SELF STUDY REPORT

FOR

2nd CYCLE OF ACCREDITATION

NAGARJUNA COLLEGE OF ENGINEERING AND TECHNOLOGY

VENKATAGIRIKOTE POST, DEVANAHALLI TALUK, BANGALORE 562164
www.ncet.co.in

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BANGALORE

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

Nagarjuna College of Engineering and Technology (NCET), a self financing engineering college, was started in the year 2001 under the aegis of Nagarjuna Education Society, Bangalore. Nagarjuna Education Society (NES) was established in 1995 under the able guidance of Sri J.V.Rangaraju, leading industrialist and philanthropist. His commitment towards contribution to nation building is being achieved by imparting world-class education at all levels, viz. from primary, graduate, post-graduate to doctoral research degree.

NCET is affiliated to VTU, Belagavi, recognized by Government of Karnataka(GoK) and approved by AICTE. The institution is accredited by NAAC with A grade during its first cycle. Four UG programmes are accredited by NBA from 2018-19 to 2021-22. The institution has ranked under ARIIA in B-Band (26-50) during 2020-21 and Best performer during 2021-22. The institution has received 4-star rating from Institute's Innovation Council for Ministry of Education during 2020-21.

The institution has lush green campus spread over 100 acres with on-campus residential facility for boys, girls and staff. These hostels have amenities like mess, recreation room, 600mbps Wi-Fi internet facility, state of art gymnasium, automated laundry, etc. Students are encouraged to actively participate in outdoor games as well. The college has a spacious library with well stacked books and well subscribed e-journals and e-books. The college is also a member of the VTU Consortium for e-resources.

The college is recognized as Nodal Center for virtual lab facility, sponsored by MHRD, GOI. The institution is associated with IITB, Mumbai for the project titled eYantra on Robotic Technology for students and staff. ISRO has recognized the college as one of the center to carry out projects under STUDSAT. The institution also has MoUs with different leading industries.

The institution has received Autonomous status from UGC, VTU & GoK from the year 2015-16. The college is recognized by Government of Karnataka as a Centre of Innovative Science and Engineering Education. Seven departments have been recognized as research centers from Visvesvaraya Technological University, Belgaum to offer Ph.D. programmes.

The institution also focuses on imparting training in soft-skills, logical reasoning, aptitude tests & interviews and provides placement to all eligible candidates.

Vision

Leadership and Excellence in education.

Mission

Mission

- To fulfill the vision by imparting total quality education replete with the philosophy of blending human values and academic professionalism.

Quality Policy

- Nagarjuna College of Engineering and Technology (NCET) shall be maintained, as an "Institution of Excellence", in the domains of Engineering, Technology and Management studies through continual improvement of system, processes and academic professionalism.

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

- NCET is a tribute to the nation from the business house of Nagarjuna Construction Company Ltd. The college is proud to be associated with such a prestigious organization.
- NCET is strategically located on the Bangalore-Hyderabad National Highway, a road that falls on the Golden quadrangle with lush green campus of 100 acres.
- Received autonomous status which provides flexibility in curriculum design, delivery and assessment. Curriculum can now be designed as per the requirements of the industry and society.
- Qualified and experienced faculty with good academic and industry experience.
- Students of different ability,different states and Foreign students take admission. Hence it creates an environment of global nature.
- Each department has separate block with well equipped laboratories. A well furnished library provides access to books, journals, magazines, news papers and also has subscription to e-journals & e-books through VTU Consortium.
- All departments have departmental Forums and VTU recognized research centers. The college has MOUs with industries and other research organizations.
- The institute has initiated e-administration, by introducing automation in examination management system, Contineo OBE platform, online feedback system and online leave management system.
- 600 MBPS Wi-Fi enabled campus and CCTV camera surveillance throughout the campus and the hostels.
- Recognized as Centre for Innovative Science and Technology by Government of Karnataka.
- On campus residential accommodation for boys, girls and staff.
- Implementation of innovative concepts such as Virtual labs, Learning Management System with Moodle, Video Lecture of Laboratory Courses and Peer Tutoring.
- Establishment of Industry Institute Interaction & Innovation(I4) Cell to promote active industry participation and entrepreneurship.

Institutional Weakness

- Located in Rural area. Hence, increased commuting time from the city.
- NCET is the self financed institute and fee collection is the major source of income.
- The fee monitoring by the state government and rigoruous competition in admission puts more financial burden on the management.

- Revenue generation from consultancy to be strengthened.
- Poor supply of electricity from the rural Feeder. Hence load on the captive generation is more.
- The State Transport facility is inadequate. Hence more load on the college transport.
- Funding from various funding agencies to be strengthened.

Institutional Opportunity

- Close Interaction with Nagarjuna Construction Company provides better collaboration and consultancy.
- Implementation of CBCS provides the opportunity for the students to learn at their own pace.
- Young and talented faculty can be encouraged for research and innovative practices.
- Possibility of offering electives in the emerging areas in collaboration with industries as well as open electives.
- Introduction of value added certificate courses to achieve skill development.
- Successful implementation of online teaching using modern ICT facilities.
- Use of online courses using NPTEL/SWAYAM.
- Strengthening the interaction between alumni and the institution through various activities.
- Utilizing the funding opportunities from various government and non-governmental schemes.
- Conducting Student Induction Programme to create an uniform environment for students with different learning levels.
- Interaction with the society and nearby villages through AICTE Activity Points programme, NSS and Integrated Rural Development programme.
- Twinning programmes with reputed foreign universities for international internships, dual degree programmes and funded research projects.
- Participating and competing with premier institutions through various rankings such as ARIIA, NIRF, IIC, etc.

Institutional Challenge

- Attracting good quality students from different regions.
- More Number of Colleges/Private Universities in the field of technical education in the country and in particular in the state of Karnataka.
- Improving the KCET ranking of the admitted students.
- Arranging scholarships to the needy students from different sources.
- Synchronizing between students of different learnability.
- Attracting and retaining good faculty as they may be attracted by the industry and other institutions.
- Periodical changes in the Governmental policies with respect to admission and fee structure.
- Imbibing the skill sets required by the changing needs of the industry and inviting the core companies for placement drives.
- Incorporating the rapid technological advancements in the curriculum design, delivery and evaluation.
- Shifting from offline to online classes during the pandemic period.
- Retaining the students attention in the online content delivery.
- Conducting the laboratory courses in an effective way.
- Arranging Faculty development programmes in advanced technologies.
- Quality research publications by the staff and students.
- Funding from different agencies for research activities.
- Commercialization of patents.

- Encouraging and motivating students to take up entrepreneurship.
- Attracting the students to core engineering disciplines.
- Managing the finances of the institution with limited student admissions.
- Orienting the students from different backgrounds towards improving their communication skills and language abilities.
- Implementation of Academic Bank of Credits and mobility of credits between different types of institutions.

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

Institution has strong focus on OBE and courses have well-defined objectives and learning outcomes aligned with vision and mission of the institution. The institution takes utmost care in the design and development of curriculum of various UG and PG Programmes. Stake holders are involved in designing the curriculum through their participation in Board of Studies and Academic Council meetings. The design of the curriculum is planned based on the model curriculum suggested by various regulatory bodies such as UGC, AICTE and VTU. The faculty members participation in Board of Studies and Academic Council, helps the institute to design, plan and execute the curriculum effectively. Choice Based Credit System is followed by providing various types of elective courses such as foundation electives, professional electives, and industry electives. Open electives such as Yoga & Meditation, Dance, Music, Martial arts, Photography, etc are offered to expose the students to Indian Knowledge System.

Students are encouraged to take interdisciplinary and multidisciplinary courses. Internships, Project Based Learning & mini and major project works are part of the curriculum. AICTE Activity points programme was introduced to imbibe the social skills in the students through integrated rural development course. Online learning is promoted through credit based NPTEL/SWAYAM courses & Online Courses from Indian Institute of Remote Sensing.

Employer feedback is taken to identify the gap. Seminars, Workshops, and Training programmes from industry experts are arranged to make the students industry ready. Revision of the curriculum is also performed based on inputs from industry experts. Integrated courses are introduced to reduce the gap between theory and practical knowledge.

Two new UG programmes viz Artificial Intelligence & Machine learning and Data Science are introduced during the first cycle of NAAC accreditation. Examination reforms are undertaken as per the guidelines from AICTE. The institute conducts certification/ Add-on programs to impart technical and life skills. This would make the students industry ready. Timely feedback from the different stake holders provides valuable inputs for designing value added courses and review of programme curriculum. Feedback system is formulated and practiced for effective design and development of the curriculum.

Teaching-learning and Evaluation

The enrollment of students to the Institution is based on regulations and guidelines of AICTE, Government of Karnataka and VTU. The Teaching-Learning Process is an important parameter in shaping the career of a student and teachers play vital role in this process.

The institution has qualified and experienced faculty to enhance the process of Teaching & Learning and teachers make best use of the ICT tools available in the college in addition to traditional chalk and talk pedagogy. To analyze the strength and area of improvement, feedback is taken from the students. This helps to take necessary measures for strengthening the teaching - learning process.

The marks in Continuous Internal Evaluation(CIE) and grades in Semester End Examinations(SEE) also serves as basis for categorizing students as slow and advanced learners. The academic calendar is notified well in advance, which includes the schedule of various academic activities such as registration of the students, commencement of the classes, CIE, SEE, sports day, cultural day, holidays,etc. The Internal Assessment tests are conducted in fair and transparent manner by allotting the coordinators, invigilators and squad. The students are informed about the portion of the curriculum for CIE well in advance and CIE & SEE question papers are prepared by indicating CO's and Revised Bloom's Taxonomy. Evaluation of the Internal Assessment blue book is in accordance with scheme of evaluation prepared by respective course coordinators and the evaluated blue books are distributed to students in the classroom within one week for taking and giving feedback to students. The institution provides various knowledge enhancing & self-learning programs, such as e-learning, language lab, digital library, virtual labs, value added courses, technical quiz, cultural and technical fests.

The institution has a well defined mentoring system in place wherein a faculty is assigned with 15-20 students to counsel the students in their studies as well co-curricular activities. Parent teacher meetings are organized regularly to understand the problems faced by the students and to take corrective actions, wherever necessary. The outcome based education(OBE) is followed and Course outcomes and Programme outcomes are defined and evaluated.

Research, Innovations and Extension

At NCET, research is promoted at department levels through research projects at Undergraduate & Post Graduate levels, mini projects and internships. Institution promotes research by Faculty Members as well as students through its R&D Cell. The R & D Committee of NCET has been constituted with representatives from each department who will be Single Point of Contact (SPoC) for the respective department and its HoD as ex-officio members of R & D Committee. It takes care of various issues of research including ethical matters. The institution has 7 approved Research Centers of VTU with 55 research scholars pursuing their Ph.D. R&D Projects are being funded by various funding agencies like AICTE, ISRO, DRDO, VTU, VGST, Institution of Engineers, KSCST, ISHRAE, ASHRAE, etc.

NCET has Signed MOU with ISRO and was part of Student Satellite project "STUDSAT" launched by ISRO-PSLV C15 and also now building its own "Nagarjuna UNITY Satellite" as part of 75 Students' Satellites Programme initiated to Celebrate India's 75 years of Freedom namely "Azadi ka Amrut Mahotsava" as announced by our Hon'ble Prime Minister at UN General Assembly.

NCET has vibrant Industry-Institute Collaboration with various MNCs including Texas Instruments. MOUs are signed with various industries such as Amazon, Salesforce, NASSCOM, e-Yantra IIT-Bombay robotics lab, etc. Research projects funded by BRNS,VGST, GTRE, AICTE, VTU & KSCST are undertaken by the faculty members. NCET has an MOU with KSCST for NCET-KSCST IP cell for filing, publishing and commercializing patents.

Institution encourages active involvement of teachers in research. In the last five years, faculty have published more than 250 publications and involved in research projects worth Rs. 1.18 crores. Entrepreneurship cell and

start-up incubation centers are established for the career enhancement of students. To bridge the gap between industries and academia, Consultancy works are undertaken by staff members and revenue worth Rs. 58.38 lakhs is generated during last 5 years.

For sensitizing the students about social issues, institution has conducted various extension activities. The Institution has two NSS units sanctioned by VTU, which organizes various events such as awareness programs on AIDS prevention, Environmental Pollution, Electoral Literacy Program, Blood Donation, etc.

Infrastructure and Learning Resources

The Institution is spread over an 100 acres campus with state of the art facilities. The infrastructure comprises of Academic Buildings, Auditorium with seating capacity of 400 having central AC and HD Projector, Seminar Halls/Digital Classrooms, Generator Power supply systems along with roof top solar power plant, RO Water supply etc.

The institute has 541 computers & has Wi-Fi facility throughout the campus and hostels. The institution has licensed System softwares and application softwares, an internet leased line connectivity with a bandwidth of 600 Mbps. All labotories are equipped with modern facilities and classrooms are fitted with state of the art ICT tools such as smart boards, LCD projectors, TV and Wifi connectivity. Online Lecture capturing facility is created using advanced light board technology. During the pandemic periods, faculty members have used various ICT tools such as Google classroom, Google meet, WebEx, zoom, Microsoft teams, etc to effectively deliver the lectures and share online resources. Digital writing pads are used to teach mathematically oriented courses effectively. Learning Management System using Moodle platform is implemented.

The institute has central library facility with well stacked books and journals. E-Journals & E-books are made available to the students and staff through VTU Consortium. VTU E-learning through EDUSAT is provided for interactive two way communications. Web OPAC is available for finding the availability of books in the library. Library is automated with LIBSOFT software.

Institution provides facilities for sports and cultural activities with a playground of 10 acres. Gymnasium with modern equipments are available.

Separate in-campus Hostels for Boys and Girls with all necessary facilities are available. Staff quarters are available within the campus. Automated laundry facility is provided to the staff and students. Sewage Treatment Plant is installed and operational in the campus. Solar Water heating and solar street lights are provided to have an eco-friendly campus. For the safety and security, CCTV are installed. Transport facilities are provided to both staff and students. Banking facility with two ATM are available within the campus. Research labs are established with required research facilities. Advanced equipments are available to carry out consultancy works.

Student Support and Progression

The institution supports and helps students to apply for various governement scholarships and freeships such as SC/ST, OBC, PMSSS, Minority and Merit Scholarships. The institution also offers freeships to the needy students every year. Every year scholarships to the tune of Rs. 5.00 crores is provided.

Institution has a transparent mechanism for timely redressal of student grievances. The committees for prevention of ragging, sexual harassment, discipline monitoring, etc are formed to effectively prevent any untoward incident.The menace of ragging is viewed very seriously and Anti-Ragging Cell takes all necessary measures to curb the ragging within the campus.

Training on Soft skills, Language and Communication skills, Life skills, Aptitude, interview skills and technical skills such as computing skills are provided for the overall development of the students. The Placement Cell is organizes several skill development & career guidance programmes. The interest of the students are mapped and training is provided to them in placement, higher education, competitive examinations and entrepreneurship. The campus drives are organized to facilitate the placement of the students by inviting reputed industries to the campus. Students are also encouraged to participate in pool campus drives also.

Students represent in various administrative bodies and academic committees such as Board of Studies, IQAC, Anti Ragging Committee, Class Committees, Cultural Committees, Sports Committees, etc. Sports & Cultural festivals both at the College and Inter collegiate levels are held annually. Our students are representing the university in various sports activities. Students also participate in various social activities through NSS.

Cultural activities such as dance competitions, singing competitions, fashion shows, debates, collage making & sketching help the students in showcasing their talents. Intercollegiate cultural fest IKYA is conducted in which the students play a major role in organizing the event. Students organize and celebrate Ganesh Chaturthi, Onam, Kannada Rajyotsava, Navratri and other festivals. Students are encouraged to take up social responsibilities by organizing blood donation camps to help the needy.

Alumni have contributed to their Alma Mater financially and non-financially such as interacting with present students, arranging guest lectures, campus placements and industrial visits. Alumni meets are organized regularly.

Governance, Leadership and Management

The Governing Body(GB) approves the policy decisions to be implemented by the college. The GB is constituted in accordance with UGC/AICTE regulations. The Governing body has representatives from different levels of faculty.

The Academic Council is constituted in accordance with the guidelines issued by UGC & VTU. All the department heads are members of the Academic Council, which makes significant academic and administrative decisions. The Academic Council recommends its decisions to the GB in the matters pertaining to curricular, co-curricular and other activities. The GB reviews and approves the minutes of Academic Council meetings, as well as financial, disciplinary and other matters.

The Institution promotes a culture of decentralization and participative management involving all stakeholders in the process of decision making. Right from the Management Committee to the staff and students, all the stakeholders have a role to play in the success of the institution. Their involvement and cooperation in devising and implementing decision making policies for academic and administrative affairs through various bodies and committees have contributed to the growth of the college.

The strategic plan of the college has been well designed by considering the inputs from stakeholders through

focused discussions, feedbacks, conferences and workshops by adopting participatory techniques, at department and institutional levels.

Various staff welfare schemes are implemented in the college to attract good faculty. Schemes such as CPF, ESI, Gratuity, Group Insurance, Covid Insurance, TA/DA reimbursement, salary advance, etc are provided. Well formulated HR policy takes care of all staff related matters.

The College conducts internal and external financial audits periodically and has its own mechanism to conduct audit. The annual budget of the department is prepared by the respective HODs and submitted to the Principal for approval. The Principal consolidates and prepares the institutional budget and submit the same for approval to the Governing Body.

The IQAC has contributed significantly towards improving curriculum enrichment, academic excellence, teaching and learning process, evaluation methods and research atmosphere in the institution. The syllabus of various courses in the departments have been periodically reviewed and upgraded to meet the industrial requirements.

Institutional Values and Best Practices

The motto of NCET is to provide quality technical education imbibed with human values and academic professionalism. The institution makes every effort to achieve the s goal.

The institution sensitizes students and employees regarding gender equity by organizing various activities. The institute promotes gender equity in admissions, recruitment, administrative functionality and academic activities. The institution makes sincere efforts to empower women faculty and girl students. The college organizes several awareness programs and walkathons regarding women welfare and gender sensitization. The institute considers safety and security of the girl students as paramount and has initiated many fool-proof measures. The entire campus and hostels are under CCTV surveillance. The hostels are fenced and gated properly. The sanitary napkin incinerators as well as sanitary napkin vending machines are installed for the health and hygiene of the girls.

The institution has taken care in the disposal of waste in effective manner. Solid, Liquid and Biomedical Waste Management system are adopted in the institution. Rain Water Harvesting and Waste water recycling through STP is implemented. The institution is providing required facilities for divyangan students. The institute is undertaking several efforts and initiatives for providing an inclusive environment for students, teaching and non-teaching staff members. Swachh Bharat Abhiyan and Unnat Bharat Abhiyan are some of the initiatives taken up by the college. Students have taken up many cleanliness drives both inside the campus and nearby villages. Celebration of cultural and constitutional festivals is an integral part of the institution's co-curricular activities.

The institution has code of conduct for students, teachers and staff. The student handbook is distributed to all the students. Staff HR manual is prepared and made available to staff members.

Student Support System and Career Support System are some of the best practices adopted by the institution. The aim is to impart skill and knowledge to map the student interest and capabilities with the skill development to be provided, continuously monitor the student's progress in terms of academic performance, learning, attendance and general behavior. The distinctive feature of the institution is conduction of industry

institute interaction through Industry Institute Interaction and Innovation (I4) cell.

