



SELF STUDY REPORT

FOR

2nd CYCLE OF ACCREDITATION

NETAJI SUBHASH ENGINEERING COLLEGE

**NETAJI SUBHASH ENGINEERING COLLEGE, TECHNOCITY, PANCHPOTA,
GARIA, KOLKATA-700152, WEST BENGAL, INDIA.**

700152

www.nsec.ac.in

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

Netaji Subhash Engineering College (NSEC), situated in the southern fringes of Kolkata metropolis, has earned reputation of being one of the premier self-financed engineering and management institute in West Bengal. Established in 1998 by the Institute of Computer Engineers (India), the college is dedicated to the memory of Netaji Subhas Chandra Bose, and adhere the inspiring ideas of Swami Vivekananda in promoting “education is the manifestation of perfection already in man”.

Relentless in its pursuit for attainment of academic excellence, college has been awarded with achievements that speak high of academic and holistic gains in teaching-learning process. The college is the recipient of the prestigious World Bank TEQIP-I Grant in 2007 for Quality Improvement in its academic and administrative endeavours. Likewise, different programmes have been accredited multiple times by NBA since 2005, institution is accredited by NAAC in 2019, TCS, Wipro, Capgemini, ranked by NIRF 2020 (Band: 251-300) and ARIIA 2021 (Band B: 26-50).

College follows an admission policy governed by state government. The Institute is dedicated to quality education for students belonging to all strata of the society and strives to improve the socio-economic status of the economically weaker section by providing opportunities of education. Executing Social Responsibility forms an integral part of the college programme.

Excellent infrastructure and allied facilities foster teaching-learning, research, innovation, product development and industrial collaboration. Faculty members possess necessary domain knowledge blended with adequate experience for grooming students into industry ready engineers or graduates aspiring for higher studies.

The institute aims to accomplish and maintain international eminence and become a model institution for higher technical learning through a holistic development of minds, advancement of knowledge and professional application of skills to meet the global demands. Institute promotes the culture of maintaining environmental and professional ethics. Furthermore, the college strives to ensure a smoking-free, gender equity and a zero-tolerant ragging-free zone. The Institute has fair and expeditious grievance redressal and anti-sexual harassment mechanisms.

The institute is committed to provide value based technical education by continually improving the services to produce qualified and competent technologists and to transform into a Centre of Global Excellence.

Vision

To strive continuously in pursuit of excellence in Education, Research and Entrepreneurship eventually to become a Global Hub, and offer scientific and technological services to the society.

Mission

- **To impart quality education to develop innovative, entrepreneurial and ethical future**

professionals fit for globally competitive environment.

- **To share with stake holders institutional experience in education and knowledge for mutual enrichment in the field of technical education.**
- **To create an ambiance in which new ideas, research and scholarship flourish and from which leaders, innovators and entrepreneurs of tomorrow emerge.**
- **To contribute to the sociology-economic development of the society through scientific and technological services.**

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

- The institute has experienced and qualified faculty members and technical staff with good retention, who are remembered with gratitude by the past students for their contribution towards academic and personal development.
- Innovative teaching learning and Outcome Based Education practices are followed.
- A vibrant student community keenly interested in academic pursuit, apparent from the university results which are consistently good for all the disciplines, as well as active in extra and co-curricular activities earning many laurels for the institute.
- Majority of the programmes are NBA accredited since 2005.
- The institute has well equipped infrastructure facilities like State-of-the-art laboratories, classrooms, extremely well equipped library with a large number of books, journals and e-journals.
- Organizing and conduction of Value added training programmes on regular basis.
- The institute conducts entrepreneurship development activities for encouraging development of entrepreneurial skills in the students.
- Institute promotes co-curricular and extra-curricular activities.
- A generously supportive college management motivating staff members to acquire higher qualifications (Ph. D) and self development.
- Students' placement record is excellent.
- A satisfactory system of collection of students' feedback
- A good network of successful alumni.
- Institution's Innovation Council (IIC) and Entrepreneurship Development Cell (EDC) for innovation eco-system, start-up initiative and enterprises.

