia/panic, etc.

Separate Girls and Boys Common Rooms have been provided. Sanitary Napkin vending and Disposal machine is available in the ladies toilet. The institute provides maternity leave.

National Social Services activities have recorded with 44% of Girls participation. Lady faculty and students at the Institute have filed 51 patents in a day, creating a world record.

Our institute celebrates national and international festivals to imbibe values, ethics, social responsibilities and global awareness among students and staff. We celebrated 'Tiranga' rally 'Har Ghar Tiranga' campaign to encourage people to be pride of our nation. Our institute enthusiastically observes the birthdays of National heroes as we celebrated Engineers day in the memory of Bharatratna Dr. Visvesvaraya, Teachers Day in the memory of Bharatratna Dr. Sarwapalli Radhakrishnan.

Institute hosts Independence Day and Republic Day celebration, followed by patriotic cultural events. Institute zealously observes all the campaigns run by the government such as Swachh Bharat Abhiyan Run by government for environmental cause, Voters Oath and number of other programmes are organized as directed by AICTE/DTE/DBATU. On this occasion, all the Departments actively participated.

Institute observes International Yoga Day on 21st June each year. Experts talk/training is held to raise awareness about yoga.

Institute observes Girl Child Day to create awareness for the birth of girl child.

As per DBATU circular 27th February is observed as Marathi Bhasha Diwas (Regional Language Day) to commemorate the birthday of the renowned Marathi poet Kusumagraj. Activities include debating, essay writing contests and poetry readings are organized by the Art-Circle. On the occasion of Environmental Day, NSS team, NCER organised various activities such as NUTHON and 'Awareness of dry and wet waste' programs .

Numerous additional activities are carried out by NSS, such as Street Plays with a Social Cause, Road Safety, Traffic Regulations, etc.. Student along with faculties had organised plastic Mukh Vari to promote social Awareness. The national Scheme engages in various social activities, including street plays with social message, road safety initiatives and promoting reduction of plastic usage through activity "Plastic Mukh Vari". Nutan College of engineering offers a diverse range of activities to enrich the academic and cultural experience to students.

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

7.1.2

The Institution has facilities and initiatives for

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

Response: A. 4 or All of the above

File Description	Document
Geo-tagged photographs/videos of the facilities.	View Document
Circulars and report of activities for the implementation of the initiatives document	View Document
Bills for the purchase of equipment's for the facilities created under this metric	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

7.1.3

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

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

Response: A. All of the above

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

7.1.4

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

Response:

NCER is governed by NMVPM trust, whose Vision & Mission is to provide value based quality education.

The Mission statement of NCER is guided by the principles of High moral and Ethical values along with a commitment to social values. This institution fosters an inclusive environment where students and staff, regardless of culture, religious and sociolinguistic background work harmoniously together. Institute has Uniform for All students and faculties'. There has not been a single incidence of any kind of disparity discrimination among staff and students. A day at NCER begins with National Anthem and concludes with National song, Vande Mataram. Institute actively Celebrates Environmental Day, Regional Language Day Inviting experts to speak on constitutional duties and responsibilities. Republic Day and

Independence Day are enthusiastically celebrated. These events include informative speeches on road safety, enlightening students about their civic duties and obligations. All the national events are celebrated with great enthusiasm, fostering a sense of patriotism and pride

Faculties and students celebrated Azadi ka Amrut Mahotsav by hoisting the Tricolour on August 13-15, 2022 and also filled 51 patents on various innovations. Active participation was seen in initiatives like HAR GHAR TIRANGA, “RASHTRA-GAAN. Recognizing the significance of women’s rights and safety NCER organizes workshops to raise awareness of women’s rights, safety, and security and health issues. Visits to orphanage and old-age homes are organized. Institute hosts a blood donation camp to educate and inspire the public, students and staff to donate blood. Collection of blood bags has already exceeded with 100 bags.

Students undergo audit course on Professional Ethics & Values. In Induction Programme, sessions on human values and guest talks on constitution, social, environmental and value-based topics are organized.

To raise awareness about the importance of nature in our lives, NCER organizes activities such as tree plantation, Swachhata Abhiyan, Poster-making competition & Nuthon etc. on World Environment Day. NCER also observes No Vehicle day for promoting awareness on air pollution .Students and Staff are prefers to attend college by public/college buses, railways and on carpooling.

Motivational lectures of eminent persons of the field are arranged for all-round development of the students for their personality development and to make them responsible citizens following the national values of social and communal harmony and national integration.

NCER takes pride in the fact that apart from preparing a sound academic foundation of the student community; the college constantly works upon to develop them as better citizens of the country. In this regard, the institute, apart from imparting professional legal education, inculcates a feeling of oneness among the student community through various practices and programs. Various faculties have always been in the practice of organizing activities that not only initiate but also motivate the students to adopt various practices that promote the “**Unity in Diversity**” of our motherland by celebrating various cultural events.