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the College	
Name	NAGARJUNA COLLEGE OF ENGINEERING AND TECHNOLOGY
Address	Venkatagirikote Post, Devanahalli taluk, Bangalore
City	Bengaluru
State	Karnataka
Pin	562164
Website	www.ncet.co.in

Contacts for Communication					
Designation	**Name**	**Telephone with STD Code**	**Mobile**	**Fax**	**Email**
Principal	Jitendranath Mungara	080-67462700	9880293343	080-6746279 9	principal@ncetmail.com
IQAC / CIQA coordinator	Rohith	080-67462701	8618786795	080-6746270 2	s.rohith@ncetmail.com

Status of the Institution	
Institution Status	Self Financing

Type of Institution	
By Gender	Co-education
By Shift	Regular

Recognized Minority institution	
If it is a recognized minroity institution	No

Establishment Details	
Date of Establishment, Prior to the Grant of 'Autonomy'	27-06-2001

Date of grant of 'Autonomy' to the College by UGC	28-02-2017

University to which the college is affiliated

State	University name	Document
Karnataka	Visvesvaraya Technological University	[View Document](#)

Details of UGC recognition

Under Section	Date	View Document
2f of UGC	07-04-2016	[View Document](#)
12B of UGC	08-03-2019	[View Document](#)

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

Statutory Regulatory Authority	Recognition/Approval details Institution/Department programme	Day,Month and year(dd-mm-yyyy)	Validity in months	Remarks
AICTE	[View Document](#)	30-06-2021	12	The details of AICTE pertaining to the Year Two Thousand and Twenty is being provided

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	Venkatagirikote Post, Devanahalli taluk, Bangalore	Rural	14.36	50113

2.2 ACADEMIC INFORMATION

Details of Programmes Offered by the College (Give Data for Current Academic year)						
Programme Level	**Name of Programme/Course**	**Duration in Months**	**Entry Qualification**	**Medium of Instruction**	**Sanctioned Strength**	**No.of Students Admitted**
UG	BE,Electronics And Communication Engineering	48	Second PUC	English	120	46
UG	BE,Computer Science And Engineering	48	Second PUC	English	60	28
UG	BE,Computer Science And Engineering	48	Second PUC	English	120	78
UG	BE,Computer Science And Engineering	48	Second PUC	English	60	47
UG	BE,Information Science And Engineering	48	Second PUC	English	60	45
UG	BE,Civil Engineering	48	Second PUC	English	120	32
PG	Mtech,Civil Engineering	24	BE	English	18	13
PG	Mtech,Civil Engineering	24	BE	English	24	16
PG	MBA,Master	24	Any Degree	English	120	74

	Of Business Administration					
Doctoral (Ph.D)	PhD or DPhil,Electronics And Communication Engineering	48	Masters in ECE	English	20	11
Doctoral (Ph.D)	PhD or DPhil,Computer Science And Engineering	48	Masters in CSE	English	15	14
Doctoral (Ph.D)	PhD or DPhil,Civil Engineering	48	Masters in Civil Engg	English	20	15
Doctoral (Ph.D)	PhD or DPhil,Master Of Business Administration	48	Any Masters Degree	English	10	2
Doctoral (Ph.D)	PhD or DPhil,Physics	48	Any Masters Degree	English	5	1
Doctoral (Ph.D)	PhD or DPhil,Chemistry	48	Any Degree	English	5	3
Doctoral (Ph.D)	PhD or DPhil,Mechanical Engineering	48	Masters in Mechanical Engg	English	10	9

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				14				21				115
Recruited	12	2	0	14	15	6	0	21	65	50	0	115
Yet to Recruit				0				0				0

Non-Teaching Staff				
	Male	**Female**	**Others**	**Total**
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				47
Recruited	36	11	0	47
Yet to Recruit				0

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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				38
Recruited	32	6	0	38
Yet to Recruit				0

Qualification Details of the Teaching Staff

Permanent Teachers										
Highest Qualification	**Professor**			**Associate Professor**			**Assistant Professor**			
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total
D.sc/D.Litt/ LLD	0	0	0	0	0	0	0	0	0	0
Ph.D.	12	2	0	15	6	0	1	1	0	37
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	64	49	0	113

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

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

Details of Visting/Guest Faculties				
Number of Visiting/Guest Faculty engaged with the college?	**Male**	**Female**	**Others**	**Total**
	6	2	0	8

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	778	360	0	0	1138
	Female	466	90	0	0	556
	Others	0	0	0	0	0
PG	Male	123	12	0	0	135
	Female	77	10	0	0	87
	Others	0	0	0	0	0
Doctoral (Ph.D)	Male	36	1	0	0	37
	Female	17	1	0	0	18
	Others	0	0	0	0	0

Provide the Following Details of Students admitted to the College During the last four Academic Years					
Programme		**Year 1**	**Year 2**	**Year 3**	**Year 4**
SC	Male	21	21	19	21
	Female	12	12	11	19
	Others	0	0	0	0
ST	Male	4	3	2	5
	Female	4	5	5	4
	Others	0	0	0	0
OBC	Male	59	67	53	60
	Female	40	41	38	40
	Others	0	0	0	0
General	Male	154	222	234	311
	Female	85	121	137	138
	Others	0	0	0	0
Others	Male	0	0	0	0
	Female	0	0	0	0
	Others	0	0	0	0
Total		379	492	499	598

2.3 EVALUATIVE REPORT OF THE DEPARTMENTS

Department Name	Upload Report
Chemistry	[View Document](#)
Civil Engineering	[View Document](#)
Computer Science And Engineering	[View Document](#)
Electronics And Communication Engineering	[View Document](#)
Information Science And Engineering	[View Document](#)
Master Of Business Administration	[View Document](#)
Mechanical Engineering	[View Document](#)
Physics	[View Document](#)

Institutional preparedness for NEP

1. Multidisciplinary/interdisciplinary:	Interdisciplinary/Multidisciplinary open electives courses such Income Tax & Taxation, Air Pollution and its control, IPR policies, Research methodology , etc are offered in all UG programmes. The concept of interdisciplinary electives were introduced from the 2015-16.
2. Academic bank of credits (ABC):	The institution is interacting with the affiliating university towards the implementation of Academic Bank of Credits. Once the university implements ABC, the college is ready to upload the student academic data to the portal as the result data is in digital format and hosted in the website.
3. Skill development:	Skill development courses such as STAADPRO, MATLAB, LABVIEW, Python, AWS, Salesforce are being offered. Many skill development courses in Computer Science and Engineering discipline are introduced using E-Box platform. PMKVY programme from the ministry of education was successful implemented for training the rural unemployed youth in various skill development programmes such as welding, fitting, electronic repair, electrical wiring, etc
4. Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course):	Students are encouraged to learn Dance, Music, Sports, Yoga, etc as open electives and credits are offered. Online Courses are made part of the Credit based Open electives from the year 2015-16.
5. Focus on Outcome based education (OBE):	OBE is implemented from the academic year

	2015-16. All question papers are printed with Course Outcomes(CO) and Revised Blooms Levels. All assessments are mapped to corresponding COs and further Programmes Outcomes(PO) and Programme Specific Outcomes(PSO) are computed based on the attainment of COs. Four UG Programmes of NCET are accredited by NBA during 2018-19.
6. Distance education/online education:	Students are encouraged to take up Online Courses from SWAYAM/NPTEL, IIRS, etc and they are offered as credit courses. During the pandemic period, online classes were engaged using Google Classroom, Google Meet, Zoom, Webex, etc. Learning Management System using Moodle is implemented and mobile app for the same is being used by the students.
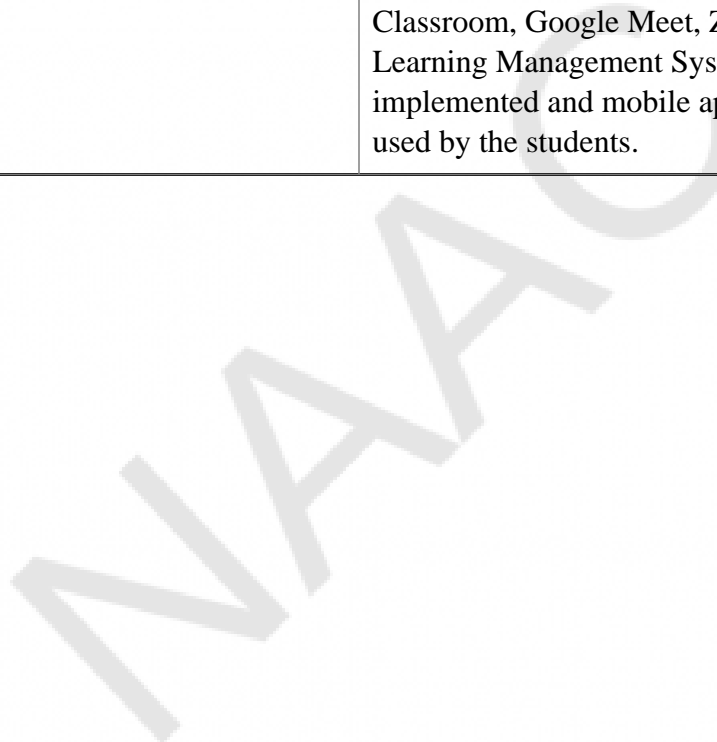
Extended Profile

1 Program

1.1

Number of programs offered year-wise for last five years

2020-21	2019-20	2018-19	2017-18	2016-17
9	8	11	11	11

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

1.2

Number of departments offering academic programmes

Response: 6

2 Students

2.1

Number of students year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
1916	2132	2294	2451	2433

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

2.2

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

2020-21	2019-20	2018-19	2017-18	2016-17
631	625	630	610	629

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

2.3

Number of students appeared in the examination conducted by the Institution, year-wise during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
1911	2134	2109	2333	2365
File Description			Document	
Institutional data in prescribed format			[View Document](#)	

2.4

Number of revaluation applications year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
53	74	112	126	88

3 Teachers

3.1

Number of courses in all programs year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
478	546	631	635	558
File Description			Document	
Institutional data in prescribed format			[View Document](#)	

3.2

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

2020-21	2019-20	2018-19	2017-18	2016-17
150	135	148	192	182
File Description			Document	
Institutional data in prescribed format			[View Document](#)	

3.3

Number of sanctioned posts year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
163	135	148	192	182

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

4 Institution

4.1

Number of eligible applications received for admissions to all the programs year-wise during last five years

2020-21	2019-20	2018-19	2017-18	2016-17
713	753	800	840	955

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

4.2

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

2020-21	2019-20	2018-19	2017-18	2016-17
189	187	176	201	203

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

4.3

Total number of classrooms and seminar halls

Response: 47

4.4

Total number of computers in the campus for academic purpose

Response: 551

4.5

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

2020-21	2019-20	2018-19	2017-18	2016-17
1865.17	1493.49	1594.09	1794.97	1910.14

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4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curriculum Design and Development

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific Outcomes(PSOs) and Course Outcomes(COs) of the Programmes offered by the Institution.

Response:

The curricula for the undergraduate and post-graduate programs have been formulated in accordance with the guidelines of AICTE, affiliating university VTU, suggestions by members of Professional bodies, industry experts and alumni. Curriculum of various Indian universities, foreign Universities and other competitive examinations are referred. IQAC is involved with stakeholders from time to time to collect feedback to meet the local, national, regional and global developmental needs of the society. The curriculum is designed to ensure that the students have the required domain knowledge and skill sets.

The Graduate Attributes are adopted as Program Outcomes (POs). Program Specific Outcomes (PSOs) for each program have been formulated to ensure the attainment of domain-specific knowledge and skills in relation with Course Outcomes (COs). The curriculum is formulated in tune with the POs and PSOs and is modified at regular intervals and presented and discussed in the Board of Studies (BoS). BoS includes industry experts, senior academicians from reputed institutions, faculty members and alumni, whose suggestions are considered and incorporated in the revised curriculum before submitting to the Academic Council. Finally, the Academic Council approves the curriculum and the Governing Body ratifies the decision of the Academic Council.

The curriculum also offers courses in Universal Human Values, Basic Sciences, Professional Core subjects, Open and Professional Electives, Skill Development Courses, Project Based Learning (PBL), laboratory work and project work. Technical report writing and language laboratory enhance written and verbal communication skills. Study of fundamental concepts of basic sciences enables the students to understand and apply them to solve engineering problems.

Courses are developed with relevance to the present technological developments and flexibility to suit the professional needs of the students. Students learn various important concepts in professional core subjects and also advanced concepts in professional elective courses which enhance their analytical and problem-solving skills. Study of open electives offered by other branches of engineering, paves the way for an interdisciplinary approach to learning. Conduct of laboratory work enables the students to understand the practical applications of several theoretical concepts. The project work/internship taken up in the pre-final and final year enables the students to consolidate their knowledge. Mini project work is also a part of the curriculum which enables the students to apply the knowledge of the courses studied.

Training in technical and soft skills has been imparted to the students. Soft skills involve training in communication skills, logic & aptitude and quantitative reasoning. This training ensures better employability for the students. Technical Training in the latest software and technologies is offered to the students. With a view to promote self-learning, students are encouraged to take up online NPTEL/ MOOCS certification Courses. To bridge the gap between the academic and industry needs, Value added

courses are being offered. The institution is also introducing the suggestions given in NEP-2020, where 24 weeks of internship is made mandatory for all the engineering students and get opportunity to go abroad. Mapping of industry, academia, students and faculty will be made to integrate the interdisciplinary project works.

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

1.1.2 Percentage of Programmes where syllabus revision was carried out during the last five years.

Response: 100

1.1.2.1 **Number of all Programmes offered by the institution during the last five years.**

Response: 10

1.1.2.2 **How many Programmes were revised out of total number of Programmes offered during the last five years**

Response: 10

File Description	Document
Minutes of relevant Academic Council/BOS meeting	[View Document](#)
Details of program syllabus revision in last 5 years(Data Template)	[View Document](#)
Any additional information	[View Document](#)

1.1.3 Average percentage of courses having focus on employability/ entrepreneurship/ skill development offered by the institution during the last five years

Response: 65.34

1.1.3.1 **Number of courses having focus on employability/ entrepreneurship/ skill development year-wise during the last five years..**

2020-21	2019-20	2018-19	2017-18	2016-17
381	375	369	366	347

File Description	Document
Programme / Curriculum/ Syllabus of the courses	[View Document](#)
MoU's with relevant organizations for these courses, if any	[View Document](#)
Minutes of the Boards of Studies/ Academic Council meetings with approvals for these courses	[View Document](#)
Average percentage of courses having focus on employability/ entrepreneurship(Data Template)	[View Document](#)
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

1.2 Academic Flexibility

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

Response: 10.31

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

Response: 272

1.2.1.2 **Number of courses offered by the institution across all programmes during the last five years.**

Response: 2637

File Description	Document
Minutes of relevant Academic Council/BOS meetings	[View Document](#)
Institutional data in prescribed format	[View Document](#)
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

1.2.2 Percentage of Programmes in which Choice Based Credit System (CBCS) / elective course system has been implemented (Data for the latest completed academic year).

Response: 100

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

Response: 9

File Description	Document
Minutes of relevant Academic Council/BOS meetings	[View Document](#)
Institutional data in prescribed format	[View Document](#)
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

1.3 Curriculum Enrichment

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

Response:

Various courses are introduced in the curriculum related to Gender Equality, Sustainability, Human Values and Professional Ethics.

Gender Equality, Human Values and Professional Ethics:
To inculcate Moral, Social and Ethical values, the college has introduced courses on Human Values and Professional Ethics as credit course during 2nd and 3rd year for all undergraduate programs. The Universal Human Values course integrates various human values to be learnt by the students as per the curricula suggested by AICTE. Faculty members are trained by AICTE approved resource persons for teaching this course. The course on Constitution of India offered, Professional Ethics & Human Values offered during second year also enables the students to understand duties and responsibilities of a citizen, professional ethics to be followed and human values to be imbibed. Gender Equality is also the part of the curriculum which is addressed by Constitution of India course. Women Cell and Anti-sexual harassment committees continuously organize various programs like debate, seminars, panel discussions and awareness programmes to supplement the courses on gender sensitization.

The curriculum also included a course on 'Personality Development Programme' to develop human values and communication skills which is delivered by professionals from Art of Living Foundation and Harmonix Global Foundation, a subsidiary of ISKCON. These courses emphasizes a holistic understanding of ethical human conduct, trustful and mutually satisfying human behavior. The college also conducts Blood Donation Camps, Swachh Bharat and other awareness programs in the nearby villages to inculcate human values, ethics and social behaviour among the students. The Integrated Rural Development Programme is a unique initiative by the college. This credit course is included in the curriculum and students visit the nearby villages and study the problems that exist in the villages and also propose solutions for solving such problems.

Environment and Sustainability:
Environmental Science is an interdisciplinary mandatory course is offered as part of the curriculum. Many courses on environment protection such as Environmental Pollution, Air Pollution and Solid Waste Management, Ecology & Environmental Impact Assessment, Industrial Waste Water treatment, Design of Energy Efficient Buildings, Green Buildings, Water Resource Engineering, Sustainable Constructions,

Rural Water Supply & Sanitation, Construction & Demolition Waste Management, Rain Water Harvesting, etc are part of the curriculum. These courses include the study of natural resources with emphasis on renewable energy resources, the importance of conserving the present ecosystem, promoting biodiversity, perils of environmental pollution and creating awareness on environmental and social issues. Natural Disaster Mitigation Management is offered as an industrial elective to understand natural and manmade disasters, their occurrences, effects, mitigation and management systems in India.

A course on Energy Efficient and Green buildings is also offered to emphasize the significance of eco-friendly materials, green building rating systems, generation of electricity from various non-conventional sources of energy such as solar, wind, ocean and geothermal energies and acquire knowledge of their principles and utilization. Another Professional elective course on "Air pollution and its control" explains the effects of uncontrolled emissions from industries, various disposal methods and minimization of pollution.

File Description	Document
Upload the list and description of the courses which address the Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum	[View Document](#)
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

1.3.2 Number of value-added courses for imparting transferable and life skills offered during last five years.

Response: 36

1.3.2.1 **How many new value-added courses are added within the last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
12	10	10	2	2

File Description	Document
List of value added courses (Data Template)	[View Document](#)
Brochure or any other document relating to value added courses	[View Document](#)
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

1.3.3 Average Percentage of students enrolled in the courses under 1.3.2 above.

Response: 39.35

1.3.3.1 **Number of students enrolled in subject related Certificate or Add-on programs year wise during last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
1157	1218	991	440	440

File Description	Document
List of students enrolled	View Document
Link for Additional Information	View Document

1.3.4 Percentage of students undertaking field projects/ internships / student projects (Data for the latest completed academic year)

Response: 100

1.3.4.1 **Number of students undertaking field projects / internships / student projects**

Response: 1916

File Description	Document
List of programs and number of students undertaking field projects / internships / student projects (Data Template)	View Document
Any additional information	View Document
Link for Additional Information	View Document

1.4 Feedback System

1.4.1 Structured feedback for design and review of syllabus – semester-wise / year-wise is received from 1) Students, 2) Teachers, 3) Employers, 4) Alumni

Response: A. All 4 of the above

File Description	Document
Action taken report of the Institution on feedback report as minuted by the Governing Council, Syndicate, Board of Management	View Document
Link for Additional Information	View Document
URL for stakeholder feedback report	View Document

1.4.2 The feedback system of the Institution comprises of the following :

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

File Description	Document
URL for stakeholder feedback report	View Document
Link for Additional Information	View Document

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1 Average Enrolment percentage (Average of last five years)

Response: 71.62

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

2020-21	2019-20	2018-19	2017-18	2016-17
379	492	499	598	624

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

2020-21	2019-20	2018-19	2017-18	2016-17
702	642	642	816	816

File Description	Document
Institutional data in prescribed format (Data Template)	[View Document](#)
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

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

Response: 75.11

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

2020-21	2019-20	2018-19	2017-18	2016-17
140	149	129	149	151

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

2.2 Catering to Student Diversity

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

Response:

The institution assesses the learning levels of the students based on the performance of the students in class tests, assignments, and semester end examinations. First year students are identified as slow and advanced learners based on their PUC or plus two marks. The college conducts Student Induction/Orientation Programmes as per guidelines from AICTE and VTU during the commencement of every academic year for the newly admitted students. The facilities in the college and the scope of the different courses being learnt are introduced in these sessions. Faculty members are interacting with the students to identify their potential during induction programme.

For slow learners, the institute provides special guidance, tutorial classes, remedial coaching classes, personal counseling, question paper solving and home assignments. On the other hand, advanced learners are encouraged to participate in SWAYAM/NPTEL online courses and also provided with the opportunity to participate in many of the conferences, seminars, exhibitions, hackathons, coding contests, etc. College also provides VTU-Consortium membership to the advanced learners. The college has introduced merit prizes, ranks and gold medals for each programme of study. The advanced learners are also provided with the facility of peer tutoring of the slow learners which will be beneficial for both advanced as well as slow learners. The tutors will be rewarded with cash incentives, if the tutees mapped to the tutor, improves performance. This peer tutoring has proved that it is a very effective method of collaborative learning.

After organizing the special programs for advanced learners, students have shown better performance in getting seats for pursuing higher education and many of them got good placements. Bridge courses are also conducted during the vacation period for slow learners in order to prepare them for the courses such as microprocessors, DSP, etc which are having mathematical concepts. Similar courses for the lateral entry students are conducted to enable them to understand and apply the fundamentals of mathematics in the higher semester classes. Regular academic audits by IQAC team is conducted to assess the progress of the students. Faculty members counsel the students regularly and monitor the performance of students.

The college has adopted the following methods to respond to special learning needs of advanced learners.

- They are encouraged to take up mini projects under the guidance of faculty.
- Opportunity to conduct Robotic workshops in schools and other colleges.
- Allowed to participate in the technology oriented competitions like tech fests, quizzes, conferences & paper presentations at university, state, national and international level which necessitates a lot of preparation.

- Motivated to register for various professional bodies such as CSI, IEEE, ASHRAE, ICI, etc as well as encouraged to take up competitive exams like GRE, TOEFEL, GATE, UPSC, etc.
- Advanced learners are encouraged to take lead roles in the various technical and cultural activities through the department forums and hobby clubs.
- The opportunity to act as tutors in the peer tutoring process.
- Elite club is established to recognize the fast learners and provided with incentives such as T-shirts, additional books in library and other benefits.

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

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

Response: 13:1

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

2.3 Teaching- Learning Process

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

Response:

The College prepares the academic plan during the beginning of every semester. Various methods of experiential and participatory learning as well as problem-solving methodologies are also considered in the preparation of the academic plan. Usage of the modern teaching tools such as PowerPoint presentations, YouTube videos, Interactive Smart Boards, Lecture Capturing tools, Google Classroom, Learning Management System using Moodle, NPTEL & other MOOCS are considered in the preparation of the academic calendar.