Institutional Weakness

- Sponsored Research Project and consultancy activities, product development need to be enhanced.
- Intellectual Property Right (copy right and patents) activities are to be strengthened
- Industry sponsored laboratories need to be established.
- The institute needs to strengthen the Alumni Association.
- Limited scope for introducing courses of choice in the University curriculum.
- Structured collaboration with advanced academic and research institutes as well as industry need to be augmented.
- Organization of conference activities is to be augmented.
- An effective appraisal system for the employees needs to be developed.

Institutional Opportunity

- Advantage of a good number of qualified faculty members may be effectively utilized towards development of Centres of Excellence in cutting edge technologies, in all branches of engineering for carrying out higher level of research.
- The institute should strive for autonomous status to enrich its academic programmes and academic activities
- Collaboration with more industries/ research organizations and setting up of industry sponsored laboratories to facilitate research, among the students and the teachers, owing to the presence of successful alumni globally in large industrial organizations/research institutes.
- Strengthening of entrepreneurship activities and appropriation of incubation centre is to be pursued for the benefits of teachers and students.
- In view of present accreditation status vigorous attempts are to be made to receive more research funding from the industries - Non-Government and Government organizations
- Advantage of multi disciplinary programmes under the same roof should be made use of to strengthen interdisciplinary research activities.
- In house research guidance is to be strengthened providing incentives to the faculty as the number of academically qualified faculty has increased substantially.

Institutional Challenge

- Space shortage for establishment and of new laboratories and augmentation and development class rooms and other infrastructural facilities.
- Evolution of the means for focused and quality Industrial training for faculty and students
- Conduction of more pre-placement trainings for placements in core industrial organization need to be organized.
- Encouragement for students towards higher studies.
- Enhancement of students' skill in the areas of latest technologies, soft skills and communication abilities through additional measures as per the continuous changes in requirements of the industry.
- Admission of more number of academically good students.
- Enhanced incentives for more retention of the qualified and experienced faculty members and technical staff.

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

Netaji Subhash Engineering College, affiliated to Maulana Abul Kalam Azad University of Technology (Formerly known as West Bengal University of Technology), is a self-financing institution and follows the curriculum provided by the University. The primary objective of the curriculum is that it has to be outcome based education (OBE) compatible with programme outcomes (POs) defined at the national level.

Faculty actively participates in the curriculum design workshops organized by the university Board of Studies (BOS) along with faculty from various engineering institutes to discuss and share their ideas. Continuous feedback is provided to the BOS for up-gradation.

Identification of the curriculum gaps in the entire sequel because of technological updating to satisfy OBE, POs and employability. To fill up this gap extramural topics are included in the syllabus. All the programmes introduce one or two beyond the curriculum laboratory experiment for each laboratory course. Similarly in all the theory courses, extramural topics are included wherever necessary. A well designed curriculum delivery and implementation of academic activities are ensured through “Ready Reckoner” a description of activities, target date, performers and reviewing/supervising/monitoring authority. Students’ performance are evaluated and improved through internal continuous assessments.

Social awareness and community service is inculcated in the students through various NSS and Rotaract-NSEC activities and **induction programme**. Academic flexibility and bridging the gap between curriculum and industry is achieved conducting certificate courses, seminars and tie-ups with leading industries. Innovation ecosystem is initiated by Institution’s Innovation Council (IIC). Self-employability is encouraged by conducting Entrepreneurship Development Programmes and well-designed curriculum of value added training programme cater students’ and industry’s needs. Well-structured feedback system from all stake holders is maintained to identify these values added training programmes. Graduate attributes like ethics, team spirit and leadership are inculcated through curriculum delivery and value added programmes.

Teaching-learning and Evaluation

The institute upholds a transparent, well-established, and meticulously managed admission process, adhering to all statutory norms set by relevant regulatory and governing bodies, including AICTE and affiliated University guidelines. Admissions are conducted through JEE MAIN and WBJEE, strictly based on merit, without any bias towards gender, caste, or community.

One of the key strengths of the institution is its team of dedicated, experienced, and highly qualified teachers, who are well-versed in outcome-based education. The institute has developed a structured format called ‘Academic Activities: A Ready Reckoner.’ This includes an academic plan supported by detailed course and lesson plans prepared by the faculty. Student-centric methods such as experiential learning, participative management, and problem-solving techniques are implemented at the program, course, and lesson levels.

The institution encourages teachers to employ innovative teaching methods and use of ICT is mandatory. Both students and teachers regularly utilize NPTEL and other e-resources. Teachers employ various modern tools and software for teaching, communication, and evaluation. Google Classroom is used as the Learning Management System (LMS), and topics are visualized using PPT.