Anti-ragging Committee proactively monitors student behaviour on academic campus and hostels to maintain Ragging-free campus. Tobacco chewing, smoking, consumption of alcohol and drugs is totally banned on campus.

File Description	Document
Upload Additional information	View Document

7.2 Best Practices

7.2.1

Describe two best practices successfully implemented by the Institution as per NAAC format

provided in the Manual

Response:

Best Practice-1

Title of the Practice: Project Based Learning (PBL)

1. To understand and explain the concepts of engineering knowledge based skills.
2. To analyse the society and industrial complex engineering problems and apply the emerging technologies to get problem solution.
3. To evaluate the problem solution through modern simulation tools and mathematical model.
4. To create prototype model individually or in a team by using innovative ideas.

The context:

Nowadays, it is needed to develop industrial skills in the students. The basic concepts in theory should be explained with the hands on session through small projects and simulation software. As we observed, the remarkable gap between academia and industry. The gap can be reduced at great extent through multidisciplinary approach by using project based learning. As an engineering graduate, students are learnt various courses during four years of engineering but it should be reflected as an engineering knowledge through various projects. The use of modern tools for complex engineering problems can be improved through project based learning. Apart from technical skills, the engineering graduates able to learn team work, finance and time management skills, ethics and moral values through project based learning.

The Practice:

The project based learning has been started from first year of engineering through observing daily life problems in society and solution through technical means. The students come up with various innovative ideas and presented in front of faculty members and other students. They are able to get the solution through system architecture and methodology. In the second and third year of engineering they adopted the practical knowledge through various courses belongs to individual program and go through mathematical model and modern simulation tools. The solution to complex engineering problem is segmented into small project modules and finally integrated to get the complete solution. The working of prototype to as actual model has been observed by final year students through internship in various well known industries. The outcome of practice is reflected in terms of participation in various project competition, hackathon, paper publications and paper presentation etc.

Evidence of success

Through project based learning, the students have received recognitions/awards in various technical competitions viz. A Fourathon 3.0, Sparkthon, GDIOT Tech – Niche – 2023, Foreign internship – Japan, Malaysia etc. , paid internship, National level luminous Tech – A Thon, Best Project. The students have received more than 06 lakhs through awards and internships. The placement of college is more than 65+ percent and it has been improved due to PBL. The students have received outcome in the form of 60 + Patents, 70+ copyrights, and 150+ student's publications.

Problems encountered and resources required

The project based learning can be improved by hiring industrial experts as an adjunct faculty or visiting faculty. The students have to apply for funding through project based learning to government agencies like Department of Science and Technology (DST), AICTE, DRDO etc. The student's confidence and involvement can be improved through funding from college for various projects. The research policies can be improved specifically in terms of funding for students to solve society based problems through project based learning.

Best Practice-2

Title of the Practice: Competence Enhancement Programme

-

1. To adopt ethics and time management skills
2. To enhance communication and professionalism skills through group discussion.
3. To developed industry oriented skills through internship and technical sessions.
4. To promote the students for entrepreneurs and higher education.

The Context:

The career development through the training of students in terms of soft skills and industry oriented skill via internship. The ability is developed to do the work in team with good communication skill and documentation of report writing during handling the projects.

The Practice

The institute provided a platform of training and placement cell, soft skill based programmes, value added courses, and workshops employability skills and Entrepreneur to the students for employability skills, Entrepreneur and holistic development of students. The college ensures to develop the students through training modules designed to impart technical, logical, analytical, behavior and managerial skills.

Evidence of Success:

Competence Enhancement Programmes has been reflected in students through placements more than 65 percent and higher education. The students have been placed in well-known MNC's viz. Amazon, Accenture, HITACHI ASTEMO BRAKES INDIA LTD, Tata Motors, Wipro, Volkswagen, KINETIC ELECTRIC PVT LTD, JCB, Bajaj Auto, Force Motors, PVT LTD, Atos, FIS Global, TCS, Infosys, Capgemini ,and so on through on-campus and off-campus drives. The participation of students in technical events, soft skill activities, internship etc. have been increased at great extent.

Problems encountered and resources required:

The faculty members with good soft skill and technical skill is always a need for the development of student for preplacement training. The students are facing lack of confidence, communication skills, focused based activities and their own commitment. The mentor – mentee scheme required to be improved for the overall development of student. The facility of guardian faculty member (GFM) need to be strengthened.

7.3 Institutional Distinctiveness

7.3.1

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

Response:

Skill-based engineers are the need of industries. It is necessary to provide skill-based education to bridge the gap between academia and industries. To build a globally competent engineering professional, Industry-oriented skills should be developed. Skilled graduates should be able to provide solutions for complex engineering problems related to societies and industries. To achieve this through the comprehensive progress of students, we have majorly focused on strict academics, co-curricular and extra-curricular activities, project-based learning, internships, training, and placement activities through soft skill training sessions. For the comprehensive development of students, the college has an Institute Innovation Cell (IIC), a Research and Development (R & D) cell, an Industry-Institute Interaction (III) Cell, social activities under the NSS unit, sports activities under NCER sports club and cultural activities under Kala-Darpan club etc.