1. **Experiential learning:** Students take up mini projects and major projects as part of the curriculum. Selected projects are guided by industry experts to get the exposure to the real time industry problems. Students also choose some of the local problems as references while identifying the projects. Departments plan and organize the industrial visits for students to provide exposure to industrial work culture. More number of integrated courses blended with laboratory components are offered to get the hands on experience. Guest lectures by eminent experts from industry and academics are organized to supplement the teaching process. E-Yantra project from IIT, Bombay facility is provided to have the concept of Learning by Doing (LbD). 15 days Extensive Survey Camp is arranged to learn real world problems.
2. **Participative Learning:** Courses in Skill Enhancement, MOOCs from NPTEL/SWAYAM, sports, co-curricular activities and NSS have been introduced to encourage the students to participate and learn. The students are participating in various events at state and national level. Teachers adopt

role play methods especially in management and PG courses to supplement teaching by way of participative learning. All departments organize various activities to promote the spirit of team work. The activities of NSS, institutional social responsibility through Red Cross, Village Adoption, Tree plantation, Swatchh Bharat and Health awareness camps help the students to understand social and community problems. Practical and workshops in individual and groups are also included as part of the curriculum. The students are encouraged to participate in Hackthons, codethons, project exhibitions, tech fests, conferences, workshops and seminars.

3. **Problem Solving Methodologies:** Alternate Assessment Tools are introduced which encourage the students to involve themselves in problem solving activities and work independently. Individual assignments are required to be submitted by students. Case study method is adopted in the teaching learning process to enable the students to have logical thinking and practical knowledge. This is commonly adopted in management programmes as well as while teaching courses like Business law, cyber laws etc. The college follows the discussion methods in many of the courses as it makes the students to think widely and come up with the opinions & suggestions. Group Discussions are held basically in courses like soft skills, managerial communications, business adoptions etc. Quizzes are conducted by course teachers in all UG and PG programmes. Research activities are conducted in each Department under the guidance of senior faculty members where the students of different semesters get knowledge about emerging areas and help them to involve in research activities. Industry visits, site visits and survey campus are organized to enable the students to understand real world working experience. Students participate in hobby clubs activites.

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

2.3.2 Teachers use ICT enabled tools including online resources for effective teaching and learning process.

Response:

The campus is wi-fi enabled with 600 MBPS internet connectivity to foster learning. The Central computing facility having 541 computers are available. The classrooms and seminar halls are ICT enabled with LCD projectors & Wi-Fi connectivity. E-Resources are available in the college central library which has access to NPTEL videos, VTU E-Learning Materials, E-Shikshana, E-Journals, etc.   The faculty at NCET use various ICT enabled tools to enhance the quality of teaching-learning.

- 25 projectors are available in Classrooms and Seminar Halls
- Classrooms are equipped with Digital Televisions to display digital content through laptops.
- Classrooms are equipped with Interactive digital display boards (Smart Boards).
- Desktop PCs and Printers are made available at all departments and central facilities.
- Four seminar halls available with all digital facilities. Auditorium is digitally equipped with sound systems, projector, and computer system.
- Digital Interventions are used to manage and post course learning materials, conduct quizzes, lab submissions, assignments, evaluations, etc. during pandemic period. All faculty members have

created the Google classrooms during the pandemic period and were effectively used to teach, communicate, submit and assess the learning outcomes. Google meet meeting platform is used for the purpose of online teaching. Zoom, Webex, Microsoft Teams and such other platforms were also used for various meetings with teachers and students. Digital notepads were used by teachers for effective online teaching purpose. Many webinars were conducted during the pandemic period to impart industry relevant knowledge.

- Recording of the lecture videos are prepared using a novel methodology called light board technique and these videos are uploaded in YouTube channel created for the said purpose.
- Virtual labs are used to conduct labs through simulations. Every laboratory course is included with two virtual lab experiments as part of the curriculum to expose the students to the virtual lab facilities provided by Ministry of Education, Government of India. College has ranked at No. 5 at All India level in the usage of Virtual Lab provided by VALUE Virtual Labs. The institution is receiving grants for the usage of virtual labs from Government of India.The virtual lab facilities developed by NITK, Surathkal and other IITs are also being used.
- MOOC Platform (NPTEL, Swayam, Coursera, Edx etc) is being used by the students. Credits are awarded to NPTEL online courses. Students are encouraged to take up online courses using the SWAYAM, NPTEL and other platforms. The students are provided with the facility of earning 20% of academic credits through MOOCs.
- E-Box platform is available to learn programming languages using interactive and problem oriented learning methodology.
- NCET Learning Management System (LMS) using Moodle is functional and teachers are using NCET LMS Software to upload their course materials and learning resources. Teachers are using NCET LMS to conduct various types of assignments and quizzes.
- Digital Library resources using DELNET is available. Library is provided with WebOPAC to search for digital content. Online Journals are subscribed using VTU Consortium.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)
Provide link for webpage describing ICT enabled tools including online resources for effective teaching and learning process	[View Document](#)

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

Response: 16:1

2.3.3.1 **Number of mentors**

Response: 120

File Description	Document
Upload year wise, number of students enrolled and full time teachers on roll	[View Document](#)
Circulars pertaining to assigning mentors to mentees	[View Document](#)
Any additional information	[View Document](#)
Link for additional information	[View Document](#)

2.3.4 Preparation and adherence of Academic Calendar and Teaching plans by the institution

Response:

The institute prepares its academic calendar prior to the commencement of the semester. This calendar is prepared in conformity with university academic calendar with the input from all stakeholders. The academic calendar is designed keeping in view the number of working days required. The Academic calendar is published to all the stakeholders. Department level academic calendar is also planned based on the institute-level Academic Calendar. The Academic Calendar exhibits a positive balance between curricular and co-curricular activities, teaching and examination schedule. The total number of days for the semester from the commencement of the day, working days, holidays, and last working day will be mentioned. Induction Program details are also mentioned in the calendar of events. Academic Calendar will consist of details such as the conduction of Internals like CIE-1, CIE-2, Make-up CIE, Lab CIE, etc. Commencement of Semester End Examination details are also be incorporated in the Calendar of Events. Parent-Teacher Meetings, Placement training sessions, finalization and submission of student attendance data & CIE marks are indicated. Major institute level activities such as conferences, workshops, college fests, sports events, etc are also indicated in the academic calendar.

Course wise Curricular Plans and Unit wise Teaching Plans are prepared in alignment with the objectives of Outcome-Based Education. The Teaching Plan comprises the Course Learning Objectives and Course Outcomes, Learning Resources, Teaching Methods, Evaluation techniques, Remedial measures, etc. While preparing the teaching plans, suggestions of the respective subject experts of the Board of Studies(BOS) are taken into consideration. The individual departments then prepare the departmental and individual lesson plans adhering to the institutional academic and teaching plans. The entries in lesson plans and teacher diaries are inspected by the Head of the department on weekly basis. The individual teachers time table is prepared and the work load distributed equally among the teachers of various cadres. Each individual teacher prepares the lesson plan and maintains the teachers diary.

Contineo Student Information Management System (SIMS) is implemented for monitoring various academic activities. It captures the calendar of events, lesson plans, student attendance, marks in various assessment tools and also helps in the student counselling activities.Any deviations in the schedule will be monitored by the SIMS and logs are being generated. The Continuous Internal Evaluations, Alternate Assessments Methods, Semester End Examination are conducted as per the schedule mentioned in the academic calendar. The evaluations of these different assessments are held within due dates and results are declared as per schedule. The Local Inspection Committee(LIC) nominated by VTU in its onsite visit to the College oversees and monitors adherence to the Academic Calendar and Lesson Plans. The IQAC audit team verifies lesson plans, work diary, attendance registers and blue books. Any deviations will be reported

to the Head of the department through Principal by the IQAC coordinator. The external ISO audit team verifies all documents and certifies the college with ISO 9001-2015 QMS certification. The auditor's comments serve as a basis for improvement in the teaching-learning process.

File Description	Document
Upload Academic Calendar and Teaching plans for five years	View Document
Any additional information	View Document
Link for Additional Information	View Document

2.4 Teacher Profile and Quality

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

Response: 98.4

File Description	Document
Year wise full time teachers and sanctioned posts for 5 years(Data Template)	View Document
List of the faculty members authenticated by the Head of HEI	View Document
Any additional information	View Document
Link for Additional Information	View Document

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

Response: 18.24

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

2020-21	2019-20	2018-19	2017-18	2016-17
41	28	22	30	23

File Description	Document
Institutional data in prescribed format (Data Template)	View Document
Any additional information	View Document
Link for Additional Information	View Document

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

Response: 5.44

2.4.3.1 **Total experience of full-time teachers**

Response: 816

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

2.5 Evaluation Process and Reforms

2.5.1 Average number of days from the date of last semester-end/ year- end examination till the declaration of results year-wise during the last five years

Response: 9.8

2.5.1.1 **Number of days from the date of last semester-end/ year- end examination till the declaration of results year wise during the last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
23	12	5	4	5

File Description	Document
Institutional data in prescribed format (Data Template)	View Document
Any additional information	View Document
Link for Additional Information	View Document

2.5.2 Average percentage of student complaints/grievances about evaluation against total number appeared in the examinations during the last five years

Response: 4.13

2.5.2.1 **Number of complaints/grievances about evaluation year wise during the last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
53	74	112	126	88

File Description	Document
Number of complaints and total number of students appeared year wise	[View Document](#)
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

2.5.3 IT integration and reforms in the examination procedures and processes including Continuous Internal Assessment (CIA) have brought in considerable improvement in Examination Management System (EMS) of the Institution

Response:

The Examination Manual serves as a guiding document for planning and conducting various activities in the Examination Section. The manual consists of roles and responsibilities of each person involved in the examination process. It also describes the process to be followed in the conduction of examination, reporting of the malpractice cases, evaluation of the answer scripts, external review of the valued answer scripts, revaluations and grievance redressal mechanisms. In addition, it gives the overview of various other activities to be performed by the examination section such as issue of grade cards, provisional degree certificates, transcripts, etc.

The examination is conducted by the Institute in two stages emphasizing Continuous Internal Evaluation [CIE] throughout the semester and Semester End Examination [SEE] at the end of the semester. Complete examination process is executed by the Office of the Controller of Examinations in coordination with all departments. Meeting of Board of Examiners are convened prior to the commencement of the examination to select the panel of examiners, question paper setters, moderators and deputy chief coordinators for the examination. Examination section invests every effort to maintain confidentiality of the question papers received from both internal and external examiners. The question papers to be distributed to the students are selected and printed just 60 minutes before the commencement of the examination to maintain confidentiality.

The Examination Section carries out reforms in its examination process with the aid of sophisticated IT

tools. The examination procedure is automated with InstantK Examination System and Contineo Software to improve the examination management system of the institution. Contineo is a pioneering software platform for implementation and administration of academic autonomy. Contineo executes full academic autonomy culminating in secure, confidential, accurate, efficient and auditable examinations of both the digitized answer script and conventional paper and pen variety. The Contineo software helps the institution to quickly have the autonomous processes under control and provides insightful analytics so that we can focus on academic innovation and research.

Examination procedures: IT integration is followed in examination procedure starting from pre-examination processes like eligible student list generation, list of invigilators, squads, creation of attendance sheet, logistics to post-examination process for capturing attendance, coding of the received answered booklets on the same day of examination, tabulation of marks after external evaluation, declaration of exam results, certification, etc.

The examination process is guided by Principal/Chief Controller of Examinations and Controller of Examination with a team of Examination Committee Members. The answer booklets are distributed room wise along with attendance sheets to the invigilators. The question papers which are printed on the same day 60 minutes before the commencement of examination will be sent with utmost confidentiality to the examination rooms by the Deputy Chief Superintendents and after examination the answer booklets are collected by the invigilators and submitted to the Controller of Examinations (COE) for coding and further process. Both internal and external evaluators are called for the purpose of evaluation of answer scripts. The whole evaluation process is automated with the facility of bar coding of the answer scripts. Hence, the evaluation process is performed in a transparent manner without disclosing the identity of the student. Double valuation system is introduced for the Evaluation of the Answer Scripts of PG Courses. The valued answer scripts are reviewed by external subject experts.

Evaluation of all courses theory / practical / project is done in two parts namely by CIE (50%) and SEE (50%). There are three CIEs & two Alternate Assessment Tools(AATs) in theory courses. The End Semester Examination is conducted for theory and practical courses for 50% weightage. The aggregate minimum for a pass in each course is 40%. All students of UG programmes have to earn 175/160 credits, M.Tech programmes to earn 88 credits and MBA programmes to earn 100 credits to satisfy the minimum academic requirement to obtain the degree. All credits earned by the students are considered for the calculation of CGPA. The Examination Cell issues grade cards with requisite security features. Final degree certificates are issued by Visvesvaraya Technological University, Belagavi.

Outcome Based Education concepts are integrated in the preparation of question papers. The question papers indicate the COs for questions, Revised Blooms Taxonomy Levels and CO-PO mapping will be performed by the question paper setters in the Contineo software. Bitwise mark entry for each CO will be performed and attainment of COs, POs and PSOs will be computed automatically by the software. Even for CIE components also, COs, Revised Blooms Levels & CO-PO mapping will be specified and attainment levels will be computed. After the completion of a semester, the software then computes the overall Course Attainments of programme and thus helps in computing the attainment of POs and PSOs of a programme.

The automations are done for preparation of students list, preparation of time tables, Inviting paper setters /examiners, coding and decoding of answer books, generation of grade cards, generation of result sheets, declaration of results, statement of marks/grade cards, etc. Adoption of advanced and automated software technology has brought rapidity and improved efficiency, reliability, transparency and accuracy in the

examination system. The assessments have become easier and improved to a considerable extent. IT integration also helps in assessing the student performances and taking corrective actions in improving them. Course-wise, department-wise, category-wise result analysis have become easier with the implemention of the Examination Management System(EMS).

The EMS is integrated with Students Information Management Systems(SIMS) also, which helps in tracking the progress of the students by counsellors. Various assessments methods such as online quizzes, assignments, mini projects, case studies are introduced for the effective assessment of the learning. Online quizzes are conducted using Google Forms wherein the questions and different options are shuffled randomly so that efficient assessment is possible. During pandemic period, as per the guidelines issued by AICTE, UGC,VTU & state government,the entire examination was conducted online using MCQ. Grievance Redressal mechanisms such as revaluations, paper seeing, challenge revaluations are implemented. Annual reports are submitted to the university regarding the examination details.

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

2.6 Student Performance and Learning Outcomes

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

Response:

Program Outcomes(PO), Program Specific Outcomes(PSO) and Course Outcomes(CO) for all programs offered by the institution are stated, printed in the syllabus copies and displayed in website of the institution for easy access by all stakeholders.

Outcome Based Education (OBE) is a student-centric learning approach and is made mandatory to Higher educational institutes by regulatory & accreditation bodies like UGC, NBA, NAAC etc. It helps the students to achieve the predetermined set of expected knowledge, skills, and values or attributes that a student should acquire upon completion of a program. Programme Outcomes, Programme Specific Outcomes and Course outcomes are necessary for the flexibility and innovation in programme design, syllabi development, teaching-learning process and assessment of student learning levels.

NCET adopted OBE from the academic year 2015-16. The programmes offered by college cater to multiple interests of the student community and to build the human capital needed by the society and nation. The POs and COs primarily aim at imparting knowledge and skills which are critical for building students' competence and personality. There is also an emphasis on holistic development of students as the learning outcomes focus on imparting values & ethics and enhancing their interpersonal and communication skills.

The POs and PSOs of all the programmes are defined based on Institute/Department vision and mission,

and NBA/ AICTE guidelines after duly considering the inputs from various stakeholders like faculty & alumni, parents, employers, employability prospects and societal requirements. The COs of all the courses of the curriculum pertaining to different courses are defined according to the POs and PSOs. Three to Five COs are defined for each course based on the depth of content of the course. Then the syllabi of various courses of different programmes are framed. The syllabi are then presented before Department Advisory Board (DAB) and Board of Studies (BOS) for further suggestions. Once all the suggestions are incorporated into the syllabi, it is presented before Academic Council (AC) and Governing Body for approval. The approved syllabi is printed, displayed in the website and disseminated to all the stakeholders through various means.

The POs, PSOs and COs are communicated to all the stakeholders of the programme through Faculty meetings, Student orientation programmes, Alumni meetings, Parents meetings and BOS meetings. Further, the display boards containing Vision, Mission, Quality Policy, POs and PSOs are displayed in corridors, notice boards, class rooms and laboratories of various departments across the campus. In addition to this, POs, PSOs are also printed in syllabus copies, lab manuals, lab records, blue books, brochures of workshops, FDPs, conferences, etc for easy reference by the all the stakeholders. The feedback on the POs, PSOs and COs are taken from all the stake holders through survey. The feedback on POs, PSOs & COs are collected from students through Course Exit Survey and Programme Exit Survey. The feedback thus taken is analyzed and corrective measures are suggested to the Board of Studies for their kind considerations in refining the POs, PSOs and COs.

File Description	Document
Upload COs for all courses (exemplars from Glossary)	[View Document](#)
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

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

Response:

The course content is delivered as per the curriculum to students using different pedagogical methods and interactive learning techniques. The curriculum delivery is planned based on the attainment of the graduate attributes. The Assessments are done periodically using direct tools and indirect tools to evaluate the performance of students.

At the end of each academic year, computation of PO attainment is done from the attainment of COs of all curriculum components. Level of attainment computed for COs, PSOs, POs includes both Direct and Indirect assessment tools.

The PO and CO attainment is evaluated in the following way:

1. **Direct Method:** First learning levels of students like remember, understand, apply, analyze, evaluate, create etc are defined based on Revised Bloom's Taxonomy. The learning levels of

students are assessed by conducting standardized examinations like Continuous Internal Evaluation (CIE), Semester End Examinations (SEE), AAT, Assignments, Quizzes, Lab performance etc. The performance in seminars, project presentations, case study presentations, field visit reports, internship reports, project reports, etc are also used for the computation of attainment levels of COs and in turn to the attainment levels of POs and PSOs. The questionnaires in these methods of assessment are set based on bloom's levels covering all the Course Outcomes (COs). The Continuous Internal Evaluation (CIE) and Semester End Examination (SEE) are the prime tools for evaluation of PO and CO attainment.

2. **Indirect Method:** Feedbacks of Students like Course Exit Survey, Programme Exit Survey, Alumni feedback, employers feedback, industry feedbacks,etc are considered under Indirect Tools for computing the attainment of POs, PSOs & COs. Course Exit Survey on Curriculum is obtained and the same is shared with the departments, so that their feedback is discussed and relevant changes, if any, in the curriculum are suggested to BOS. Attainment of POs are evaluated based on the performance of the students in terms of their progression to higher studies, success in competitive examinations and placements. Field visits conducted by departments also add to the learning of students. Field visit/Internship reports are used to evaluate the attianment of the POs. The Students are encouraged to participate in various curricular and co-curricular activities of College like seminars, workshops, conferences, internships, hackathons, coding contests, technical seminars, symposiums etc. The attainment of POs and PSOs are measured based on students' participation, performance, and achievements in the said curricular and co-curricular activities.

The Direct attainment is considered for 80% and Indirect attainment for 20% weightage. The attainment levels are computed automatically using software tools based on the mapping strength of the assessment methods with various COs, POs and PSOs. For assessing the attainments, target levels are fixed at three levels viz high, medium & low(3,2,1) and compared against the achieved levels to indicate the level of attainment. The data about the attainment of COs is collected, analysed and corrective measures are taken wherever the attainment are not reached the set values. The attainment levels are revised during the next academic year wherever the CO attainments have reached their set target.

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

2.6.3 Pass Percentage of students(Data for the latest completed academic year)

Response: 97.47

2.6.3.1 **Total number of final year students who passed the examination conducted by Institution.**

Response: 616

2.6.3.2 **Total number of final year students who appeared for the examination conducted by the**

Institution.

Response: 632

File Description	Document
Upload List of Programmes and number of students passed and appeared in the final year examination(Data Template)	[View Document](#)
Any additional information	[View Document](#)
Link for the annual report	[View Document](#)
Link for additional information	[View Document](#)

2.7 Student Satisfaction Survey

2.7.1 Online student satisfaction survey regarding teaching learning process

Response:

File Description	Document
Upload database of all currently enrolled students	[View Document](#)
Link for any additional information	[View Document](#)

Criterion 3 - Research, Innovations and Extension

3.1 Promotion of Research and Facilities

3.1.1 The institution's Research facilities are frequently updated and there is a well defined policy for promotion of research which is uploaded on the institutional website and implemented

Response:

At NCET, vibrant research ecosystem has been promoted at department levels: through curriculum based research projects at UG & PG levels, mini-projects and internships. Institution promotes research by Faculty Members as well as students through its R&D Cell. The R&D Committee of NCET comprises representatives from each department as Single Point of Contact (SPoC) for the respective department and its HoDs as ex-officio members of R&D Committee. It takes care of various issues of research including ethical matters. The Committee screens research proposals to be submitted to various funding agencies for sponsored research based on their merit, novelty, feasibility, robustness and applied value.

NCET has **7 Approved Research Centers** of VTU with **55 Research Scholars** pursuing their Ph.D. under the guidance of NCET faculty members. R&D Projects are funded by various funding agencies like AICTE, ISRO, DRDO, VTU, VGST, Institution of Engineers, KSCST, ISHRAE, ASHRAE, etc. NCET has generated income from **Consultancy Projects: Rs. 58.38 Lakhs**; **Sponsored R&D Grants: Rs. 118.07 Lakhs**; **Seed Money Provided to Faculty:Rs. 32.25 Lakhs** in last five academic years.