The teaching-learning process is continuously monitored through the attainment levels of Course Outcomes (COs), Program Outcomes (POs), and Program Specific Outcomes (PSOs) to meet the criteria of Outcome-Based Education (OBE). CO-based question papers for internal tests and assignments, along with well-structured student feedback mechanism, are used to improve the teaching-learning process and enhance student satisfaction. The institute, being accredited by NBA and NAAC, undergoes external evaluation to ensure the high standards of OBE are maintained.

Course evaluation comprises both internal and external assessments. The internal assessment follows University guidelines and mandates a transparency policy, including the display of internal marks, student access to evaluated answer scripts, and rubric-based evaluation in laboratories. Evaluated copies of internal exams are also uploaded to the university portal for monitoring. Examination-related grievances are addressed promptly, and records are maintained. Students have the opportunity for re-evaluation or review of external

examinations if they are dissatisfied with their scores. The Officer-in-Charge monitors these processes, liaises with students and the university, and addresses concerns within a stipulated timeframe.

Research, Innovations and Extension

Netaji Subhash Engineering College (NSEC) fosters a dynamic innovation ecosystem and enhances cognitive abilities among technology students. The institute's Entrepreneurship Development Cell (EDC) and Institution's Innovation Council (IIC) promote entrepreneurship, transforming job-seekers into job-generators through mentorship, workshops, and industry collaborations. The collaboration with the Wadhvani Foundation and Confederation of Indian Industries (CII), the NSEC-EDC incubation center provides mentorship and support to students developing prototypes and participating in innovation challenges. The initiatives include hackathons, intellectual property rights (IPR) sessions, and prototype development support.

The institution has a progressive policy to build a strong research base. Constant encouragement to participate in workshops, conferences, and continuing education with leave and/or financial support, research assistance, and incentives are given. A faculty-led advisory body under Internal Quality Assurance Cell (IQAC) and guidance from Institution's Innovation Council (IIC), share intellectual ideas for collaborative research with institutions and industries from India and abroad. In the last five years, NSEC has secured grants from different agencies for research projects and endowments. Faculties have published several research papers in journals, conferences/book-chapters, reflecting a strong research culture. NSEC has also received numerous awards and recognitions for extension activities from government bodies. Over hundred workshops, seminars, and conferences have been organized on Research Methodology, IPR, Entrepreneurship and IEEE student branch chapter activities. Additionally, the college has established significant functional MoUs with various institutions and industries, promoting extensive collaborative activities.

Community engagement is prioritized, with activities led by the NSS Unit, Rotaract Club, and IEEE Student Branch, addressing societal issues and promoting holistic student development. NSEC's participation in programs like Smart India Hackathon and NPTEL-Swayam has earned accolades, enhancing academic standards and societal contributions. Recognitions from AICTE, MSME, and CII highlight the college's commitment to innovation, entrepreneurship, and community service.

Outcome:

- 22 PhD degrees while in service
- 7 joint PhD guidance
- 8 patents
- 2 Post-Doctoral degree
- 1 International Conference
- 1 International Professional Exchange Programs

Infrastructure and Learning Resources

Physical facilities:

Located on a 3 acres (approx.) land in a rural back drop hardly 2 km away from the busy metropolitan city thoroughfare of Kolkata and rapid public transportation system, it houses 65 classrooms, 16 tutorial rooms, 9

seminar rooms, 2 meeting rooms, and 79 well equipped laboratories. In addition 3 conference rooms, 2 language laboratories, 2 graphics halls, 2 workshops, 1 media centre and 1 Environmental Research laboratory need special mention. Each department maintains a project laboratory and one research laboratory with research level equipment / instrument. Majority of the classrooms are furnished with multi-media facilities and 5 seminar halls are equipped with smart board. An ED Cell with incubation facilities for training in Technical (R & D works) and Social Entrepreneurship have been created.

There are 2 student hostels, 1 football ground, 1 Medical Centre, 1 ambulance, 2 student common rooms one each for boys and girls.

Library:

Although each department houses a library for its students and faculty, the Central Library of the Institute has a rich collection of 103042 books, 13337 e-books (Knimbus), 7 print journals, 1000 IEEE/e books / e journals (accessible off campus), 1076 CD / DVDs, lecture videos from NPTEL, all managed using ILMS. The reading room has a seating capacity of 100 and 25 computers with internet facility on the desk.