The students are participated in all the above-mentioned activities with full enthusiasm and achieved remarkable outcomes as mentioned below.

- **Cognitive Progress**

- **Objective:** To enhance the analytical and critical thinking of students, problem formulation, and problem solution through emerging technologies, and innovations for professional growth.

- **List of activities:**

1. The research activities have been enhanced by the Research and Institute Innovation Cell (IIC). More than 450 Publications in journals, Conferences, Patent filed, and Copyrights. The total 200+ activities have been organized for the capacity building through Training and Placement Cell, Clubs and students' associations etc. The college have organized training sessions, career counseling sessions, etc. through the industry institute interaction cell.
2. Industry Institute Interaction cell signed MoUs with the various Industries. Through this cell, all departments organized industrial visits and internships to enhance skill-based knowledge through practical exposure. More than 1000 students got internships in various industries and completed successfully. A total of 30+ National/ International active MoUs and 51 industrial visits were done through the IIC.
3. Project-based learning is one of the most important aspects to enhance the industry-based skills of

students. The total PBL participations are more than 3500.

- **Social and Societal Progress**

- **Objective:** To expose societal issues provide solutions through technical means and handle social issues in the surrounding area through NSS.

- **Activities Organized:**

1. NSS Activities

2. Society-related issues have been solved through project-based learning.

3. Cultural activities to acquire new skills that can be applied to their lives, such as leadership, teamwork, and collaboration.

- **Corporeal Progress**

- **Objective:** To acquire physical fitness, and inner strength and enhance mental health through sports, yoga, and motor skills.

The sports activities are organized on the annual sports days through Aagaz. The boys and girls have participated in various games like Chess, Badminton, Cricket, Holly ball, Football, etc. to showcase their sportsmanship, ethics, moral values, team-building abilities, and time management skills. The students have actively participated in outreach activities and given remarkable outcomes in the form of 30+ recognitions and awards in various categories.

- **Affective Progress**

- **Objective:** To enhance personal and academic success with ethics and moral values through regular mentoring/counseling of students.

The college has a well-structured guardian faculty member (GFM) scheme through which the faculty members always try to boost the confidence of students, helping to solve problems related to academics and personal, focusing on each student with academic progress and regular counseling for the activeness of students. Regular discussion with parents about the progress of their ward through telephone and parent-teacher meetings. A group of 20 to 25 students has been handled by each faculty member for the purpose of overall growth through proper counseling.

Due to the approach of comprehensive progress, NCER graduates are able to solve societal and industrial problems, able to work in a team with all team management skills viz. communication skills, time and personal management, etc. for remarkable outcomes. The students are mentally and physically strong to achieve a specific goals.

5. CONCLUSION

Additional Information :

The Nutan Maharashtra Vidya Prasarak Mandal established Nutan College of Engineering and Research in year 2018 with a primary objective to provide Industry Integrated technical education to the undeveloped area of maval around Talegaon. The surrounding area has been fully developed as an Industrial belt and now there has been an opportunity for industry-Institute relationship.

Skill-based engineers are the need of industries. It is necessary to provide skill-based education to bridge the gap between academia and industries. To build a globally competent engineering professional, Industry-oriented skills should be developed. Skilled graduates should be able to provide solutions for complex engineering problems related to societies and industries. To achieve this through the comprehensive progress of students, we have majorly focused on strict academics, co-curricular and extra-curricular activities, project-based learning, internships, training, and placement activities through soft skill training sessions. For the comprehensive development of students, the college has an Institute Innovation Cell (IIC), a Research and Development (R & D) cell, an Industry-Institute Interaction (III) Cell, social activities under the NSS unit, sports activities under NCER sports club and cultural activities under Kala-Darpan club etc.

The students are participated in all the above-mentioned activities with full enthusiasm and achieved remarkable outcomes through cognitive, societal and social, corporeal and affective progress.

Concluding Remarks :

It is concluded that the institute has provided the industry oriented skills to the students to bridge the gap between industry and academia. The best practices adopted by the institute are played a major role for the holistic development of students through comprehensive progress with the help of progresses viz. cognitive, social and societal, corporeal and affective. The Project Based Learning and Competence Enhancement Programme are responsible for the internship and placement of students. The various training sessions including soft skills, technical sessions and projects made by students along with regular academics are the major attraction of students. The participation in various technical events and cultural events are the major impact on society by solving society based problems through technical means and health fitness through yoga and cultural activities. The students are trained with ethics and moral values. The students are able to do task individually or in a team with proper communication skills and adopted team management skill and finance nmanagement while handling any project based work. The patents and copyrights are the best outcome of research and awards /recognitions through sports, cultural programmes, team handling capacity and paid internships are outcome of best practices. It gives impact on society through the solution of society based complex engineering problems and investigation of problem statement through innovative ideas.