NCET has been enabling creativity, developing entrepreneurial competencies and incubating 96 Start-ups and foster entrepreneurship. The institution is a recognized as Nodal Center for Virtual Labs sponsored by MHRD and Associated with IITB, Mumbai for e-Yantra Project. NCET has Signed MOU with ISRO and was part of Student Satellite project "STUDSAT" launched by ISRO-PSLV C15 on Jul 12, 2010 and also now building its own "**Nagarjuna UNITY Satellite**" as part of 75 Students' Satellites Programme initiated to Celebrate India's 75 years of Freedom namely **"AzadikaAmrutMahotsava"** (1947-2022) of ITCA fraternity as announced by our Hon'ble Prime Minister of India at UN General Assembly recently.

NCET has vibrant Industry-Institute Collaboration with various MNCs including Texas Instruments. Innovation Lab is equipped with 20 TIVA boards with ARM CORTXEX Microcontrollers. NCET has an MOU with the KSCST-IISc Campus, established **NCET-KSCST IP Cell** and have filed **75 Patents** and **Published 66 Patents** and **Commercialized 7 Patents.** NCET have **published 237 Papers** and around **62 Books/Chapters**. NCET has created conducive R&D ecosystem with both physical and intellectual infrastructure along with structured policy documents for the successful implementation of the following:

1. Sponsored Research Projects with Grant-in-Aid from Funding Agencies
2. Consultancy Projects from Industries
3. Industry Sponsored Equipment/Lab
4. Free/Online/Advanced Labs: Established (Students/Faculty Activities)
5. Emerging Trends Watch: Alternative Teaching & Learning
6. Innovations/Patents/Video Watch etc
7. Industry Collaborations

R & D Committee helps in the following activities:

- Arranging Industrial Visits/Field Training of Faculty and Students
- BE, MBA and M.Tech Mini-Major Project/Dissertation Work at Industries
- Credit based Collaborative Training Programmes.
- Practical Training/Pre-Internship of Students in Industries (Unpaid/Paid)
- Professional Chairs Sponsored by Industries at NCET
- R&D Laboratories Sponsored by Industries at NCET
- Scholarships/Fellowships Instituted by Industries for Students of NCET
- Seed Money to faculty members for research activities
- Expert/Professionals from Industry as Visiting Professors or Guest Lectures and Delivering Lectures on Industrial Best Practices & Trends
- Workshops, Conferences and Symposia In House Events.
- Having Tie-ups with Foreign Universities
- Promote International Internship

File Description	Document
Minutes of the Governing Council/ Syndicate/Board of Management related to research promotion policy adoption	[View Document](#)
Any additional information	[View Document](#)
URL of Policy document on promotion of research uploaded on website	[View Document](#)

3.1.2 The institution provides seed money to its teachers for research (average per year, INR in Lakhs)

Response: 6.45

3.1.2.1 **The amount of seed money provided by institution to its faculty year-wise during the last five years (INR in lakhs).**

2020-21	2019-20	2018-19	2017-18	2016-17
7.55	7.1	6.20	9.05	2.35

File Description	Document
Minutes of the relevant bodies of the Institution	View Document
List of teachers receiving grant and details of grant received	View Document
Budget and expenditure statements signed by the Finance Officer indicating seed money provided and utilized	View Document
Any additional information	View Document

3.1.3 Percentage of teachers awarded national / international fellowship for advanced studies/research during the last five years

Response: 0.87

3.1.3.1 **The number of teachers awarded national */ international fellowship for advanced studies / research year wise during last five years**

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

File Description	Document
List of teachers and their international fellowship details	View Document
e-copies of the award letters of the teachers	View Document

3.2 Resource Mobilization for Research

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

Response: 105.62

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

2020-21	2019-20	2018-19	2017-18	2016-17
0.54	49.76	28.135	12.30	14.88

File Description	Document
List of project and grant details	[View Document](#)
e-copies of the grant award letters for research projects sponsored by government and non-government	[View Document](#)

3.2.2 Percentage of teachers having research projects during the last five years

Response: 4.71

3.2.2.1 **Number of teachers having research projects during the last five years**

2020-21	2019-20	2018-19	2017-18	2016-17
11	7	13	1	6

File Description	Document
Names of teachers having research projects	[View Document](#)
Link for additional information	[View Document](#)

3.2.3 Percentage of teachers recognised as research guides

Response: 27.33

3.2.3.1 **Number of teachers recognized as research guides**

Response: 41

File Description	Document
Upload copies of the letter of the university recognizing faculty as research guides	[View Document](#)

3.2.4 Average percentage of departments having Research projects funded by government and non-government agencies during the last five years

Response: 60

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

2020-21	2019-20	2018-19	2017-18	2016-17
4	3	5	1	5

3.2.4.2 **Number of departments offering academic programes**

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

File Description	Document
Supporting document from Funding Agency	[View Document](#)
List of research projects and funding details	[View Document](#)
Any additional information	[View Document](#)
Paste link to funding agency website	[View Document](#)

3.3 Innovation Ecosystem

3.3.1 Institution has created an eco system for innovations, creation and transfer of knowledge supported by dedicated centers for research, entrepreneurship, community orientation, Incubation etc.

Response:

NCET possesses a well-balanced ecosystem to foster student talents through qualified and experienced faculty duly supported with excellent infrastructure facilities. The below-mentioned Innovation ecosystem facilities are available in the campus:

- Centre for Motion Capture Systems
- Design Studio
- Desktop Manufacturing/3D Printing System
- SatNOGS: Satellite Network of Ground Stations
- SatNAV: MobileApp Satellite Navigation Software for Android
- NanoSatellite Centre
- CanSat Design Centre
- University Space Engineering Consortium (UNISEC) India Chapter
- World CanSat/Rocketry Consortium/Championship (WCRC) India Chapter

NCET has been at the vanguard in enabling creativity, developing entrepreneurial competencies and incubating technology business ideas in order to provide a dynamic support system to foster entrepreneurship. The start-up ecosystem has also brought together faculty members and students to think

out of the box and accelerate creativity. The institution is a recognized as Nodal Center for Virtual Labs sponsored by MHRD and Associated with IITB, Mumbai for e-Yantra Project. NCET has Signed MOU with ISRO and was part of Student Satellite project "STUDSAT" launched by ISRO-PSLV C15 on Jul 12, 2010 and also now building its own "**Nagarjuna UNITY Satellite**" as part of 75 Students' Satellites Programme initiated to Celebrate India's 75 years of Freedom namely " AzadikaAmrutMahotsava" (1947-2022) of ITCA fraternity as announced by our Hon'ble Prime Minister of India at UN General Assembly recently.

Internet of Things, Machine Learning and Composites are some examples of new curriculum introduced. Emphasis is given for industrial internships, projects to address industry and societal needs. Students are encouraged to use of modern tools (mainly software) for problem solving. NCET continuously encourages for adopting innovation in teaching and learning process. All departments have state-of-the-art laboratories to cater the needs of the curriculum.

NCET has vibrant Industry-Institute Collaboration with various MNCs including Texas Instruments. Innovation Lab is equipped with 20 TIVA boards with ARM CORTXEX Microcontrollers. NCET has an MOU with the Karnataka State Council for Science and Technology(KSCT), Indian Institute of Science Campus, Bengaluru for NCET-KSCST IP cell for filing, publishing and commercialization of patents.

NCET has also established Institution's Innovation Council (IIC) as per the guidelines of 'MoE's Innovation Cell (MIC) in the year 2018. The initiative was to create a vibrant local innovation ecosystem, start-up supporting mechanism, establish function ecosystem for scouting ideas and preincubation of ideas and to develop better cognitive ability for technology students. NCET IIC is actively involved in organizing and conducting seminars, workshops, field trips, project exhibitions, entrepreneurship bootcamps, Idea competitions etc. for its students and faculty members. NCET has well structured R&D Policy, IPR Policy and Startup Policy to encourage innovations among Students/Faculty Members.

Guest lectures and expert talk by eminent people from reputed institutions like IIT's, IISc, NIT, s and Industries. This helps students to improve their learning in a more interactive, topic specific way. Guest lectures can be used to make classes more approachable and appealing to students.The final year projects are being published in various national and international journals. We also have MoU's signed with different companies to train our students with the upcoming technologies.

File Description	Document
Upload any additional information	[View Document](#)
Paste link for additional information	[View Document](#)

3.3.2 Number of workshops/seminars conducted on Research methodology, Intellectual Property Rights (IPR),entrepreneurship, skill development during the last five years.

Response: 103

3.3.2.1 **Total number of workshops/seminars conducted on Research methodology, Intellectual Property Rights (IPR),entrepreneurship, skill development year-wise during the last five years.**

2020-21	2019-20	2018-19	2017-18	2016-17
52	12	09	15	15

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

3.4 Research Publications and Awards

3.4.1 The Institution ensures implementation of its stated Code of Ethics for research through the following: 1. Inclusion of research ethics in the research methodology course work 2. Presence of Ethics committee 3. Plagiarism check through software 4. Research Advisory Committee

Response: A. All of the above

File Description	Document
Link for additional information	

3.4.2 Number of Ph.D's registered per teacher (as per the data given w.r.t recognized Ph.D guides/ supervisors provided at 3.2.3 metric) during the last five years

Response: 1.69

3.4.2.1 How many Ph.Ds are registered within last 5 years

Response: 54

3.4.2.2 Number of teachers recognized as guides during the last five years

Response: 32

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

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

Response: 1.47

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

2020-21	2019-20	2018-19	2017-18	2016-17
121	43	28	23	23

File Description	Document
List of research papers by title, author, department, name and year of publication	[View Document](#)
Any additional information	[View Document](#)

3.4.4 Number of books and chapters in edited volumes / books published per teacher during the last five years

Response: 0.29

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

2020-21	2019-20	2018-19	2017-18	2016-17
26	0	8	5	7

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

3.4.5 Bibliometrics of the publications during the last five years based on average citation index in Scopus/ Web of Science or PubMed

Response:

File Description	Document
Bibliometrics of the publications during the last five years	[View Document](#)
Any additional information	[View Document](#)

3.4.6 Bibliometrics of the publications during the last five years based on Scopus/ Web of Science - h-index of the Institution

Response:

File Description	Document
Bibiliometrics of publications based on Scopus/ Web of Science - h-index of the Institution	
Any additional information	

3.5 Consultancy

3.5.1 Revenue generated from consultancy and corporate training during the last five years (INR in Lakhs).

Response: 58.38

3.5.1.1 **Total amount generated from consultancy and corporate training year-wise during the last five years (INR in lakhs).**

2020-21	2019-20	2018-19	2017-18	2016-17
20.83	13.58	3.84	10.66	9.47

File Description	Document
List of consultants and revenue generated by them	
Audited statements of accounts indicating the revenue generated through consultancy and corporate training	
Any additional information	

3.5.2 Total amount spent on developing facilities, training teachers and staff for undertaking consultancy during the last five years (INR in Lakhs).

Response: 54.65

3.5.2.1 **Total amount spent on developing facilities, training teachers and staff for undertaking consultancy during the last five years (INR in Lakhs)**

2020-21	2019-20	2018-19	2017-18	2016-17
7.50	2.84	13.58	7.36	23.37

File Description	Document
List of training programmes, teachers and staff trained for undertaking consultancy	[View Document](#)
List of facilities and staff available for undertaking consultancy	[View Document](#)
Audited statements of accounts indicating the expenditure incurred on developing facilities and training teachers and staff for undertaking consultancy	[View Document](#)
Any additional information	[View Document](#)

3.6 Extension Activities

3.6.1 Extension activities are carried out in the neighbourhood community, sensitising students to social issues, for their holistic development, and impact thereof during the last five years

Response:

NCET endeavors to be involved in societal and environmental awareness programmes in the surrounding villages. These Programs are undertaken through our National Service Scheme (NSS). We have two units of NSS, one started in the year 2012 with the assistance of VTU and another Self financed unit started in the year 2017. These NSS Units undertake various Government initiatives like Swachh Bharat Abhiyan, Voter Awareness campaign, Swachh Bharat Summer Internships, Chhatra Vishwakarma award scheme, Unnat Bharat Abhiyan (UBA), creating awareness about fire crackers, Jal Samrakshana Yojana, Suvarna Mahotsava Yojana, Painting of Schools, School Bell Programme, PMKVY, BMVNTFSA and Saansad Adarsh Gram Yojana (SAGY) to improve the quality of life in villages.

The institution is associating with NGO's and Trusts like Sri Sathya Sai Seva trust and Annapoorna trust for Midday Meal programme, Bangalore Medical Service Trust (BMST), TTK, Rashtrothana Blood Bank, Stem Cell Registry of India (SCRI), Lions Club Blood bank etc.

With the help of service minded NSS volunteers having technical knowledge, we try to enhance the capabilities of rural people with the technological solutions to their problems. Integrated Rural Development Programme (IRDP) is a unique program which helps to upgrade school students, teachers and villagers by providing training on computer operation, digital transactions and ICT tools.

Outcome of implemented programmes were remarkable. Extension activities of the NSS/YRC/RRB along with Governmental/NGO's are benefiting the villagers and students. Extension activity creates a healthy bond between college and the outside world. The College through various schemes has adopted and recognized villages in its vicinity to assist in the implementation of various schemes of central and state governments.

The college organize blood donation camps twice in a year in association with Youth Red Cross(YRC) and Red Ribbon Club(RRC). We also send our students to various blood banks for donating blood during

medical emergencies. Our students volunteer themselves in Pulse Polio Programmes with the health department. Covid Vaccination drives for the students, staff and villagers is organized during the pandemic period. Food kits were distributed to the poor and needy people during the pandemic. Students have voluntarily donated books, stationery and plates for mid day meal scheme etc in the nearby schools. Students are actively participating in AICTE Activity points programme by involving themselves in various community awareness and development activities. Students are encouraged to conduct Swachata and Shramadhan activities on Gandhi Jayanti day.

NCET NSS units got accolades from the Deputy Commissioner of Chikkaballapur district for the highest Blood donation collected during the year 2018-19. NSS volunteers are also honoured by Red Cross Society & YRC in the year 2019 for blood donation activities. Three students were selected and honored by the MHRD, GoI for remarkable achievements in Digital transformation in Rural India, a part of Vithiya Saksharatha Abhiyan. Our students participated in University level NSS camps and Republic Day parade trials. Our students also represented the university in the National Integration Camp held at Devanahalli during 2018-19.

File Description	Document
Paste link for additional information	[View Document](#)

3.6.2 Number of awards and recognition received by the Institution, its teachers and students for extension activities from Government / Government recognised bodies during last five years

Response: 69

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

2020-21	2019-20	2018-19	2017-18	2016-17
11	6	36	9	7

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

3.6.3 Number of extension and outreach programs conducted by the institution through NSS/NCC, Government and Government recognised bodies during the last five years

Response: 89

3.6.3.1 Number of extension and outreach programs conducted by the institution through NSS/NCC, Government and Government recognised bodies during the last five years

2020-21	2019-20	2018-19	2017-18	2016-17
20	17	11	26	15

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

3.6.4 Average percentage of students participating in extension activities listed at 3.6.3 above during the last five years

Response: 61.94

3.6.4.1 **Total number of students participating in extension activities listed at 3.6.3 above year-wise during the last five years.**

2020-21	2019-20	2018-19	2017-18	2016-17
1600	1379	982	1756	1145

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

3.7 Collaboration

3.7.1 Number of Collaborative activities per year for research/ faculty exchange/ student exchange/ internship/ on –the-job training/ project work

Response: 25

3.7.1.1 **Total number of Collaborative activities per year for research/ faculty exchange/ student exchange/ internship/ on –the-job training/ project work**

2020-21	2019-20	2018-19	2017-18	2016-17
62	37	16	2	8

File Description	Document
Number of Collaborative activities for research, faculty etc	View Document
Copies of collaboration	View Document
Any additional information	View Document

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

Response: 40

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

2020-21	2019-20	2018-19	2017-18	2016-17
13	5	4	9	9

File Description	Document
e-copies of the MoUs with institution/ industry/ corporate house	View Document
Details of functional MoUs with institutions of national, international importance, other Institutions etc during the last five years	View Document
Any additional information	View Document

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

4.1.1 The Institution has adequate infrastructure and physical facilities for teaching- learning. viz., classrooms, laboratories, computing equipment etc.

Response:

The college has very good infrastructural facilities exceeding the AICTE and VTU norms to facilitate effective teaching and learning process.

Thetotal built up area is 50,113 sq. metres. Spacious Wi-Fi enabled class-rooms with ICT facilities are available. The college has spacious, well equipped laboratories having instruments, equipments, computers and related software as per the requirement of the curriculum and upgraded based on the changing curriculum and intake.The specific location of the college provides a pollution free and natural environment.

Infrastructure Facilities Available	As per AICTE Norms Requirements for Built Up Area(in Sqm)	Available Built Area at (in Sqm)
UG Classrooms	66	90
PG Classrooms	33	90
Laboratories	66	100
Computer Centre	150	2000
Drawing Hall	132	180
Workshop	200	200
Seminar Hall	132	135
Research Laboratory	66	100
Library & Reading Room	400	2000

NCET Campus comprises different blocks for different departments. Main block of the college consists of Administrative Office, Principal's Office, Management Office, Basic Science Department, Department of Electronics and Communication Engineering, Various laboratories of Electronics and Communication Engineering comprising of Microwave test bench, PCB Printing Machine, Digital Oscilloscopes, etc. Seminar Halls, Classrooms, Staff rooms, Common Girls room, IQAC Office, Language lab, Studio with Video Recording facilities and Server room are housed in the same block.

Computer Science and Information Science Block consist of classrooms, seminar hall, HoD's cabin, staff rooms of CSE and ISE & Department office. Centralized Computer laboratory block consists of 551 computers with LAN connection and internet connectivity which caters to the needs of all departments.

Civil Engineering Block consists of HoD cabin, Department office, classrooms, seminar hall and laboratories with major equipments such as UTM 100 tons capacity, Vibration Analyser, Total Stations, Rebound Hammer, Ultraplus Sonic Velocity meter, Traction Shear Testing Machine, California Bearing Ratio Testing equipment, Cube Testing Machine, Francis, Kaplan and PeltonTurbines, Digital Theodalites, All geared Lathes, Milling machines, Grinding machines, etc.

Examination Block consists of COE Office, Office room, Valuation Hall, Question Paper Scrutiny Room

and Strong room. Printing and photocopying facilities are made available in the examination block. Contineo OBE Software is available for automating the Teaching-learning and assessment processes.

The Research and Development centers are equipped with equipments and computers with latest software's such as LabVIEW, MatLab 2018a, Cadence Tool, OrCAD, Solid Edge, STAADPro, Autocad, Ansys, ECLIPSE, etc.

The Institute has supporting physical facilities like 8 blocks of boys hostel and 3 blocks for girls hostel, 8 staff quarters, Food Court, Coffee Day, Transport, indoor and outdoor game facilities, Gymnasium.

The college has a well-furnished library with textbooks, reference books, manuscripts, special reports, e-books, e-journals, and also has a separate library website for providing online services.

600 MBPS Wi-Fi facility is provided in the campus for both day scholars and hostilities with 176 access points. Underground Optical Fiber Cable(OFC) of about 1000m are laid to act as backbone to the internet facility. ICT facilities such as LCD projectors, Smart Boards, Smart TV, Lecture Capturing System, Media Centre etc are available.

File Description	Document
Upload Any additional information	[View Document](#)
Paste link for additional information	[View Document](#)

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

Response:

Sports and Games:

The institution has spacious outdoor game field of 10400 Sq.Mts, indoor sports space of 7000 Sq.Mts, Gymnasium of 3000 Sq.Mts. Five table tennis, 9 carom boards along with chess and other indoor sports facilities are provided. The institute encourages sports and co-curricular activities by offering them as credit courses..The institution motivates students to participate in outdoor and indoor games at university, state level and national levels. The institution also has organized several zonal and inter-zonal sports competitions in both outdoor and indoor games at university level. The Institute has facility to provide Seats under sports Quota.

The sports facilities are used by 150 students per day on an average. Facilities for outdoorand indoor sports include cricket, football, volley ball, Hand ball, ball badminton, throw ball, table tennis, carom and chess. Financial assistance such as TA/DA, Sports uniforms, Jersies, Entry fees, etc is provided to students to participate in various sports and cultural events.

Interdepartmental level sports competitions are held every year and winners are awarded prizes on sports day. Our college has organized VTU Inter Collegiate Bengaluru North zone and inter-zone Hand ball Men's Tournament. The College has organized Coaching camp for University Hand ball(men) team for

inter University competitions. Faculty members are encouraged to participate in zonal, national and international sports events.

Gymnasium:

A spacious gymnasium of 3000 sq.metres with modern gym equipments such as Tread Mill, Commercial Cross Trainer, Commercial Group Bike, Latpull seated row, Leg Extension leg curl, Multipress, Pecfly Rear Delt, Power Tower, Olympic Plate Tree & bar, Flat Incline Decline Bench Press, Dumbells, etc costing Rs. 20.00 lakhs is available. An exclusive gymnasium for girls is also available. The gym is available for the students from 5.30 am to 7.30 am & 4.00 pm to 7.00 pm.

Yoga and Meditation:

To encourage and give awareness about the Indian culture, Yoga is included in the time table as club activities. External trainers are invited to teach yoga. Yoga is also offered as credit course to encourage more students to take advantage and benefit. International Yoga day is celebrated every year on 21st June. Faculty members and students practice yoga and meditation every Thursday afternoon.