IT infrastructure:

The college has more than thousand computers with internet connection of 1 Gbps/LAN and Wi-Fi facility. Computer laboratories have adequate number of computers and licensed software connected with Wi-Fi technology for the open access of internet.

Maintenance:

Different models for maintenance of infrastructure are: For building (class rooms, laboratories, etc.) and allied services it has its own Group D staff or people hired from agencies, Computers by technical staff of Computer Maintenance Cell, Utility Services by designated cells. Similarly general purpose laboratory equipment are maintained by the departmental staff. Special and expensive equipment or instruments, air conditioners, water purifiers, etc are put on AMC or maintained by empanelled service providers.

Student Support and Progression

Netaji Subhash Engineering College focuses on three core student-centric activities: (1) Career Development, (2) Guidance and Support, and (3) Alumni Affairs.

Career Development aims to achieve internationally recognized Graduate Attributes that align with program outcomes, encompassing academic, professional, and socio-environmental growth. It addresses academic gaps through supplemental courses and experiments. The curriculum includes bridge and value-added courses to further enhance learning. For professional advancement, the program features industrial visits, interactions with professionals, and courses focused on soft skills, communication, innovation, entrepreneurship, teamwork, and leadership skills.

The induction program and various value-added training programs aim to integrate students into society. These focus on domain knowledge, social services, and raising awareness about issues such as Gender Equality, Anti-Ragging, and Pollution Control. Participating in sports clubs, technical clubs like Phoenix and IEEE student branches, Google developer students club, and numerous other clubs helps students develop leadership and

management skills.

Guidance and Support provide continuous, embedded services within the curriculum, including mentorship, counselling, grievance redressal, and tailored career guidance for advanced studies and competitive exams.

Alumni play a crucial role in program design and implementation. They engage with current students in interactive sessions through back-to-class initiatives. In these sessions, they provide industry insights and feedback, which helps the current students maintain connections with the professional world. This holistic approach ensures students are well-prepared to integrate into both the professional and social spheres.

Governance, Leadership and Management

Established by “The Institute of Computer Engineers (India)”, a conglomerate of academicians and visionaries, the institution has a strong governing body at the apex of its management. The Board of Governors (BOG) holds supreme authority over academic, administrative, and financial matters within the institution's purview. All the stakeholders are involved in evolution of institutional vision, mission and goals. Participatory management adherence to vision and mission of the Institute, transparency, and guidance for continuous growth, development and excellence are the characteristic features of the management.

The institute functions with decentralized administration through an organizational structure. Different committees are formed with members from different sections to run the administrative and academic activities of the institute with focus on the most important stakeholder i.e. students. Anti-Ragging Committee, Internal Complaint Committee (ICC), Grievance and Redressal Committee, Academic Committee, Research and Development (R&D) Committee, Library Committee, Institution Innovation Council (IIC), Entrepreneurship Development Cell (EDC), Student Welfare Committee, Training and Placement Committee, to name a few important committees that function for betterment of the Institute.

To assure the overall quality, institute has instituted Internal Quality Assurance Cell (IQAC) in 2013. It reviews entire teaching-learning process, structures and methodologies of operation and learning outcomes of the programmes, and administrative reforms at periodic intervals. The relevant committees independently deploy their plans and report to the IQAC with regard to Quality Assurance. The IQAC submits the Strategic Perspective Plan and various proposals for academics, administration, and policy formulations. Suggestions of IQAC are incorporated while defining strategy of the institute.

Programmes for professional, academic and pedagogical development of faculty are planned regularly. Up-gradation of staff members (through CAS) and Performance appraisal system are in place. The Institute ensures transparency in budget and expenditure, and finalization of external audited balance sheet. Resource mobilization and optimal utilization of funds are attempted.

To achieve e-management the planning, development, administration, finance, student support, accounts and finance, student support system, examination system has been digitalized.

Institutional Values and Best Practices

Non sibi meaning *not for self*, is an unwritten motto of Netaji Subhash Engineering College, as reflected in its policy and routine activities. The institution religiously maintains equality among its students and employees in

academic and non-academic areas in terms of their socio-cultural, religious, financial and sexual identities. The College has taken pride in promoting Gender Equity, safety, security and counselling of students and provision for various amenities and facilities. The campus is “Zero Tolerance” ragging and facilitates a Green eco-friendly campus, employs an efficient waste collection system, utilizing coloured bins for segregation of waste materials, disabled friendly walkways, ramps, toilets and signage to help the physically challenged. The institute maintain an eco-friendly green campus, buildings are designed with high natural lighting, ventilation and use of LED lights. Clean and filtered drinking water facility is available in the campus.

The institute exemplifies an inclusive environment that promotes tolerance, harmony and constitutional awareness. Various events and initiatives aim at holistic development of the students towards creation of responsible citizens who mutually respect and celebrate cultural, regional, communal and linguistic diversities. Since its inception, the institute demonstrates a strong commitment and proactive approach towards adapting to the evolving dynamics at local, national, and global levels and continues to evolve new ideas/practices with the intention of imparting quality education, good governance. Institute adopts several best practices to impart quality education and for significant contributions to the society.

“Pursuit of excellence in Education” has been identified as the first and foremost distinctive feature in the vision of the institute followed by two other associated features, namely, Research and Entrepreneurship. The institution has cut out a niche in the field of engineering education in the state level, substantiated by its demand amongst students, and success of its graduates in higher education and professional world. Utilizing the strength and opportunities towards the endeavour of establishing a quality research culture in the institute is a challenge. But, the institute is optimistic about its success in producing entrepreneurs and achievement of excellence in holistic quality education at the global level.

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the College	
Name	NETAJI SUBHASH ENGINEERING COLLEGE
Address	Netaji Subhash Engineering College, Technocity, Panchpota, Garia, Kolkata-700152, West Bengal, India.
City	Kolkata
State	West Bengal
Pin	700152
Website	www.nsec.ac.in

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Principal	Amal K Ghosh	033-24364929	9830422806	033-24361286	naac.nsec@gmail.com
Professor	Sukumar Roy	033-24361285	9433408287	033-24361286	sroybme@gmail.com

Status of the Institution	
Institution Status	Private and Self Financing

Type of Institution	
By Gender	Co-education
By Shift	Regular

Recognized Minority institution	
If it is a recognized minority institution	No

Establishment Details	

State	University name	Document
West Bengal	Maulana Abul Kalam Azad University of Technology	View Document

Details of UGC recognition		
Under Section	Date	View Document
2f of UGC	29-01-2020	View Document
12B of UGC		

Details of recognition/approval by stationary/regulatory bodies like AICTE,NCTE,MCI,DCI,PCI,RCI etc(other than UGC)				
Statutory Regulatory Authority	Recognition/Approval details Institution/Department programme	Day,Month and year(dd-mm-yyyy)	Validity in months	Remarks
AICTE	View Document	07-06-2023	12	
AICTE	View Document	07-06-2023	12	
AICTE	View Document	07-06-2023	12	
AICTE	View Document	07-06-2023	12	
AICTE	View Document	07-06-2023	12	
AICTE	View Document	07-06-2023	12	
AICTE	View Document	07-06-2023	12	
AICTE	View Document	07-06-2023	12	

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	Netaji Subhash Engineering College, Technocity, Panchpota, Garia, Kolkata-700152, West Bengal, India.	Semi-urban	3	14521.75

2.2 ACADEMIC INFORMATION

Details of Programmes Offered by the College (Give Data for Current Academic year)						
Programme Level	Name of Programme/Co course	Duration in Months	Entry Qualification	Medium of Instruction	Sanctioned Strength	No.of Students Admitted
UG	BTech,Applied Electronics And Instrumentation Engineering,Applied Electronics and Instrumentation Engineering	48	XII Standard in Science or WBJEE or JEE Main or JELET Score	English	60	9
UG	BTech,Biomedical Engineering,Biomedical Engineering	48	XII Standard in Science or WBJEE or JEE Main or JELET Score	English	60	30
UG	BTech,Civil Engineering,Civil Engineering	48	XII Standard in Science or WBJEE or JEE Main or JELET Score	English	30	0
UG	BTech,Electronics And Communication Engineering, Electronics and Commun	48	XII Standard in Science or WBJEE or JEE Main or JELET Score	English	120	120