Auditorium:

A spacious Air conditioned auditorium with audio visual facilities is available to cater to the needs of the students to involve in various cultural activities. The Auditorium is also used to screen selected inspirational and motivational movies. Four AC Seminar halls equipped with modern audio-visual facilities are also available.

CULTURAL FACILITIES:

Students are encouraged to participate in Technical fests, Technotsav, Robofest and Project Exhibitions. Independence Day and Republic Day are celebrated in the institute. NCET organised the International cultural exchange programme in asscoiation with AICTE. The college organizes Cultural fest, Holi celebration, National Girl Child day, Engineers Day, Ethnic Day, Women's day, Environmental day,etc.

The college organizes an intercollegiate cultural fest IKYA. The students from more than 50 engineering colleges participate in 30 plus events such as Mad-ads, Mock-Rock, Dance, Mime, Battle of Bands and Fashion Shows, etc.

File Description	Document
Upload any additional information	[View Document](#)
Geotagged pictures	[View Document](#)
Paste link for additional information	[View Document](#)

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

Response: 93.62

4.1.3.1 **Number of classrooms and seminar halls with ICT facilities**

Response: 44

File Description	Document
Upload any additional information	[View Document](#)
Institutional data in prescribed format	[View Document](#)
Paste link for additional information	[View Document](#)

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

Response: 27.81

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

2020-21	2019-20	2018-19	2017-18	2016-17
353.6	318.82	338.14	626.82	814.41

File Description	Document
Upload Details of Expenditure , excluding salary during the last five years	[View Document](#)
Upload audited utilization statements	[View Document](#)
Upload any additional information	[View Document](#)
Link for any additional information	[View Document](#)

4.2 Library as a Learning Resource

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

Response:

1. Name of the ILMS Software: LIBSOFT

2. Nature of automation: The Central Library is fully automated with Integrated Library Management Software, LIBSOFT Version 9.8.5 which is used for Circulation, Procurement, Online Public Access Catalogue (OPAC) and Project Reports. All the library documents are bar-coded and books are issued to

users by scanning the barcode of the book. The holdings include books and journals, question papers and project reports. The users of the library can access publications of all major publishers like Elsevier, Springer, Taylor and Francis, ICE, Emerald etc. The users can access around 24,000 E-books and 1700 International journals. The user has remote access through Knimbus. Knimbus is a one-stop solution with rich features to build a powerful and user friendly digital library through which users can seamlessly access the digital resources anytime, anywhere and on any device.

3. Version: 9.8.5

4. Year of automation: 2006

Library and Information Centre caters to the information needs of students, faculty members and staff. The Institute has an up-to-date library, which is completely automated. The area of Central Library is 2000 Sq.m with a seating capacity of 400. It has a collection of more than 42,500 volumes of books. Library has a spacious Stock section, Reference section, Journals section, Personal study area and Periodical Section.

The Central Library has a Digital Library and VTU E–Learning Center. Students can access On-line Journals, E-Books, Project Reports (Soft Copies), DVD's of Technical magazines & Books and live classes from VTU E-Learning center through EDUSAT. It is sponsored by Visvesvaraya Technical University (VTU), Belagavi, which enables a two way communication between the learners and resource person. Library has more than 135 NPTEL Video course learning materials and 125 Web courses which are developed by IITs & IISc. Our College Library is a member of the DELNET, Computer Society of India(CSI) & Central Manufacturing Technology Institute(CMTI). DELNET, which is sponsored by Ministry of Communications & Inormation Technology, Government of India that provides Inter Library Loan(ILL) facility to reduce the duplication of resources.

The Library books are bar-coded and the transactions are done through smart cards. Library has WEB-OPAC facility which helps the members to search the data & reserve the books through internet. Our college library has subscribed E-Resources through VTU Consortium that are related to Engineering and Management Programmes. E-Resource access will be activated on IP authentication. Users can access, browse and download the subscribed e-resources within the campus concurrently. Back volumes of journals and VTU examination question papers are also available in print & soft copies. Library reference section provides LMS (Learning Management Software).

The library provides Book Bank facility for all students and also it has a separate Book Bank facility for SC/ST students funded by Social Welfare Department, Government of Karnataka. Library has got reprographics facility and library working hours is 8:45 am to 8 pm during working days. On general holidays & Sundays library is open from 9.00 am to 4.00 pm.

File Description	Document
Upload any additional information	[View Document](#)
Paste Link for additional information	[View Document](#)

4.2.2 Institution has access to the following: 1. e-journals 2. e-ShodhSindhu 3. Shodhganga

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

Response: A. Any 4 or more of the above

File Description	Document
Upload any additional information	[View Document]
Institutional data in prescribed format	[View Document]
Details of subscriptions like e-journals, e-books , e-ShodhSindhu, Shodhganga Membership etc	[View Document]

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

Response: 16.27

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

2020-21	2019-20	2018-19	2017-18	2016-17
18.43	17.74	18.86	12.93	13.40

File Description	Document
Details of annual expenditure for purchase of and subscription to journals/e-journals during the last five years	[View Document]
Audited statements of accounts	[View Document]
Any additional information	[View Document]

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

Response: 26.14

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

Response: 540

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

4.3 IT Infrastructure

4.3.1 *Institution has an IT policy covering wi-fi, cyber security, etc., and allocated budget for updating its IT facilities*

Response:

NCET has a very good IT Infrastructure with Computers having network connectivity, Broadband Facility and supporting accessories. The campus and Hostels are Wi-Fi enabled with 24x7 internet connectivity. The students and faculty members can access Wi-Fi enabled internet connection, from any place in the campus, which is protected by SOPHOS Firewall. The use of internet is monitored and user-based Policy is applied for Students and Staff by restricting the access to various web sites using Firewall. Internet bandwidth is updated depending on the requirement. The institute have recently upgraded the internet connectivity from 150 MBPS to 600 MBPS by the service provider namely HCIN Networks Pvt Ltd at a cost of Rs. 10.00 lakhs per annum.

Computers in labs are connected with LAN, facilitating for sharing of data and resources, conduction of online exams and placement activities.176 access points, with Digisol 24-Port POE Swithes, 500 metreethernet cable and 1000 metre Optical Fibre Cable are available in the campus. The staff rooms are also provided with internet connectivity. All Computer Labs are equipped with UPS Facility and are under CCTV surveillance. The Institution has provided a Digital library. College central library provides Turnitin Software for Plagiarism check and Knimbus software to access e-resources through remote access.

Computer systems are provided in the Laboratories, Administrative Section, Accounts Section, Examination Section and all the Departments for their academic and administraive use. Hostels are also equipped with computer systems and internet facilities. The institute has provided ICT facilitieslk in auditorium,classrooms and seminar halls. The Budget for updating IT facilities is prepared by IT team headed by a professor and submitted to the principal. The aproximate budget is Rs. 50 Lakhs.

Printer and Reprographic Facilities are provided in all departments. Currently there are 551 computers in the Computer Labs. The old computer systems which are not suitable for use by the students will be disposed off as E-waste and new computers with suitable configurations are added every year. This year, 50 more computers to the language lab at a cost of Rs. 30.00 lakhs are added. The institute has LCS and media center facilities for supporting teaching and learning process

The institute has purchased Microsoft Academic licence for Windows Operating system and the same is renewed every year. As per the IT Policy Guidelines, the college has provided email IDs to all staff members which helps to access various online teaching-learning facilities such as Google classroom, JamBoard, Whiteboard, Google Meet, Microsoft Teams etc. The college has purchased two Dell Power edge R 540 servers with a storage capacity of 6TB Entrprises SATA HDD and related softwares for the implementation of Contineo Student Information Management System at a cost of Rs. 13.00 lakhs during the year 2020-21.

An IT Team consisting of System Administrators, Full Stack Web Developers, Technical Assistants are available for customized software development, Hardware installation & Repair and Networking. The IT team regularly organizes awareness programmes on fair usage of softwares, Digital Payments, Cyber security etc. to the people in the surrounding villages

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

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

Response: 3:1

File Description	Document
Upload any additional information	
Student - computer ratio	

4.3.3 Bandwidth of internet connection in the Institution.

Response: ?50 MBPS

File Description	Document
Details of available bandwidth of internet connection in the Institution	

4.3.4 Institution has the following Facilities for e-content development

1. **Media centre**
2. **Audio visual centre**
3. **Lecture Capturing System(LCS)**
4. **Mixing equipments and softwares for editing**

Response: A. All of the above

File Description	Document
Upload Additional information	
Institutional data in prescribed format	
Link for Additional information	

4.4 Maintenance of Campus Infrastructure

4.4.1 Average percentage expenditure incurred on maintenance of physical facilities and academic

support facilities excluding salary component during the last five years

Response: 72.18

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

2020-21	2019-20	2018-19	2017-18	2016-17
1511.51	1174.65	1255.94	1168.13	1095.71

File Description	Document
Upload any additional information	[View Document](#)
Details about assigned budget and expenditure on physical facilities and academic facilities	[View Document](#)
Audited statements of accounts	[View Document](#)

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

Response:

NCET has established systems and procedures for maintaining and utilizing physical, academic and support facilities with a total built up area of 50,113 Sqm. All buildings and equippments are covered with insurance for fire, burglety, theft, natural calamities and accidental damages.

Utilization and Maintenance of Laboratories: Laboratories are regularly maintained by the qualified Laboratory Instructors. In laboratories the stock registers are maintained. Equipment is maintained properly, calibrated and serviced periodically. Laboratory Manuals are prepared as per the curriculum and Do's & Dont's are displayed in every Laboratory.

Head of the Departments are entrusted with the responsibility of preparing the budget of their department taking into account the requirements of consumables and peripherals. A stock register for each laboratory is maintained which includes all details of equipment such as Name, Quantity, Make, Cost, Date of purchase and other technical specifications etc. The components issue slips and instruments issue register are also maintained by the technical supporting staff in the laboratory. Laboratory equipment is properly maintained by recording in weekly and monthly maintenance registers. Major equipment maintenance is carried out by AMC. Equipment, which needs to be calibrated, initiated and executed by the faculty in-charge. All the laboratories are under CCTV surveillance. Fire Extinguishers are maintained in the laboratories.

Maintenance of Classrooms and Seminar Halls: Classrooms are provided with enough seating capacity. Cleanliness of the classrooms and furniture is maintained by the housekeeping department daily. Seminar Halls and Classrooms with suitable ICT facilities such as Smart Boards, Digital TVs & LCD projectors,

audio systems are monitored on a regular basis by the IT Team.

Utilization and Maintenance of Library Facilities: Library and Information Centre caters to the information needs of students, faculty members and other staff. The Institute has an up-to-date library, which is completely automated with Integrated Library Management Software, LIBSOFT. The area of Central Library is about 2000 sqm with a seating capacity of 400. It has a collection of more than 42,500 volumes of books. Library has a spacious stock section, Reference section, Personal study area and Periodical Section.

The library reference section provides LMS (Learning Management Software). Students can access previous years question papers, e-books, Journals, notes, etc. The library provides Book Bank facility for all students and it has a separate Book Bank facility for SC/ST students funded by Social Welfare Department, Government of Karnataka. Library has got a reprographic facility.All departments are maintaining a department library for easy access to students and faculty. Stock verification is conducted regularly and lost books, if any, are written off as per the norms.

Utilization and Maintenance of Computers: Computer systems, UPS, Software, Servers, Hardware and Networking are maintained by qualified technicians, Lab Assistants and Lab-Instructors. IT infrastructure is maintained by the IT Head, System Admin, and Network Admin along with the Departmental coordinators.

540 computers are provided in the campus for students, Administration, Browsing, R&D Center and Library. Departmental computers are used by the faculty to upload course materials, update IA marks and Attendance, etc., in the Student Information System (SIS) through Contineo Software. Computers are used for conducting placement and training sessions, Mock tests, competitive examinations like GATE, GRE, TOEFL etc. Students are utilizing the facilities for internship programs like Amazon Web Services (AWS), Robotic Process Automation (RPA), CISCO certification programs etc.

Computers are also utilized for conducting online examinations for Railway Recruitment Board, TCS, Banking, other private and public sector companies. Computers & computer peripherals are serviced periodically. Administrative and Academic and Industry Specific Software Updation and Latest Hardware Configuration Up gradation are maintained by dedicated IT team. Institute has maintained spare computer parts for immediate replenishment and repair.

Maintenance of other support systems: Institution has well furnished hostels for boys and girls with Wi-Fi and automated laundry facilities. Hostel wardens are in charge of maintaining the safety and arranging proper facilities to students. Hostels are equipped with CCTVs and security staff for safety. Regular sanitization and good hygiene is maintained by the housekeeping staff in the hostels.

Institute is equipped with 220 CCTVs having 2 to 5MP resolution of 2 to 4 TB storage with 1 month backup and well maintained by the IT team. Institute has internet connectivity of 600 MBPS, 176 access points with upgraded routers.

Institution has a good transport facility with 12 buses and 2 ambulances. The transport facilities are well maintained and serviced periodically by the transport department. 41 Housekeeping staff with 2 supervisors are in the campus for maintaining regular cleanliness of corridors, washrooms, classrooms, hostels, laboratories and other premises. Sanitizing of washrooms is done on a regular basis. Greenery is maintained by the gardeners with the usage of modern tools. Waste water treatment is also done in the

campus with 300 kld. Potable water is available in the Institute through RO system. Water coolers are maintained and cleaned on a regular basis. Overhead water tanks and water coolers are cleaned periodically. Quality of drinking water is checked and maintained by Civil Engineering Department through environmental Lab.

Institution has a spacious and hygienic food court inside the campus. Food court is well maintained with the good quality of food and food quality is monitored by the concerned staff members regularly. The institute has ISO 22000:2018 FSMS certification for assuring the food quality.

The Institute has a playground for outdoor sports, an Indoor sports hall and a well equipped gymnasium to maintain physical fitness. A well trained and qualified physical Education director is available for guiding and training the students in the sports activities. Gym trainer maintains the Gym facilities and trains the students and staff members. Regular maintenance of Gym equipments and replacement of sports facilities are carried out by the sports department staff. Log books are maintained for Gym and Sports usage.

Solar Panels and power backup facilities like Generators are maintained by the Internal Electrical maintenance department. UPS, Generators, Air conditioners etc. are maintained through annual maintenance contract (AMC). 13 passenger (884 Kgs) capacity Lifts are maintained with comprehensive annual maintenance contract from JOHNSON Company.

File Description	Document
Upload any additional information	[View Document](#)
Paste link for additional information	[View Document](#)

Criterion 5 - Student Support and Progression

5.1 Student Support

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

Response: 59.5

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

2020-21	2019-20	2018-19	2017-18	2016-17
1177	1499	1301	1349	1314

File Description	Document
upload self attested letter with the list of students sanctioned scholarships	[View Document](#)
Upload any additional information	[View Document](#)
Institutional data in prescribed format	[View Document](#)
Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years	[View Document](#)

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

Response: 36.99

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

2020-21	2019-20	2018-19	2017-18	2016-17
1781	542	512	592	489

File Description	Document
Upload any additional information	[View Document](#)
Number of students benefited by scholarships and freeships besides government schemes in last 5 years	[View Document](#)
Institutional data in prescribed format	[View Document](#)

5.1.3 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. Awareness of trends in technology

Response: A. All of the above

File Description	Document
Details of capability enhancement and development schemes	[View Document](#)
Any additional information	[View Document](#)
Link to Institutional website	[View Document](#)

5.1.4 Average percentage of students benefited by career counseling and guidance for competitive examinations as offered by the Institution during the last five years.

Response: 26.22

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

2020-21	2019-20	2018-19	2017-18	2016-17
512	642	610	599	565

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

5.1.5 The institution 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
Upload any additional information	[View Document](#)
Minutes of the meetings of student redressal committee, prevention of sexual harassment committee and Anti Ragging committee	[View Document](#)
Details of student grievances including sexual harassment and ragging cases	[View Document](#)

5.2 Student Progression

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

Response: 62.15

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

2020-21	2019-20	2018-19	2017-18	2016-17
346	380	368	411	436

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

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

Response: 5.07

5.2.2.1 **Number of outgoing student progressing to higher education.**

Response: 32

File Description	Document
Upload supporting data for student/alumni	[View Document](#)
Details of student progression to higher education	[View Document](#)
Any additional information	[View Document](#)

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

Response: 0

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

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

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

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

File Description	Document
Number of students qualifying in state/ national/ international level examinations during the last five years	[View Document](#)

5.3 Student Participation and Activities

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

Response: 15

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

2020-21	2019-20	2018-19	2017-18	2016-17
0	5	6	3	1

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

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

Response:

NCET offers opportunities for students to participate in various academic, co-curricular and administrative activities. The college has numerous student clubs which provide them to participate in various activities. The clubs like dance club, coding club, music club, sports club, etc to encourage the students to pursue their hobbies. Students are also given opportunities to be involved in social and community development activities. The students provide feedback on teaching learning process as well as various facilities in the campus such as canteen, hostel facilities and transportation system. The students are also encouraged to get involved in the design and development of the curriculum.

Cultural activities such as dance competitions, singing competitions, fashion shows, debates, collage making & sketching help the students in showcasing their talents. These activities are conducted by students along with the guidance from faculty members, which helps them in developing organizational and leadership qualities. Intercollegiate cultural fest IKYA is conducted in which the students play a major role in organizing the event. Students organize and celebrate Ganesh Chaturthi, Onam, Kannada Rajyotsava, Navratri and other festivals. The other activities include Cultural, Ethnic and Women's Days. Students are encouraged to take up social responsibilities by organizing blood donation camps to help the needy.

The class committee is constituted for every semester of the department which consists of student representatives and faculty representatives. The class committee addresses various student problems in the teaching learning process as well as other problems related to student support systems in the college. Students are actively involved in the class committees to express their ideas in improving the teaching-learning process. The students are given due representations in various decision making bodies of the college such as IQAC, Board of Studies, Grievance Redressal Cell, Discipline Monitoring Committee, College Internal Complaints Committee(CICC), Anti Ragging Committee, Alumni Association, etc.

Students are also encouraged to be part of various professional bodies like CSI, ASHRAE, ISHRAE and IEEE to organize & involve in technology awareness programs.

The students are part of extension activities through NSS, Integrated Rural Development Programme and Sansad Adarsha Grameen Yojana(SAGY)-an initiative of Government of India. The student representatives in the College Internal Complaints Committee(CICC) helps to sustain a healthy and congenial atmosphere for all the female students and staff members. Various activities on gender sanitization are being conducted by the institution with the help of the student representatives.

Student representatives in the sports committee encourage and promote various sports activities. Students play a major role in annual sports meet and also participate in various sports events at Inter collegiate, zonal, inter-zonal, university, state and national levels.

Students exhibit social responsibility by visiting nearby villages to create awareness among the people of the village about cleanliness, hygiene, digital payments and other programmes. The students visit nearby government schools to provide computer awareness to the school children & teachers of the school. The students are constantly guided by faculty members to do social activities.

File Description	Document
Upload any additional information	[View Document](#)
Paste link for Additional Information	[View Document](#)

5.3.3 Average number of sports and cultural events / competitions organised by the institution per year

Response: 32

5.3.3.1 **Number of sports and cultural events / competitions organised by the institution year - wise during the last five years.**

2020-21	2019-20	2018-19	2017-18	2016-17
18	40	37	28	37

File Description	Document
Upload any additional information	[View Document](#)
Report of the event	[View Document](#)
Number of sports and cultural events / competitions organised per year	[View Document](#)

5.4 Alumni Engagement

5.4.1 The Alumni Association / Chapters (registered and functional) contributes significantly to the development of the institution through financial and other support services.

Response:

Nagarjuna College of Engineering & Technology Alumni Association established during 2006 and registered under the Societies Registration Act 17 of 1960 during May 2016 with an aim to build an actively engaged alumni network. The Association connects with alumni through a diverse set of events and services. Since its inception the association has been active in ensuring that its esteemed alumni continue to be a part of the institutional ecosystem. The Alumni Association ensures active alumni participation in various institutional initiatives in the form of Distinguished alumni talks, Tech Talks, Webinars, alumni advisory boards, Student mentoring, Career guidance, Placement & internships, etc. Alumni community are regularly being greeted with wishes for Festival and College activities are informed from alumni@ncetmail.com. NCET alumni LinkedIn account was created and updated regularly. We currently have 1000+ active members on the page. The details of alumni members and activities of the alumni are regularly updated in the college website at https://ncet.co.in/alumni/index-alumni.

The Alumni Contribute in the Curriculum Design process through their effective participation in the revision and development of curriculum. The Department Advisory Board has representation from industry, academia, alumni besides faculty and students. Alumni visit the college regularly to meet and interact with the current students and faculty.

Alumni are a part of IQAC, Departmental Board of Studies and Alumni Association. Alumni Survey and their feedback help in the effective implementation of the OBE Process. Continuous interaction between the past and present students are established by the alumni association with the help of publication of newsletter, holding periodical Alumni day celebrations and by other activities as decided by the association. Alumni members are generous in providing financial support of more than Rs. 15.00 lakhs to the institution. They are volunteering themselves in helping the students in industry readiness, project works, internships and placements.