	ication Engineering					
UG	BTech,Electrical Engineering,Electrical Engineering	48	XII Standard in Science or WBJEE or JEE Main or JELET Score	English	120	45
UG	BTech,Information Technology,Information Technology	48	XII Standard in Science or WBJEE or JEE Main or JELET Score	English	180	180
UG	BTech,Mechanical Engineering,Mechanical Engineering	48	XII Standard in Science or WBJEE or JEE Main or JELET Score	English	60	11
UG	BTech,Computer Science And Engineering,Computer Science and Engineering	48	XII Standard in Science or WBJEE or JEE Main or JELET Score	English	180	180
UG	BTech,Computer Science And Business System,Computer Science and Business System	48	XII Standard in Science or WBJEE or JEE Main or JELET Score	English	60	57
UG	BTech,Artificial Intelligence And Machine Learning,Artificial Intelligence and Machine Learning	48	XII Standard in Science or WBJEE or JEE Main or JELET Score	English	60	60
PG	Mtech,Electronics And Co	24	Engineering Graduate or	English	9	2

	mmunication Engineering, Electronics and Communication Engineering		GATE or PGET Score			
PG	Mtech,Electrical Engineering,Control and Instrumentation	24	Engineering Graduate or GATE or PGET Score	English	9	0
PG	Mtech,Electrical Engineering,Power Systems	24	Engineering Graduate or GATE or PGET Score	English	18	1
PG	MBA,Management Studies,Master of Business Administration	24	Graduate or CAT or MAT Score	English	60	16
PG	Mtech,Computer Science And Engineering,Computer Science and Engineering	24	Engineering Graduate or GATE or PGET Score	English	18	6

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	15				15				170			
Recruited	8	1	0	9	8	4	0	12	95	60	0	155
Yet to Recruit	6				3				15			

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						70
Recruited	50		17		0	67
Yet to Recruit						3

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				102
Recruited	67	25	0	92
Yet to Recruit				10

Qualification Details of the Teaching Staff

Permanent Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt/LLD/DM/MCH	0	0	0	0	0	0	0	0	0	0
Ph.D.	6	1	0	8	4	0	19	11	0	49
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	56	41	0	97
UG	0	0	0	0	0	0	0	0	0	0

Temporary Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt/LLD/DM/MCH	0	0	0	0	0	0	0	0	0	0
Ph.D.	1	0	0	0	0	0	5	1	0	7
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	1	0	0	0	0	0	15	7	0	23
UG	0	0	0	0	0	0	0	0	0	0

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

Details of Visting/Guest Faculties					
Number of Visiting/Guest Faculty engaged with the college?	Male		Female	Others	Total
		2	3	0	

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

Programme		From the State Where College is Located	From Other States of India	NRI Students	Foreign Students	Total
UG	Male	455	180	0	0	635
	Female	134	26	0	0	160
	Others	0	0	0	0	0
PG	Male	16	0	0	0	16
	Female	9	0	0	0	9
	Others	0	0	0	0	0
Diploma	Male	16	0	0	0	16
	Female	1	0	0	0	1
	Others	0	0	0	0	0

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

Category		Year 1	Year 2	Year 3	Year 4
SC	Male	43	45	49	36
	Female	15	15	19	8
	Others	0	0	0	0
ST	Male	5	2	2	5
	Female	0	1	0	0
	Others	0	0	0	0
OBC	Male	84	127	73	86
	Female	18	18	25	10
	Others	0	0	0	0
General	Male	492	424	398	413
	Female	121	149	127	113
	Others	0	0	0	0
Others	Male	0	0	0	0
	Female	0	0	0	0
	Others	0	0	0	0
Total		778	781	693	671