Few Distinguished Alumni:

Sl. No	Name	Branch	Achievement	Interaction with the
1.	Mr. Meghanidhi Dahal	ISE	IAS, Deputy Commissioner, Sivasagar district, Assam	Visited the campus students and staff
2.	Mr. Ravishek	CIVIL	IES, Ministry of Road Transport and Highways	A Grand Alumni M Taj Vivanta on 9th a distinguished alun officer, Ministry Government of India
3.	Mr Samarth Naik	CSE	Captain, Indian Army	Interacted and Gave in the defense servic
4.	Mr. Bhargav Sridhar	CSE	CEO & Founder, Pickle IT Network Pvt. Ltd	Conducted the wo project works.
5.	Mr.Madhu	CSE	CEO - Mansys	Gave a talk on a learning

6.	Ms. Neha Sharma	CSE	CEO & Founder Million Dreams	Master of Ceremony
7.	Mr. Shaan Ibrahim	ISE	Founder: Spice Hint India, San Francisco, USA. Iuventus Group, Bangalore.	Delivered a Talk on International Interns
8.	Ms. Poorvanchala	BT	Asst. HR Manager, Enworld group	Delivered a Talk o part of the "Distir Series" on 23/02/20

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

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

Response: A. ? 15 Lakhs

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

Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

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

Response:

Vision of the Institute: Leadership and Excellence in education.

Mission of the Institute: To fulfill the vision by imparting total quality education replete with the philosophy of blending human values and academic professionalism.

Setting values and a collaborative decision-making process are key to effective leadership. It is essential not only for the institution's vision, mission, and goals to be realized, but also for the organization's growth. Four UG programmes of the college are accredited by NBA and the college is certified by ISO with QMS, EMS and FSMS Certifications.

Nagarjuna College of Engineering and Technology was founded with the goal of delivering a qualified and competent workforce to society via quality education and training.The Governing Body(GB) will approve the policy decisions to be implemented by the college. The Governing Body is set up in accordance with UGC/AICTE regulations. The Governing body has representatives from different levels of faculty.

The meeting of GB is held twice in a year or as per the need in a transparent manner.The GB reviews and approves the institution's strategic plan, vision and mission, as well as budgetary allocations to various departments based on the institution's strategic plan. All stakeholders are actively involved in the implementation various decisions of the GB. GB with the help of the department wise committees formulates quality policy and integrates the same in the strategic plan. Formulation of action plans and defining the policy objectives attempts to address the issues of systematic change to provide quality education. Robust principles, frameworks, systems and processes of the institution intends to reinforce the culture of excellence. All the stakeholders work together as a team aiming to be champions of organizational change. The Departments foster a healthy & competitive atmosphere among themselves and each one strives to accomplish excellence.

The GB ensures that all decisions regarding admission, new programmes, infrastructure, teaching & learning process, and placements are executed in accordance with the Institution's core values. Senior faculty members serve on the board of appointments.The board of appointments conducts the staff selection interviews and makes recommendation to the GB for approval depending upon the requirements.

The Academic Council is constituted in accordance with the guidelines issued by UGC & VTU. All the department heads are members of the Academic Council, which makes significant academic and administrative decisions. The Academic Council recommends its decisions to the GB relating to the working of the institution in the matters pertaining to curricular, co-curricular and other activities. The GB reviews and approves the minutes of Academic Council meetings, as well as financial, disciplinary and other matters. Faculty members are nominated to Disciplinary Committee and they are responsible for monitoring the college's discipline issues on a daily basis.

Academic and administrative audits are done on a regular basis. Faculty members also actively participate in variety of administrative training programs. The commitment and drive of the administration, as well as the collaboration and teamwork of all involved at NCET is enabling us in achieving our vision of **"leadership and excellence in education".**

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

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

Response:

The success of an institution is the result of the combined efforts of all who work towards attaining the objectives of the institution. The Institution promotes a culture of decentralization and participative management involving all stakeholders in the process of decision making. The management endeavors to provide independence to the Institutions in decision making process. Right from the Management Committee to the staff and students, all the stakeholders have a role to play in the success of the institution. Their involvement and cooperation in devising and implementing decision making policies for academic and administrative affairs through various bodies and committees have contributed to the growth of the college. The participative and decentralization is being practiced through the following:

- Departments are given full academic autonomy and administrative autonomy.
- Departments are provided with full autonomy to plan and organize Short Term Training Programs, conferences, seminars, industrial visits, institute-industry interaction etc.
- Departments prepare the estimates for future expansion which includes infrastructure, laboratory equipment's, computers, furniture, man power requirements etc.
- Academic related matters such as attendance of students, setting of question papers, conduction and evaluation of exams, design and development of question banks, identification of eligible external examiners etc. are performed independently by the departments.
- Staff increments, leave related matters, allocation of subjects, preparation of course materials, monitoring of syllabus coverage, counseling, arranging special classes for slow learners etc. are planned and implemented by the departments.
- Senior professors of the department are given a role in Governing Body, Academic Council, Internal Quality Assurance Cell, Program Assessment Committee and Board of Studies.
- Faculty members are nominated to various committees and decision making bodies..
- Staff members are involved in regular internal academic audits and document verification processes.
- Parent teacher meetings are regularly conducted to inform the parents about the progress of their wards, counsel the students and elicit their opinion about the functioning of the college.
- Minutes of Meetings of Academic Council, BOS, etc and audit statements are published in college website for transparency in governance.
- Major decision related to academics is taken in HODs committee in consultation with the Principal.
- Blue Books are shown to the students to identify their performances and improve. Answer Paper seeing activity is also implemented for SEE answer scripts.

- The staff selection process is performed by the Board of Appointments(BoA) wherein senior subject experts are nominated as members. The recommendations of the BoA is sent to the Principal for final decision to recruit the faculty. Further, staff appointments will be ratified by Governing Body.
- The Governing Body has representatives from faculty in addition to the Principal as the member secretary.
- Academic Council of the institution includes HODs of all departments and senior professors in addition to Principal, COE and IQAC coordinator.
- Chairman & conveners of various committees such as Anti-ragging, Discipline monitoring, Women's welfare, cultural, magazine, Institution-industry interaction, campus maintenance, counseling, etc. are nominated from staff.
- Feedback from Alumni, Employers, students, parents and industry representatives are collected on regular basis to improve the teaching learning process.

File Description	Document
Any additional informatiom	[View Document](#)
Link for strategic plan and deployment documents on the website	[View Document](#)

6.2 Strategy Development and Deployment

6.2.1 The institutional Strategic / Perspective plan is effectively deployed

Response:

The strategic plan of the college has been well designed by considering the inputs from stakeholders through focused discussions, feedbacks, conferences and workshops by adopting participatory techniques, at department and institutional levels.The strategic plan is formulated with a clear focus towards the accomplishment of excellence by using the resources efficiently. The strategic plan serves as a guiding document for setting the short term and long term goals for the departments. The management conducts regular review of the processes involved in the strategic plan.

The objectives of the strategic plan are:

1. Autonomy in curriculum design, delivery and evaluation.
2. Achieving academic excellence through skill development for students.
3. Building intellectual ability and technical competency among the students.
4. Up-skilling of Faculty Members.
5. Implementation of administrative and examination reforms.
6. Promoting Research & Consultancy.
7. Creating an cordial environment for holistic development.

Following major areas are covered in the strategic plan:

- Academics
- Co-curricular activities
- Administration & Examination
- Financial planning and support
- Research & consultancy
- Accreditation and rankings
- Funding from external agencies
- Faculty publications, patents, workshops and conferences
- Infrastructure / Hostels, Staff Quarters
- Industry interactions, internships and placement activities
- Incubation / startups
- Social Responsibility
- Feedback from stakeholders

The successful organizing and conduction of IEEE International Conference is described as an example:

Title of the activity: IEEE International Conference for Innovation in Technology (IEEE INOCON-2020).

Objectives:

1. Enhance research culture among the faculty members and students.
2. Create a platform to share new ideas in multidisciplinary research.
3. Expose the innovations in new technology.

Process:

The 2nd IEEE International Conference for Innovation in Technology(INOCON-2020) was conducted successfully at NCET. The INOCON-2020 was technically sponsored by Institute of Electrical and Electronics Engineers (IEEE), Bangalore Section. INOCON-2020 International Conference is a forum to bring together researchers, software architects, students and industry professionals to discuss innovative ideas and diverse topics on the emerging technologies and services. The conference received overwhelming response for participation from various countries. NCET served as a platform for all budding researchers & students to showcase their research work. Hundreds of attendees, paper presenters, keynote speakers, faculty members and students have participated in this conference. More than 300 research papers were presented by researchers from 10 different countries. 7 Invited Speakers from different countries addressed the participants and shared their rich experience of application of ICT in their organizations.

The inaugural function started with an invocation song and Conference Proceedings was released by the Dignitaries. A brief note about the IEEE Conference was given by the Vice Chair, Dr. Chanakya Jha, IEEE India Council. He highlighted on various current innovations pertaining to all disciplines with appropriate examples. The Principal, NCET, addressed the gathering and explained the process of Planning, Scheduling and organizing the IEEE Conference from the inception. Paper presentations were conducted in ten tracks.

Key-note address and Talks : The Key-note addresses were given by the chief guests Dr. Yogesh Hote from IIT Roorki, Mr. B. Koti Reddy, Scientific Officer, Department of Atomic Energy, Dr. Sunil Kumar Vuppala, Director–Data Science, Ericsson Global, Dr. Muralishankar R, Post-doctoral fellow, University

of Quebec, Canada.

File Description	Document
Any additional information	[View Document](#)
Link for Strategic Plan and deployment documents on the website	[View Document](#)

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

Response:

An organogram of our organization structure has been effectively reflected to show hierarchical relationships among all our stake-holders as well as departments.This structure and hierarchy mechanism has been perfectly customized to review the various functions of the administration.

NCET has many statutory and non-statutory bodies to carry out specific functions and responsibilities in pursuit of the Institution's vision, mission and core values.

Governing Body(GB) : The administration of the institution is overseen by the Governing Body(GB). Governing body meetings have been conducted in a transparent manner. Minimum two meeting will be scheduled in a year to discuss various matters pertaining to the administration of the institution. GB approves the strategic plan, appointments, ratifications of the resolutions of academic council and annual budget. The institution is well known for its good administrative practices and work culture.

Academic Council(AC) : The Academic Council is the highest academic body which decides and advises on all academic matters. Academic proposals of BoS from each department are scrutinized and approved with or without modifications by the academic council and also recommends/advises the GB on various proposals for starting new programmes of study and other academic matters. Suggestions are given to the departments on curriculum changes, co-curricular activities, examination & evaluation processes, etc. Academic council performs such other functions as may be assigned by the GB.

Board of Appointments(BoA) and Services Rules : The staff selection for the vacancies are conducted by Board of Appointments constituted as per the guidelines from UGC & VTU. The nominees of the University, management, subject experts, HODs and Principal are the members of the BoA.

Service Manual : NCET has a well established service rules. These service rules are made available for all the staff members and other stake holders in the form of service manual through the website.

Faculty members are encouraged to take up research activities thereby empowering them to excel.

Academic & Administrative Committees : The institution has in place several committees in addition to statutory committees to continuously monitor the academic and administrative activities. The committees comprises of key stakeholders.

Our continuous review mechanism of teaching learning process involves review of teaching, counseling, feedback from students, conduction of examination, evaluations and review of results. The IQAC is active in its functioning and reviews all the academic activities. It schedules the internal and external audits regularly and gives guidelines for functioning of the various activities in the institution. The documentation process as per ISO standards is strictly adhered to by the institution and IQAC formulates various formats for maintenance of documents.

Students' feedback is taken on every course to evaluate course performance. Based on student feedback and observations from auditors, teachers are advised to improve the teaching methodologies. HODs conduct staff meetings and the Principal conducts HODs meetings at regular intervals to monitor and review the academic performance and progress during the semester. Institute regularly organizes Parent-Teachers Meetings, where parents & students interact with counselors and course teachers to improve the overall performance of the student.

File Description	Document
Any additional information	[View Document](#)
Link to Organogram of the Institution webpage	[View Document](#)

6.2.3 Implementation of e-governance in areas of operation

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

Response: A. All of the above

File Description	Document
Screen shots of user interfaces	[View Document](#)
Institutional data in prescribed format	[View Document](#)
ERP (Enterprise Resource Planning) Document	[View Document](#)
Any additional information	[View Document](#)
Link for additional information	[View Document](#)

6.3 Faculty Empowerment Strategies

6.3.1 The institution has effective welfare measures for teaching and non-teaching staff and avenues for career development/ progression

Response:

The Institution has welfare mechanisms in place for both teaching and non-teaching staff. The various welfare schemes are:

- Service benefits like contributory PF, ESI, Gratuity, Study leave, Maternity leave, Casual leave, Special Casual leave, Compensatory offs, Earned Leave and Medical leave to employees.
- Scale of pay as per AICTE norms to teaching staff and allowances as per institutional norms.
- Provision of advance salary to needy teaching and non-teaching staff members.
- Group insurance for both teaching and non-teaching employees upto Rs. 10.00 lacs.
- Covid Insurance coverage for Rs. 3.00 lacs towards hospitalization.
- Free uniforms for attenders, security, house-keeping and gardeners.
- Jobs on compassionate grounds to family members of the non-teaching staff.
- ESI facility and festival advance are being provided to non-teaching staff
- Salary Increments based on Performance appraisal for both teaching & non-teaching staff.
- Medical leave facilities for the employees and employees are given sick leave during covid pandemic.
- Encouragement is given for research and development activities. A fee concession is given to faculty members who have registered for their Ph. D from the college research center. Many e-resources such as IEEE(Pop), Elsevier, Springer, Nature e- journals, Emerald e- journals etc are given access to the faculty through the library.
- Financial support towards membership of professional bodies.
- Financial support to participate in national and international conferences to present research papers.
- Faculty are encouraged to update themselves by taking part in MOOC (NPTEL, Swayam, Coursera, google certification) courses for which financial assistance is provided in the form of reimbursement of registration fees.
- Faculty development programs (FDP), workshops and guest lectures are organized on a regular basis.
- Teaching and non-teaching staff members get fee concession for their ward to pursue education in the group of institutions.
- Vacations at the end of every semester is given to both teaching and non-teaching staff. With the onset of pandemic, Work-from-Home (WFH) option was provided to all teaching and non-teaching staff till the consent to reopen was given from the authorized bodies.
- If any individual faculty is in need of accommodation, the same will be provided in the college hostel. If there is requisition from the faculty to provide staff quarters for the entire family, the same is provided in the faculty quarters at concessional rate. Automated Laundry facility is available for faculty members also.
- Wi-Fi facility is made available in the faculty quarters and hostel.
- Web based leave management system.
- Refreshments are offered for both teaching and nonteaching faculty every day.
- Free Covid testing & vaccinations for all employees and their family members.
- In case of any medical emergency, a vehicle is kept reserved in the college campus to reach the nearest medical facility.
- Common room facility for female staff members and girl students.
- Day care center is made available in the college premises for both teaching & non-teaching staff children.
- Sanitary napkin vending machine and disposal machine is available for the benefit of female staff and girl students.
- Walking track is available in faculty quarters and in hostels.
- Electric vehicle for transit around campus.

File Description	Document
Any additional information	
Link for additional information	

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

Response: 21.97

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

2020-21	2019-20	2018-19	2017-18	2016-17
61	38	17	24	31

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

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

Response: 27.4

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

2020-21	2019-20	2018-19	2017-18	2016-17
35	26	26	27	23

File Description	Document
Reports of the Human Resource Development Centres (UGC ASC or other relevant centres).	[View Document](#)
Reports of Academic Staff College or similar centers	[View Document](#)
Institutional data in prescribed format	[View Document](#)
Any additional information	[View Document](#)
Link for additional information	[View Document](#)

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

Response: 53.06

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

2020-21	2019-20	2018-19	2017-18	2016-17
85	83	71	106	80

File Description	Document
Reports of the Human Resource Development Centres (UGC ASC or other relevant centers)	[View Document](#)
IQAC report summary	[View Document](#)
Institutional data in prescribed format	[View Document](#)
Any additional information	[View Document](#)
Link for additional information	[View Document](#)

6.4 Financial Management and Resource Mobilization

6.4.1 Institution conducts internal and external financial audits regularly

Response:

The College conducts internal and external financial audits periodically and has its own mechanism to

conduct audit. The annual budget of the department is prepared by the respective HODs and submitted to the Principal for approval. The Principal consolidates and prepares the institutional budget and submit the same for approval to the Governing Body. The Chief Financial Officer(CFO) verifies and compares actual and budgeted income and expenditures. The corrective measures are suggested by CFO for incorporation. Transparency is maintained in both internal and external audits. Chartered Accountant conducts regular financial audits and certifies its annual financial statements.

The accounts are maintained on the TALLY ERP system, transparency is maintained in receipts and payments. The annual auditing is carried out by the auditors appointed for the same. The audit department & Audit Team works under the direct control and supervision of the Chef Financial Officer of the society.

Internal Audit: The internal audit is conducted annually by an approved auditor appointed by the Management who checks each bill and payments vouchers of all accounts. They submit an audited statement of income and expenditure to the management for consideration and approval.

The audit is conducted in accordance with auditing standards generally accepted in India. The audit includes the following:

1. Checks for compliance with policies, laws, and regulations

2. Comparing previous financial statements to the present ones

3. Reviewing reliability and integrity of financial and operating information and the means used to identify, measure, classify, and report such information.

- Noting of provisions applicable
- Evaluation of Internal control system, Verifications of student's fee registers,etc
- Authorization of fees concessions, controls and policies

4. Review the means of safeguarding assets and as appropriate, verifying the existence of such assets.

- Verification of cash book
- Examining the bank passbook
- Verifies the investments, grants from other bodies
- Verification of total amount granted for various departments and various committees and its utilization
- Admission record verifications
- Checking of acknowledgment letters if any with regards to scholarship, etc

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

1. Examining the payments for maintenance and any other miscellaneous expenses
2. Certify the audit report
3. Filing the Income Tax returns regularly

External Audit : The duly audited reports are submitted to the external audit team. The External Audit Team regularly audits the college financial report. The external audit is carried out in an elaborate manner on a yearly-basis. In case of any objections, the institution will deal with it promptly and take necessary

corrective measures in a completely transparent manner.

Criteria for settlement of objections of External Audit:

- Examining the procedures and policies and regulations vouching.
- Verify the salary payment, TDS, Income Tax, EPF, ESI, Professional Tax, Gratuity, etc.
- Examining the property titles, approvals, fee payments to regulatory bodies, Evaluating fee receipts, Certify the audit report, Filing the Income Tax returns regularly.

The Finance committee is responsible for observance of regulations relating to maintenance of accounts of income and expenditure and considers any other matter referred by the Governing Body.

File Description	Document
Link for additional information	[View Document](#)

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

Response: 0

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

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

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

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

Response:

Proper collection and utilization of financial resources is planned at the beginning of every financial year. The budget details are collected before the start of every academic year. The utilization of the current year expenses and the budget for the next year is approved by the Governing Body.

Research proposals are prepared and sent to different funding agencies like Vision Group on Science and Technology (VGST), All India Council for Technical Education (AICTE), University Grants Commission (UGC), Department of Science & Technology (DST), Visvesvaraya Technological University (VTU), DRDO, ISRO, Karnataka State Council for Science and Technology (KSCST), Industries etc,. The grant

received from such organizations is used in procuring special equipments needed for research activities thereby strengthening the infrastructural facilities in the laboratories.

Different financial sources available are:

- Fee collected from students is the major resource for the institution.
- Funding from different funding agencies such as VTU, AICTE, VGST, KSCST, Institute of Engineers and other R&D centers.
- The management is spending budgeted amount to develop the required infrastructural facilities such as buildings for various departments, administrative blocks, laboratory equipments, Boys and girls hostel buildings, library building, canteen, auditorium, staff quarters, exam section buildings. These buildings are constructed by the management by their own sources of funds.

NCET is a self financed institution. The institution is dependent on the fee collected from students for its routine recurring expenses such as salary of teaching and non-teaching staff, maintenance of building and equipment and other facilities. All efforts are taken in improving the student admissions to the institution so as to mobilize the required financial resources.

The institution helps and supports the students in getting the scholarship from various governmental and non-governmental agencies such SC/ST Scholarship, OBC Scholarship, PMSSS, Minority Scholarships, etc.

To encourage the poor, needy and meritorious students to pursue their engineering studies, fee concessions have been given by management for a large number of students. Every year, scholarships worth Rs. 2.00 crores & free ships worth Rs. 3.00 crores are given to the eligible students.

College transport services and college canteen are getting subsidies from the management. The unrecovered amount related to college transport and running of the canteen is borne by the management.

The management has appointed qualified internal auditors and experienced staff to monitor effective and efficient use of financial resources and also to ensure that finances allocated to different facilities/activities in the institution are being used properly.

Faculty members are reimbursed with the amount spent for attending national and International Conferences, Workshops, Seminars, Faculty development programmes and registration to membership of professional bodies. All staff welfare schemes are implemented as per HR policies of the institution.

Similarly, financial support is sought from external sources (Government bodies, private sponsors & alumni members) for conduction of theme based conferences, cultural fests, tech fests, hackthons, workshops and seminars.

All observations/objections of the Chartered Accountant are communicated through their report. These objections are examined by the Finance Committee. The Finance Committee then submits its final report to the Governing Body.