Institutional preparedness for NEP

<p>1. Multidisciplinary/interdisciplinary:</p>	<p>The institute focuses on diversity, equal access, holistic development, and assessment reforms based on the key principles of the NEP 2020 to equip students with the necessary skills and competencies to become good human beings and responsible global citizens. We are affiliated with the Maulana Abul Kalam Azad University of Technology (MAKAUT), and our students get access to the latest technology and courses. Innovative thinking has always been promoted at the institute, and it keeps up with developments in engineering and technological education both in the country and globally. Students are encouraged to seek out-of-the-box solutions for difficult engineering problems. Apart from the</p>
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regular curriculum, Phoenix, the institute's official tech club, brings students from various departments together to engage in a variety of learning activities. Thus, in writing computer programming code, a student of Civil Engineering or Electrical Engineering join hands with students from Electronics and Communication Engineering. In this manner, the seeds of multidisciplinary education are sown. Emerging multidisciplinary courses viz. Biomedical Engineering, Computer Science & Business Systems and Artificial Intelligence & Machine Learning have been introduced following the technological developments and changing global market scenario. In language laboratories, assignments are primarily in diverse fields. Students are free to choose or assign project work in interdisciplinary domains. The Institution Innovation Council (IIC) and Entrepreneurship Development Cell (EDC) organized technical competitions in multidisciplinary areas, cutting-edge technologies and prototyping. Several MOUs have been signed with industries and institutes of other disciplines to facilitate multidisciplinary or interdisciplinary study, research and internships. The institute's NSS and CSR clubs organize and carry out various community engagement and environmental protection projects.

2. Academic bank of credits (ABC):

The institute agrees in principle with the Academic Bank of Credits (ABC) to ensure transparency and digital access to student credentials. The institute is affiliated to the MAKAUT and is bound by the rules of the University. The institute has been waiting for the university's implementation of ABC. However, MAKAUT has introduced a digital repository for Continuous assessments (CAs), Mandatory Additional Requirement (MAR) points (extracurricular activity points) for degree certificates and credits for B.Tech Honours Degree. An additional 20 credits are required to earn from the Massive Open Online Courses (MOOCs) platform for a hounours degree. The distributed credits earned over four years are accumulated and stored digitally. Faculty members authenticate certificates and upload credits against students' enrolment numbers through the university portal.

3. Skill development:

The institute takes special care in developing technical skills and soft skills among the students so that they can make a niche for themselves in this

	<p>competitive world. Various training programs such as need-based Value-Added Training (technical and non-technical), Industry Readiness Programs, hands-on training, seminars, and webinars are planned according to the needs of the students on a regular basis in each semester. The competitive coding, aptitude and soft skill classes are incorporated into the class routine. As a part of experiential and skill-based learning, the college has several collaborations for industry-academia programs viz. NASSCOM - IT-ITES Sector Skill Council Collaboration (Future Skill Prime platform), NIELIT-Blockchain Certification Courses, Accenture-International Language Program, Wadhvani-Start-up collaboration, Google-Asia Specific program, Global Talent Track (GTT)-Soft Skill and Aptitude, etc.</p>
<p>4. Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course):</p>	<p>The college is named after the iconic patriot Netaji Subhas Chandra Bose, whose relentless determination and dedication are the source of our vision in the pursuit of academic excellence. The curriculum is taught in English, but teachers are equipped to deliver it in vernaculars such as Hindi and Bengali if necessary. The institute regularly organizes workshops and interactive sessions on the Art of Living, Yoga, and Meditation for the lifestyle management of the students. The institute takes special initiative in observing important dates of Indian history and culture- Independence Day, Republic Day, Gandhi Jayanti, Rabindra-Nazrul Jayanti, Youth Day, World Yoga Day, Teacher's Day, Indian Constitution Day, Bhasha Divas, etc. to make the students aware and be a part of India's rich culture, language and heritage.</p>
<p>5. Focus on Outcome based education (OBE):</p>	<p>The institute extensively practiced Outcome Based Education (OBE), a student-centric learning methodology. All programs and courses designed and offered by MAKAUT follow the latest AICTE guidelines. The Internal Quality Assurance Cell (IQAC) aligned with Program Assessment Committee (PAC) focuses on quality initiatives, quality sustenance, and quality enhancement in teaching-learning processes imparting knowledge, skills, and behavioural improvement. The Vision and Mission of the Institute and Departments are framed from stakeholders' feedback and disseminated appropriately. PEOs and POs are clearly defined in all programs based on the guidelines set by Apex</p>