File Description	Document
Any additional information	[View Document](#)
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 visible in terms of – Incremental improvements made for the preceding five years with regard to quality (in case of first cycle) Incremental improvements made for the preceding five years with regard to quality and post accreditation quality initiatives (second and subsequent cycles)

Response:

The Internal Quality Assurance Cell of NCET has self-regulated responsibilities, aimed at continuous quality improvement and achieving overall excellence. NCET being an innovative and reputed higher educational institution, has mechanisms for academic audit and adopted quality management strategies in academic and administrative aspects.

IQAC initiates NBA and NAAC accreditation processes. Institute regularly participates in national ranking processes such as NIRF & ARIIA. Institution is ranked under ARIIA B-Band & Band-Performer. Institution is certified as ISO QMS certified institution under ISO 9001:2015, ISO:22001:2018 for EMS and ISO:14001:2015 for Food Quality & Safety Management. Institute has received the award as Perfect Workplace for Women, Five star Place to work and Institution of Excellence from MHW. The institution has participated in MoE's Institute's Innovation Council programme and received 4 Star rating for the activities conducted. The institution through its IQAC cell has initiated the establishment of Second NSS unit and it regularly uploads the data to AISHE portal. IQAC submits NAAC AQAR regularly.

The IQAC has initiated a self appraisal system for teaching and non-teaching staff which includes their achievements, feedback, result analysis of the academic years, publications, etc.

The IQAC has contributed significantly towards improving curriculum enrichment, academic excellence, teaching and learning process, evaluation methods and research atmosphere in the institution.

Two of the practices of IQAC are as follows:

1. Academic Audits

The academic audit provides an opportunity for a regular strategic overview of teaching-learning process. The audit is conducted at faculty level, department level and at the institute level.

- The first level is the self-analysis by faculty handling the respective course. The audit comprises of parameters such as course outcomes, CO-PO mapping, Assessment tools, assessment analysis, CIE-SEE correlation factor and CO attainment.
- The second level of audit is conducted by the respective department academic audit committee comprising auditing parameters such as the best academic practices of the department,

redefining of COs, courses where CIE-SEE correlation is of concern and any other aspect of the department.

- The third level audit is conducted at the institute level where in a team comprising of senior professors is formed to audit the various departmental academic activities. This audit comprises of observations with regard to best academic practices of the institution and suggests areas for improvement. Finally a summary of the audit is prepared and is placed for action plan to be suggested to improve the quality of academic activities.

External Audits: Further to strengthen the quality system, since 2013 Academic Audits by external agencies have also been initiated.

2. Pedagogy and Skill Upgradation Trainings

Pedagogy training is initiated by IQAC and all the faculty are trained in Outcome Based Education and assessment. From time to time, newly recruited faculty members are trained in Pedagogical methods. For skill upgradation of the faculty, Workshops, FDPs, Seminars, etc are initiated by the IQAC. Every department is mandated to organize the professional development programmes during the vacation. The teaching and non-teaching faculty members are encouraged to attend professional development programmes.

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

6.5.2 The institution reviews its teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through IQAC set up as per norms and recorded the incremental improvement in various activities (For first cycle - Incremental improvements made for the preceding five years with regard to quality For second and subsequent cycles - Incremental improvements made for the preceding five years with regard to quality and post accreditation quality initiatives   )

Response:

The Internal Quality Assurance Cell (IQAC) is established as per the guidelines from UGC to maintain and enhance quality of education. The prime goal of the IQAC is to develop a system for consistent and catalytic improvement in the performance of institution.

Revised Blooms Taxonomy(RBT) was initiated by IQAC from the academic year 2016-2017. Faculty are given awareness to pedagogical teaching learning method, RBT and Outcome Based Education(OBE) by various workshops and faculty development programs conducted in the department and Institute. Training in RBT is conducted to help the teachers to prepare the question papers, upgrade the evaluation and assessment skills of the teacher. The question banks are prepared by respective faculty members adhering to RBT for each course. CIE-1 will be covering Course Outcomes (CO) 1 & 2, CIE-2 will be covering CO3 & 4 and CIE-3 & AATs take care of CO5. The question papers will indicate COs & knowledge levels

for each question and sub question. The question paper scrutiny committee under the guidance of Board of Examiners(BOE) check the standard of the question papers of CIE and will ensure that the questions are covering and reflecting the COs and RBT levels. The BOE scrutinzes both internal and external question papers of the Semester End Examinations. The BOE consists of members from other autonomous and reputed engineering colleges. The BOE meetings will be held under the supervision of Controller of Examinations to maintain integrity and secrecy of the question papers. The IQAC conducts the academic audit with the help of the senior faculty members trained in the academic audit process.

The Academic Audit involves the following quality checks:

1. Monitoring of classes as per the personal time table of the teacher, class time table and reporting the discrepancies, if any, to the higher authorities.
2. Verification of sectionwise student attendance registers and teacher's diary.
3. Monitoring attendance of students and verification of attendance every two weeks.
4. Verification of Counseling records and counseling details after every internal examination - To check whether the marks & attendance have been updated in the attendance registers. Also, to check whether counseling has been done during that period.
5. Verification of lab attendance register-To check whether the marks are being allotted according to the lab evaluation process.
6. Blue book verification with the scheme of evaluations. To check whether the evaluation is done systematically and marks have been allotted properly, according to the scheme of evaluations.
7. Verification of final marks before submission to the COE office.
8. Verification of Notice board displays periodically - To check whether the current circulars have been displayed or not. Old circulars have to be removed.
9. Verification of Department stock register and barcode of newly purchased equipment in the beginning of every semester.
10. Department library audit in the beginning of every semester.
11. Timetable and workload verification in the beginning of every semester
12. Central Library audit on a yearly basis during which stock verification is performed by the members of library committee.
13. Audit of the examination process and verification of the examination records at COE office.

Programme Assessment Committee Review

Programme Assessment Committee (PAC) review is essential to understand the attainment levels of the students in terms of knowledge and skill component. The attainment of COs and POs are calculated based on the guidelines defined by IQAC, which contains both Direct and Indirect Assessment Methods. The attainment levels of COs and POs are compared with target values and analyzed for their attainment. The scope for further improvement will be based on the attainment level achieved and based on the feedback of the faculty and students by the Programme Assessment Committee (PAC). The recommendations of PAC are considered for the curriculum revision and to improve teaching learning methodologies. The attainments of all the COs and POs of UG and PG programmes are audited by IQAC.

Outcome Based Education (OBE) is an initiative by IQAC to reform the teaching and learning process in the institution. To inculcate self-learning capabilities, IQAC encourages online certification courses such as NPTEL/Swayam, Coursera, etc. Modern online platforms such as google meet, Zoom, Microsoft teams have been used to conduct classes and tests online and faculty members are trained to use the same.

Industry Participation

Enhancement of industry interaction in teaching learning is essential to improve the outcomes of the students and to enhance the knowledge and skill of the faculty. Industry Institute Interaction & Innovation (I4) cell was established to have better interaction between industry and academia. The activities of the I4 cell includes:

1. Arranging industrial training for all the department students.
2. An advisory board is functioning under the chairmanship of Principal which is identifying the opportunities for student project work in Industries.
3. Encouraging the department level tie-ups or MoUs with Industries for mutual benefit.
4. To promote synergistic partnership between Industry and NCET for taking up joint research programs.
5. To conduct relevant R&D activities with the involvement of students and the faculty under the supervision/guidance of experts from reputed industries.

Internships:

As per the IQAC guidelines, industry internship for the students has been made mandatory. UG and PG students undergo internships in reputed industries related to their field of study. Many students from IT branches are selected for internships with stipend. Internships are helpful in better understanding of the courses learnt, exposure to the working environment at industries, identifying & carrying out projects and solving real time problems.

Curriculum Design:

As per IQAC guidelines, curriculum is designed by taking the feedback from the industry, alumni, employers, parents, faculty and students. Academic Council, Board of Studies and Department Advisory Boards have participation of experts from the industry, and have helped in revising the curriculum to industrial requirements.

Teaching and Learning by Industry experts:

IQAC encourages the departments to involve industry personnel in partial delivery of the courses, Faculty development Programmes, Workshops, Seminars and Technical Talks. Some of the courses are designed, delivered and evaluated by industry experts. Modern teaching aids such as E-Box, Smart Boards, Lecture Capturing systems,etc are being used by the teachers to deliver the course content.

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

6.5.3 Quality assurance initiatives of the institution include:

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

Response: All of the above

File Description	Document
Upload e-copies of the accreditations and certifications	[View Document](#)
Institutional data in prescribed format	[View Document](#)
Any additional information	[View Document](#)
Link for additional information	[View Document](#)
Paste web link of Annual reports of Institution	[View Document](#)

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

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

Response:

NCET sensitizes students and employees regarding gender equity by organizing various activities. The institute promotes gender equity in admissions, recruitment, administrative functionality and academic activities. The institution makes sincere efforts to empower women faculty and girl students. NCET Women Welfare committee "SAMANVITHA" is working towards women empowerment. The college organized several awareness programs and walkathons regarding women welfare and gender sensitization. The girl students are nominated as members of various committees at department & institute levels and the institute encourages their participation in curricular and co-curricular activities. Women faculty are provided opportunity to work as heads of the departments and conveners of various committees.

Safety and Security: NCET considers safety and security of the girl students as paramount and has initiated many fool-proof measures. The campus is under CCTV surveillance. The hostels are fenced and gated properly. The sanitary napkin incinerators as well as sanitary napkin vending machines are installed for the health and hygiene of the girls. Ladies common room facilities are made available. Further, the inward and outward movement of outsiders are recorded and monitored by professional security personnel at the college main gate. Apart from this, students are mandated to wear their ID cards and monitored by the full time vigilant security personnel guarding the gates. A medical emergency vehicle is available in the campus to take the students to the nearby hospital. The Anti-ragging committee and flying squads monitor and ensure that the campus and hostels are ragging-free. The Girls Hostel is under the constant vigil of Lady Wardens and women faculty members. Anti-sexual Harassment Committee is formed to make sure that registering the complaint is hassle free.

Keeping in mind the problems faced by the girls at the workplace, Self defense training programmes such as martial arts are organized for women and martial arts is offered as an open elective course for girl students. The state level trainers and coaches are invited for training the students in martial arts.

Counselling: The Women cell holds several interactions with the students during curricular and co-curicular activities of the college. A counselor conducts joint sessions with students and parents whenever it is necessary. The issues addressed are maladjustment, academic performance, anxiety, peer pressure, relationship handling, absenteeism, malpractice, low self-esteem, emotional instability etc. Students who attended the counselling sessions felt comfortable and emotionally secured at the end of the session. The Women Welfare Committee celebrates Women's day every year and presents success stories of famous women to inspire the girl students. Common rooms for girls and boys are provided in the college premises.

Day Care centre:

NCET is providing a day care centre to take care of the young children of the employees of the institute.The main objective of the centre is to provide day care facilities to the children of the age group of

six months to six years. The Day Care Centre is provided with toys and equipment for cognitive and physical development of the children. A Woman caretaker is appointed to look after the children.

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

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

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

Response: B. 3 of the above

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

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

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

Response:

Solid Waste Management:

Solid Waste generated from our institute is segregated into organic waste and inorganic waste which is collected and processed separately. The quantity of solid waste generated from the campus area is around 751 kg per day in which 40 % i.e. 300 kg per day is organic and 60 % i.e. 451 kg per day is inorganic waste. The organic waste is composted within the campus area and converted into manure which is used

for gardening. The campus is declared as plastic free and any type of plastic waste collected in the campus will be disposed to scrap dealers.

E-Waste Management:

Improper disposal and processing of e-waste render it perilous to human health and our ecosystem. Hence, the institution has undertaken number of E-waste Management initiatives with the objective of creating an eco-friendly environment in the campus. E-waste such as computers and its peripherals are upgraded regularly to continue usage and to minimize its wastage. MoU with E-Parisaraa and Rashi E-Waste solution is made for E-waste disposal and management. The electronic equipment such as computers and its accessories, lighting systems, cords & cables, fans, TV's, Projector's etc. are collected and stored in a designated E-Waste store room. The stored E- Waste is later handed over to the E-Waste recycling plant for disposal as per KSPCB norms.

Hazardous waste Management:

As per the hazardous waste and other waste (management and transboundary movement) Rules 2016, all the hazardous waste such as waste oil generated from servicing of three diesel generator sets of capacity 125 KVA, 100 KVA and 250 KVA is collected in a barrel and stored separately till it is handed over to the pollution control board authorized recycler. A small quantity of used oil is utilized as lubricant for construction shuttering works within the campus and the excess oil is handed over to M/s Aruna Constructions Limited for their construction shuttering works only.

Bio-medical Waste Management:

As per the bio medical waste management rules 2016, The only Bio-medical waste from the campus are the sanitary napkins. The institute has provided incinerators to dispose off sanitary napkins.

Liquid Waste Management & Waste Water Recycling:

As per the Water act 1974, the college has provided the required STP using Sequential Batch Reactor Technology. The water required for the boys' and girls' hostel is around 138.3 KLD, for day scholars 110 KLD and for the staff is 16.2 KLD which sums up to 264 KLD consumption. The institution has provided a 300 KLD waste water treatment plant. The treated water is meeting all the KSPCB standards before the recycled water is reused. The treated water is used for the maintenance of greenery in the campus. The institute has a laundry unit which generates around 50 KLD of effluent. The liquid chemical waste generated from chemistry and environmental laboratories is collected in a separate tank and handed over to M/s Eco-Green Solutions Systems Pvt. Limited, along with laundry effluent, for further treatment in Common Effluent Treatment Plant (CETP) as per KSPCB norms.

File Description	Document
Relevant documents like agreements/MoUs with Government and other approved agencies	[View Document](#)
Geotagged photographs of the facilities	[View Document](#)
Any other relevant information	[View Document](#)

7.1.4 Water conservation facilities available in the Institution:

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

Response: A. Any 4 or all of the above

File Description	Document
Geotagged photographs / videos of the facilities	[View Document](#)
Any other relevant information	[View Document](#)
Link for any additional information	[View Document](#)

7.1.5 Green campus initiatives include:

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

Response: A. Any 4 or All of the above

File Description	Document
Various policy documents / decisions circulated for implementation	[View Document](#)
Geotagged photos / videos of the facilities	[View Document](#)
Any other relevant documents	[View Document](#)

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

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

Response: A. Any 4 or all of the above

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

7.1.7 The Institution has disabled-friendly, barrier free environment

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

Response: A. Any 4 or all of the above

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

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

Response:

Our institute is undertaking several efforts and initiatives for providing an inclusive environment for

students, teaching and non-teaching staff. Several activities are conducted towards achieving tolerance and harmony in cultural, regional, linguistic, communal, socioeconomic and other diversities. Swachh Bharat Abhiyan and Unnat Bharat Abhiyan are some of the initiatives taken up by the college where the students are taken to the nearby villages to create awareness among the villagers. Students have taken up many cleanliness drives both inside the campus and nearby villages considering it as a social responsibility. The students have taken up Plantation drives to provide a clean and green environment for all. Workshops, Seminars and Awareness programmes were also organized for youth empowerment.

Awareness about problems and consequences faced by students involved in gambling and IPL betting was organized by National Service Scheme (NSS), Youth Red Cross (YRC) and Red Ribbon Club (RRC) teams. Events were also conducted by NSS on Sadbhavana Diwas. The Rally for Rivers was organized to give awareness about eco-friendly environment. The launch of Integrated Rural Development Programme (IRDP) in collaboration with Sri Sathya Sai Annapoorna Trust helps the students in understanding the problems faced by rural people. Appreciation was given by the Headmaster, Government Higher Primary School, Manchanabele, Chickballapura for our student's involvement in the conduction of awareness programes to the school children. Our college also took initiative towards workshops such as Master Trainers Workshop on Saansad Adarsh Gram Yojana (SAGY) an initiative of MHRD, Government of India. Our Students also participated in Digital India Awareness program on "Vittiya Saksharata Abhiyan" organized by MHRD and were awarded as the best volunteers. Students participated in the state level NSS camp on the theme "Healthy Youth for Healthy India" which was conducted to create awareness on health, safety & technological advancements.

Our students organized awareness programmes at Nandi village as part of Integrated Rural Development Programme and Unnat Bharath Abhiyan. Essay and Poster Presentation competition is organized every year in our college on World Youth Day, where students actively take part and win prizes. Students are encouraged and have been participating in Bharatiya Chhatra Sansad being conducted every year.

Stem Cells Registration Campaign by SCRI in Association with NSS, YRC and RRC was organized. Our students participated in Rajatha Yana event conducted by Ramakrishna Vivekananda Ashram which helped the students in inculcating human values. NSS Volunteers took part in the Youth for Society event held at BMSCE & were awarded prizes for the role play on "Women Safety" and poster presentation on "Rural development using GIS".

IRDP program was organized by giving awareness on digital payments, water saving, cleanliness, garbage disposal etc. Institution celebrates national festivals such as Independence Day, Republic Day & Gandhi Jayanthi, where students and staff are encouraged to deliver talks and speeches on national unity, communal harmony and bringing a sense of belongingness and national integrity among all. Food festivals of different states are being organized. Students are encouraged to participate in Ethnic Day, Mathru Basha Diwas, Onam etc.

File Description	Document
Supporting documents on the information provided (as reflected in the administrative and academic activities of the Institution)	View Document
Any other relevant information	View Document

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

Response:

To make the students to be responsible citizens, a course titled " Constitution of India, Professional Ethics and Human Values" was introduced as a mandatory course to all the UG students. The students are motivated to take part in several activities of the college making them to be responsible citizens. The institute also motivates the students and staff to donate blood by organizing blood donation camps every year. Two courses namely "Universal Human Values- I" and " Universal Human Values- II" are offered as per the AICTE model curriculam.The Teachers are trained by AICTE to teach these two courses which exposes the students to lead a harmonic life with peers, family, society and nature. Programmes on Teachings of Swamy Vivekananda were also conducted.

Our college celebrates International Women's Day. Women's welfare association namely "Samanvitha" is actively conducting different programs such as, donation of essential items to Blind School as part of their "Joy of Giving Programme", Health Camp for all staff members etc. Our college also celebrate festivals such as Kannada Rajyotsava & Anti-terrorism day which help them to implement the social and religious harmony. International yoga day is also organized in the college to promote harmony towards each other.

Through the college NSS team, "Student voting awareness Campaign" was conducted for all the students, to sensitize them about their constitutional powers of voting. Our college also took initiative towards the Tree planting campaign. Our college also motivates students by celebrating Engineer's day and Constitution Day. The students are administered with the oath on the constitution day and events such as quiz , debate etc. are conducted. Every year Republic day is celebrated on 26th Jan by highlighting the importance of Indian Constitutional values, rights, duties and responsibilities of citizens. Independence Day is also celebrated each year to highlight the struggle of freedom and the importance of the Indian constitution. The celebration is attended by Students, teaching and non-teaching Staff. The Flag hoisting with National anthem and oath of national integrity followed by distribution of sweets is the regular practice of the programme.

Environmental science is included as part of the curriculm, to sensitize the students on the preservation of the ecosystem and environment. Our college celebrates World Environment day where students are also sensitized to adopt green practices, conservation of natural resources, alternative source of energy and renewable energy.

The Student Induction Program (SIP) for newly admitted students is organized in line with the AICTE induction program policy. The induction program is conducted every year before the commencement of the first semester classes as per VTU guidelines by the trained faculty members. NCET Alumni and expert trainers are also invited to engage the sessions during the SIP. SIP is planned to keep in view the overall personality development which includes soft skills, sports and cultural activities. This program helps the students to come out of their hesitation and it is the best platform for the students to interact with faculty members and to build strong relationships with them.

File Description	Document
• Details of activities that inculcate values; necessary to render students in to responsible citizens	[View Document](#)
Any other relevant information	[View Document](#)

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

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

Response: A. All of the above

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

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

Response:

Institution is not only a place to impart knowledge but also a place where young talented and responsible citizens are moulded to face the societal challenges. Celebration of cultural and constitutional festivals is an integral part of the institution's co-curricular activities which builds a strong cultural belief in a student. The events and festivals organized at college are often celebrated with great pomp and gaiety. Our college celebrates National and International days enthusiastically every year.

The academic calendar is brimming with important events which show the enthusiasm of this institution in celebrating many national as well as international days and commemorative events and festivals. Republic day is celebrated every year on 26th January in the college with great enthusiasm and pride. It is a day to remember when India's constitution came into force completing the country's transition toward becoming an independent republic. A function is organized on the college campus where all staff members and students share their thoughts about the importance of this day in the history of our nation and pay tribute to all freedom fighters who sacrificed their lives in order to gain freedom for India.

Independence Day is also celebrated on 15th August in the college with great enthusiasm. It is a day when all staff members and students pay homage to their leaders and those who fought for India's freedom in the past.

International Women's Day, National Girl Child Day and National Yoga Day is celebrated every year, Teachers Day is celebrated every year in the remembrance of Dr. Radhakrishnan, a great teacher and a great leader to inspire all of us. Floral tributes will be paid to Sir M Visvesvaraya on Engineers day. The college is situated near the birth place of Sir MV and as a tribute to him, the College has installed a statue as a token of gratitude and respect to him.

National Voter's Day is celebrated together with staff and students to bring awareness among the young voters about the importance of casting vote. The event will be concluded by taking oath. The institute organizes Constitution Day in remembrance of the Contributions of Dr. B.R Ambedkar, Gandhi Jayanthi is celebrated and Swatch Bharath activities are also organized. Anti-Terrorism day is observed on 21st May and pledge is taken.

Mathru Bhasha Divas is celebrated in the institute. Poetry and essay writing competitions are being conducted for the students in order to glorify their mother tongue. To ensure and encourage oneness among the students and faculty community, the Institute celebrates regional festivals like Navatri, Onam, Holi, Vinayaka Chathurthi, Kannada Rajyothsava, Deepavali, Sankranthi etc. The spark of the festivals is visible by the colorful decorations arranged by faculty, students and staff members. In addition, various activities such as Intercollegiate Cultural Fest-IKYA, Ethnic day, Founders day, Sports Day etc are organized. During these events, all students & staff will volunteer themselves actively and participate in the events. These events help in unifying the students and creates a bond between students and staff.

File Description	Document
Geotagged photographs of some of the events	View Document
Any other relevant information	View Document
Annual report of the celebrations and commemorative events for the last five years	View Document

7.2 Best Practices

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

Response:

Best Practice: 1

1. Title: STUDENT SUPPORT SYSTEM

2. Objectives: To map the student interest and capabilities with the skill development to be provided, continuously monitor the student's progress in terms of academic performance, learning capabilities,

attendance and general behavior. This system also helps to identify and understand the students requirements such as financial assistance in the form of freeships and scholarships, communication skill development through language laboratories, counselling for higher education and overall mentoring support.

3. Goal:

- To provide support with regard to the overall development of the students.
- Involve students to contribute their quality learning experience and academic success.
- Reduce dropout rate, increase student life diversity and encourage rational thinking.

4. Context:

- The institute is located in Bangalore rural area and most of the student admitted are from rural background who do not have proper access to facilities like internet, computers, smart phones, etc. The students are also facing the problem of communication, soft skills and aptitude skills.
- Most of them are from agricultural background and hence they are facing financial difficulties in continuing their higher education. They are also deprived of suitable government scholarships or free ships.
- Hence, identifying the problems and goals of the students and guiding them to succeed in achieving their goals is of prime importance.
- The counseling or mentoring system is an essential component in bringing out the true potential of the student to reach their expectations.
- The student also have problems in improving various aspects of academic and non-academic activities like personality development, Communication Skill, Presentation Skill, Team Work, leadership qualities etc.
- The idea of designing an Integrated Rural Development Program (IRDP) curriculum emerged from a discussion between the Principal (NCET) and the Sri Sathya Sai Annapoorna Trust (SSSAT), Chikkaballapur. When SSSAT explained the various rural-centric programs that the trust was engaged in, the Principal expressed an interest in exposing the students of NCET to rural problems with an aim to inculcate them with a desire to understand, analyse and address those problems by leveraging their education and skills. Hence, the Integrated Rural Development Programe was initiated from the year 2016-17 and implemented successfully with the assistance of SSSAT.

5. The Practice:

- **Counselling**

The college has initiated the system of counselling or mentoring of the students. The active counselling process takes care of all the requirements of students in supporting them in their need of the hour. The counselling team members arrange several interactions with the students and faculty during academic and non-academic activities of the college. A student counsellor conducts joint sessions with parents whenever it is felt necessary. The issues addressed are financial conditions of the family, maladjustment, academic performance anxiety, decision making, under achievement, peer pressure, relationship handling, women issues, absenteeism, malpractice, low self-esteem, emotional instability etc. Students who attend the counselling sessions feel comfortable and emotionally secured at the end of the session. The institution also conducts parent-teacher meetings regularly to understand and communicate the performance and progress of the students.

- **Free ships**

The Institution has a practice that after counselling a student if he/she is really good in academics and at the same time if the student is found to be in need of any financial support this institute will never step back to give them a Scholarship or freeship from college after a proposal is sent by the Principal. The management is providing freeships to support and extend the benefit to all the needy academically bright students, who do not have the advantage of government/grant scholarships, without any discrimination of caste, gender, religion etc.

- **Mapping of Student Goals**

Every student is equally talented, no one in this world is born talentless. A proper identification and channelization of that talent needs to be identified in each and every student and has to be guided to meet his/her expected goal. This institute identifies each and every student through a proper mapping channel and we have a career guidance cell through which mapping of the student is performed to attain their career goals accordingly. The students are also mapped based on their skill sets and interests.

Several academic MoUs such as NASSCOM, EDUSKILLS, BIZOTIC, COURSE CUBE etc., have been signed by the institute to guide the students to achieve the goals accordingly. We have never stepped behind to imbibe the same in our academic curriculum as a credit course where the industry expert will come to our campus and train the students.

The Institute has established various cells such as ED Cell (Entrepreneurship Development Cell), Career Guidance Cell, Placement Cell, I4 (Industry Institute Interaction and Innovation Cell) and Alumni Relation Cell. The purpose of these multi-pronged approaches converges towards mapping of student goals.

- **IRDP (Integrated Rural Development Program):**

The SSSAT agreed to help and formulate a one credit practical course for 2nd year students (3rd and 4th Semester) on rural development. This resulted in the formulation of a course titled "Integrated Rural Development Program (IRDP). The goal of this course is to give an exposure to college students regarding the problems faced by the rural people. The lecture sessions in the course were supplemented with practical in-field studies and social activities.

6. Evidence of Success:

- The most important evidence of success for the mentoring system is from the feedback of the students. The confidence of the students is increased due to the counselling by the expert trainers and measures taken by the institution. The students and their parents have been very happy with the mentoring system. The percentage of drop-outs, reduced greatly. The behavior of the students on the campus in general has witnessed a tremendous improvement and the students are delighted in continuing their education and with their performance. The pass percentage and the academic performance of the students have also achieved greater heights with the mentoring system.
- Approximately Rs. 5.00 crore of freeships are given every year.
- Improved student feedback over the past few years.
- The institute is planning to launch a satellite during this academic year as a part of "Azadika Amruth Mahotsav".
- Many students were able to get admissions in various top universities in the USA, Canada,

Australia and European countries and have successfully completed their higher studies. The continual efforts have seen the college improve upon its placement numbers.

- The Annapoorna Breakfast Program is already serving free morning nutritious breakfast to more than 500,000 children attending thousands of rural Government schools across 17 states and 3 union territories in India. This and other welfare activities have enabled SSSAT to earn tremendous good will in many villages. This outreach activity enables Annapoorna volunteers to connect with the rural population to provide the right environment for the IRDP activity. Our students also got an opportunity to serve rural government school children by conducting activities like awareness programmes on health and cleanliness, human rights, importance of digital payments, career guidance, plant sapling, fun activities, etc.

7. Problems Encountered and Resources Required:

- There are few cases where the ward does not respond or cooperate with the mentor. In such cases the mentor brings it to the notice of the Counselling coordinator/Class teacher/HOD. Efforts are made to resolve the problems with the ward. Professional Counsellors are engaged to solve the serious issues of the students.
- There are many cases where financial assistance was sought. However, due to limitations in the availability of funds, the freeship scheme was not extended to all the students.

Best Practice: 2

1. **Title of the Practice: CAREER SUPPORT SYSTEM**

2. Objective:

- To utilize benefits from MOOCs and NPTEL certification to eliminate technological obsolescence.
- To make the faculty and the student equipped with knowledge and make them industry ready.
- To see faculty gain benefits through initiatives planned for individual research and research through the students.
- To foster inquisitiveness among students

3. Goal:

The students and faculty can practice different solutions to the problems at hand by the use of virtual labs. They can learn the procedure to conduct the experiments in different ways without damaging the physical equipments and instruments. They can also try alternate methodologies to solve the same problem in variety of ways. The broad aim is to make students and faculty get a pragmatic understanding of the various labs that are used frequently in the institute. At the same time, it may be to share the resources, know-how, access to labs, materials and the like. The cost of setting up these labs and other facilities is very high.

4. Context:

- Looking at the problems faced by the faculty members and students, Ministry of Education, Government of India has initiated the concept of Virtual labs.

- The Virtual labs developed by the top technical institutions of the country, address the issues of lack of good laboratory facilities, as well as trained teachers, by making remote and simulation based experimentation possible through the internet.
- Project oriented learning system gives the exposure to the student with the real time implementation of their learning in the form of Projects.
- An internship is a professional learning experience that offers meaningful, practical work related to a student's field of study or career interest.
- The students from different backgrounds are facing the challenge of finding suitable placements after their completion of their studies. Hence, the giving an opportunity to the students in getting placements in their pre-final/final year of studies is of utmost importance.
- The students have interest in pursuing their higher studies in India and abroad. However, they lack information about the good institutions.
- Advancements in technology are taking place at a rapid pace. Making the students industry ready for these technological advancements is challenging task by the institutions.

5. The Practice:

- **Virtual Lab**

Virtual labs facilities for about 250+ laboratory courses and about 1750+ experiments across multiple disciplines are available. A virtual lab is one of the largest educational initiatives in the world and a step forward beyond the traditional learning method. Training through Virtual lab enables students to conduct innovative experiments round the clock.

Institution has been recognized as the Nodal center for Virtual Lab facilities sponsored by MHRD, GOI and supported by all IITs and IISc. This facility is being used by Faculty and students.

- **Project Based Learning System**

Project Based Learning (PBL) is introduced as one of the credit course in curriculum for 2nd and 3rd year students, where students apply the concepts that they have learnt. They learn to design and develop projects for various real world problems, thereby improving their skill sets. The Practice and its uniqueness in the context of Project Based Learning is to Imagine, Innovate and Implement at NCET is truly reflected in the student placement activities in the campus.

- **Industry oriented Curriculum design**

Curriculum Design and Development has a significant effect on student learning and has been described as the most powerful single moderator that enhances achievement. Feedback which is an important part of the curriculum designing process is collected from the stake holders and discussed in the BoS meeting. Finally a decision is taken to update and modify the curriculum. After getting approval in BOS, the curriculum with the incorporation of recommended changes, if any, is sent to the Academic Council for their final endorsement.

- **Internships**

An internship gives a student the opportunity for career exploration and development, and to learn new skills. It offers the employer the opportunity to bring new ideas and energy into the workplace, develop

talent and potentially build a pipeline for future full-time employees. NCET is one of the institutes which never leave any stone unturned and try their best efforts to increase & motivate the students to take up internships. Along with that a faculty guide is allocated to a student to help and motivate them in their discomfort during the internship. The students and the faculty members are getting the following benefits,

- Provides a clear job/project description for the work experience.
- Orient the student to the organization, its culture and proposed work assignments.
- Real time projects work.
- Faculty members get an opportunity to get exposed to the latest technologies.

Ten students earmarked for one project site and six such sites are selected at time in a year to provide internships to the Civil Engineering students through Nagarjuna Constructions Company. These 10 students will be on internship for one month in a site and then are moved to the next site on rotation basis. Then all the students get exposed to different types of work

- **Placements**

The Placement and Training Department of NCET is focused and has a vision of 100% placement for all the eligible students. The top companies visit the campus for the placement drives.The department has a dedicated team of coordinators who maintain a well-structured database which gets updated from time to time and it is made available to the company as per the company norms. The placement department not only conducts regular in house training but also organizes placement training by the industry experts. The in house training includes Aptitude (Logical, Analytical, Technical and Verbal), Group Discussions, and Mock Interviews to make the students well versed with the placement process.

The placement department identifies and invites the industry experts to conduct workshops and seminars, so the students get to know the latest industry requirements. It not only helps them to keep themselves updated but boosts their confidence.

The Placement wing provides employment opportunities to students through campus recruitment, pooled campus and off campus recruitments. The Placement process is initiated with a clear focus on the students from all academic levels. All levels of the companies are contacted and invited for the campus recruitment drive which matches with different academic levels of students. Branch specific core companies are focused equally to ensure students obtain the right match for their passion and competency. The department is well equipped with excellent infra-structure to support every stage of the placement process. Arrangement for Pre-Placement Talks, interviews, Group Discussions etc. are all handled by the staff at the office.

6. Evidence of Success:

- Improved internships for last few years. All students from civil department are doing their internships at NCC limited. Students are also doing internships through AICTE internship portal.

Year	2020-2021	2019-2020	2018-2019	2017-2018	2016-2017
Number of students undergone	388	244	149	44	36

| internship | | | | | |

- Increased level of student placements through the placement cell. During current academic year about 250 students got placement opportunities in various companies through the placement & training department.

Year	2020-2021	2019-2020	2018-2019	2017-2018	2016-2017
Number of students placed	346	380	368	411	436
Total number of students	631	625	630	610	629
Percentage per year	54.83	60.80	58.41	67.37	69.31

- Institute has been recognized as the Top performer in the usage of Virtual Lab.
- Our Alumni have completed IAS, IES and such other competitive examinations and have secured good positions in GoK and GoI.

- Our students have showcased their projects in state level project exhibitions and received sponsorship from KSCST,VTU and other funding agencies

7. Problems Encountered and Resources Required:

- Teachers are to be trained in conducting experiments using virtual lab facilities.
- Identifying experts to train the teachers according to the advanced curriculum is a challenge.
- Laboratory set up and software requirement is also a challenge.

File Description	Document
Best practices in the Institutional web site	View Document
Any other relevant information	View Document

7.3 Institutional Distinctiveness

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

Response:

The vision of the institute is to be an institution of Leadership and Excellence in Education and NCET has embarked towards this goal by ensuring to train its faculty and students as per the industry demands and fulfill the stakeholder needs. The institution provides opportunities for the students to develop their leadership and team building qualities through various clubs such as photography club, cultural club, coding club, robotics club, dance club, music club, etc. Especially the girl students are encouraged to participate in self defense training programmes such as martial arts through experienced trainers.

The distinctive feature of NCET is the establishment of the I4 and Alumni Relation Cell (Industry Institute Interaction and Innovation Cell) which is a unique practice. The purpose of I4 is to create industry ready youth through a multi-pronged approach. The different initiatives run by this cell shall ensure that the students graduate as an employable resource. This cell also ensures to promote Innovation and Entrepreneurship and support the national initiative of Atmanirbhar Bharat.

In accordance with the new National Education Policy, focus is expected from academia towards Research and Development. The I4 cell works closely with the R&D team to create a culture of experimentation, incubation and innovation, amongst the faculty members and the students.

With technology changing at a rapid pace, it is eminent that academia needs to keep up the pace with technological advancements. Hence I4 cell at NCET ensures to effectively and adequately bridge the gap between the Industry and the Academia by working on 4 exclusive I's which are as under:

Industry Engagements & Tie-Ups: The college has collaboration with a number of industries for training the students through industrial visits, internships and projects. The experts from industries are invited to give expert talks on latest technological developments.

Innovation & Entrepreneurship: The students are encouraged to take up mini projects, participate in hackathons, codethons, project exhibitions, etc. thereby get exposed to innovation at a very early age. The college encourages the interested students to take up entrepreneurship.

NCET has been taking steps to build up a culture of Entrepreneurship. Initially the interested students have been guided and hand held to work on their entrepreneurial activities which has resulted in them running their own start-ups. To ensure the culture of Entrepreneurship / Intrapreneurship in the entire ecosystem, NCET has another supporting body, Institution Innovation Council (MoE). NCET has obtained 4 stars in the year 2020-21 for its activities from Ministry of Education, Government of India. To emphasize on entrepreneurial activities, collaborations with various agencies such as District Industries Centre, NASSCOM, etc have been done.

Incubation & Start-Ups: The college encourages and guides the students to start their own ventures and also provides technical advice as well as sources of finance. The institution provides facilities such as office space, power, water, internet, etc for incubating the start-ups.

Internships: To expose the students towards the latest technological developments, internship plays a vital role. Hence, internship is made compulsory as part of the curriculum. Credits are awarded for student internships based on the duration. To support the students in their endeavor to get quality internships and placements the college has associated with a few organizations like E- Box, Biziotic, Course Cube, BGS Infotech, Cranes and Eduskills, to name a few. The continual efforts have seen the college improve upon its placement numbers.

Last few years, the institution has seen some very unique and distinct activities being carried out which are briefly listed below:

1. **Go – Green Initiative** - NCET firmly believes in Go – Green policy in the lush green sprawling campus of nearly 125 acres which is located in one of the least polluted districts of India viz Chickballapura. The college ensures to support the environmental cleanliness through very interesting initiatives such as Electric Vehicles within campus, No petrol/diesel vehicle inside campus policy, Ban on

the use of plastics, Annual tree plantation programme, Roof top solar power plant, Use of LED Bulbs, etc. NCET has signed an exclusive MoU with a company by name Rashi E-Waste solutions wherein all waste from the college will be taken by the said company and recycled.

2. **CSR Exclusivity**– The college management firmly believes in not only delivering quality education but also ensuring support to staff and students in hours of crisis. During the tough pandemic time the college funded the Covid vaccination drive to all its staff & students. Insurance against Covid-19 is provided to all the staff members. All the students of the college were given a fee discount of 25% in their tuition fees during the pandemic period. Apart from this, the institute also gives scholarships and freeships to the deserving students every year to the tune of Rs. 5.00 crores. During the pandemic period, the institution has extended its helping hand to the people residing in the nearby villages by providing free food kits, sanitizers and medical kits.

3. I**ndustry Lab and Centre of Excellence** – The college has signed up several MoU's with midsize and large corporates to ensure that the right blend of technological upgradations is in place for the students to be in sync with the upcoming technological advancements. MoUs with ASSOCHAM, NAASCOM, BCIC, Eduskills, Blueprism, CISCO, AWS, Salesforce, National Instruments, NHAI, NCC, etc are helping the students with internships, projects, skill enhancement trainings and placements.

4. **Higher Education and International Internships**– Nearly 75 students have pursued higher education in reputed organizations/Institutions in different countries in the past 5 years. The college has also supported students to pursue international internships.

5. **Alumni Relations** – NCET understands the importance of Alumni and is organizing a number of impactful activities such as Alumni Talk Series, Alumni meets which are being held periodically. NCET has an active alumni cell and alumni have contributed generously to various student development activities. On different occasions, the alumni have visited the college and trained our students towards achieving better placements. The alumni have also given the lead for placement in their organizations through referrals.

File Description	Document
Any other relevant information	[View Document](#)
Appropriate web in the Institutional website	[View Document](#)

5. CONCLUSION

Additional Information :

The Departments of ECE, ISE, Civil and Mechanical are currently accredited for 4 years with effect from 2018. The institute has certifications from ISO for Quality Management under ISO 9001:2015, ISO 14001:2015 for Environmental Management System and ISO 22001:2018 for Food Safety Management System.

The institution has received awards such as Five Star Place to Work, Perfect Workplace for Women, A3 band in the World Institutional Ranking, and Band-Performer Rank in the ARIIA Ranking.

NCET enjoys a solid reputation among the student community, particularly those with a passion for engineering. The Institution has an active Industry Institute Interaction and Innovation Cell which interacts with number of industries, arranges various events to understand the requirements of the industries, provide skill development trainings and to promote entrepreneurship. The institution inculcates social consciousness among its students through active forums such as NSS, Youth Red Cross unit, Red Ribbon Club and departmental forums. Regular interactive workshops, seminars and competitions are held by the institution which provide immense opportunity for the students to practice the principles on real time application problems. The cultural festival IKYA hosts over 50 colleges from the state to compete, display and prove their excellence in extracurricular activities.

Our students visit foreign universities to upgrade their skills by doing summer internships & research projects, which will enhance their career prospects & opportunities for higher studies. Internship is mandatory for all students to understand the working culture in the industries and organizations. Online classes are conducted during the pandemic period using various ICT facilities such as Google classroom, Google meet, WebEx, Microsoft teams, smart boards and Leaning management system using Moodle.

During the pandemic period, food kits were distributed to the nearby villagers. Fee concession of 25% is provided to all the students. Vaccination drives were arranged in the college for students, staff and nearby villagers. Covid-19 test drives were also organized in the campus. Alumni have occupied good positions in various strata of the society. Pool campus placement drives exclusively for civil engineering students were organized in association with NCC Limited wherein students from 50 colleges in and around Bengaluru participated.

Concluding Remarks :

The institute aimed at creating physically fit, mentally robust and professionally competent individuals, who are capable of assuming their rightful place as leaders in the industry. Ample importance is given to the curriculum aspects, in addition to various co-curricular activities. The institute has a mechanism in place to cater to the needs of the students across the country. Due importance is given to design, revision and effective delivery of curriculum in most efficient manner. Evaluation system is flawlessly designed to evaluate student performance at each stage of the program. Institute has a research and development cell with transparent policies to promote research and consultancy. Seven research centres are working in the institution where faculty members are encouraged to involve in sponsored research projects from government or other funding agencies.

Infrastructure wise institute has all required facilities for teaching learning like, library, computer lab, internet

facility etc. and also supports sports and other physical activities as is evident from the sport infrastructure of the institute. To promote professional technical and management education to various strata's of the society, the institute offers scholarship and runs various capability enhancement and development schemes which reflects in excellent placements, students taking up higher studies at national and international level and students opting for entrepreneurship. The able leadership of the institute is well in tune with the vision and mission of the institute and work in perfect harmony with transparency. The strategic plans are responsibly made keeping the benefit of stakeholders interest at the centre and outcomes are achieved in time bound manner as per the value system of the institute with the help of various dedicated committees.

The institution's societal commitment provides opportunity for the faculty members and students alike to render services to the society. The institution today has succeeded in organizing various activities with regard to the social responsibility. The institution promises to do every possible thing to quench its thirst to provide academic excellence and is preparing for implementing NEP 2020. The institute has all processes in place and required infrastructure to excel and achieve its mission.