	<p>bodies. The course outcomes (COs) are clearly defined, mapped using Bloom's Taxonomy, and evaluated using rubrics. In all programs, course outcomes are set and attainment is measured through assessment processes and tools. The attainment of program outcomes is compared with targets. In accordance with the benchmarks for course outcomes and program outcomes, appropriate action plans have been developed.</p>
6. Distance education/online education:	<p>The institute is affiliated with Maulana Abul Kalam Azad University of Technology (MAKAUT) and does not offer distance or online learning courses. All approved programs are taught using ICT in traditional classroom settings. However, technology-enabled online platforms and e-resources are integrated to support learning at the best path and pace. Lecture materials, assignments, videos, etc., are provided using Google Classroom. Some laboratory experiments were conducted using virtual lab facilities, simulation software and live demonstrations. Several quizzes, assignments, and MCQs are conducted online. The institute has adequate digital infrastructure required for Distance / Online Education. This includes a 1Gbps internet lease line with Wi-Fi connectivity, digital and smart online conferencing setup, digital smart boards, etc.</p>

Institutional Initiatives for Electoral Literacy

1. Whether Electoral Literacy Club (ELC) has been set up in the College?	<p>Electoral Literacy Club (ELC) has been set up in the College and is functioning along with NSS-NSEC and CSR-NSEC clubs. The Dean-Academic Affairs is the Chairperson of the ELC along with the functioning body Officer as the faculty coordinator. Two students have been appointed as Student Coordinators and fifteen other students are the club members. The primary objective of the club is sensitizing the student community about democratic rights which includes casting votes in elections.</p>
2. Whether students' co-ordinator and co-ordinating faculty members are appointed by the College and whether the ELCs are functional? Whether the ELCs are representative in character?	<p>Yes, the students' coordinators and faculty coordinator have been appointed by the College and their names are as follows: Members of the Electoral Literacy Club (ELC) Prof. Sukumar Roy - Chairperson, Prof. Indranil Ghosh - Coordinator,</p>

	<p>Prof. Narayan Chandra Biswas - Member, Prof. Ajanta Kundu - Member, Prof. Subrata Dutta - Member, Prof. Anshuman Sahoo - Member, Ms. Sumita Saha - Member, Aditya Singh -NSS Coordinator, Amelia Daspodder - CSR. Coordinator, Sampurna Mukherjee - Member, Disha Das - Member, Priyanshu Singh - Member, Ayush - Member, Golam Ali Hassan Saidagar - Member, Ekta Singh - Member, Vidyasagar Sharma - Member, Jeet Kumar Pramanik - Member, Debdut Roy - Member, Souvik Dey - Member, Adnan Hossain - Member, Kausiki Talukdar - Member, Deyasini Goswami - Member, The ELC is functioning with the following objectives: 1. To create awareness and interest among faculties and students through awareness activities and camps. 2. To educate the targeted populations about voter registration, electoral process and related matters. 3. To familiarize the targeted populations with EVM and educate them about the robustness and integrity of the electoral process using EVMs. 4. To help the targeted unaware people understand the value of their vote to ensure that they exercise their suffrage right confidently, comfortably and ethically. 5. To facilitate voter registration for its eligible members who are not yet registered. 6. To develop a culture of electoral participation and maximize informed and ethical voting following the principle of 'Every Vote Counts' and 'No Voter to be Left Behind'. 7. To motivate the students to participate in the ELC activities.</p>
<p>3. What innovative programmes and initiatives undertaken by the ELCs? These may include voluntary contribution by the students in electoral processes-participation in voter registration of students and communities where they come from, assisting district election administration in conduct of poll, voter awareness campaigns, promotion of ethical voting, enhancing participation of the under privileged sections of society especially transgender, commercial sex workers, disabled persons, senior citizens, etc.</p>	<p>The following are the Initiatives undertaken by the ELC of the NSEC: 1. Right to Vote -- Pledge 2. Right to Vote -- Awareness in the Institution and nearby villages 3. Right to Vote -- Poster Competition for College Students 4. Right to Vote -- Participation in Election duty 5. Right to Vote -- Promotion on ethical voting 6. Right to Vote -- Promotion of voting among senior citizens 7. Right to Vote -- Special camp for Training and integrity of the Electoral process. 8. Right to Vote -- Educate students about their democratic rights</p>
<p>4. Any socially relevant projects/initiatives taken by College in electoral related issues especially research projects, surveys, awareness drives, creating content, publications highlighting their contribution to advancing democratic values and participation in electoral processes, etc.</p>	<p>NSEC-ELC arranged the following programs: 1. Faculty members arranged training programs for local school teachers and community members through extension activities. 2. Students at NSEC actively participated in the Govt. programs in the electoral process. 3. Students and faculty members at</p>

	<p>NSEC arranged and participated in the voters' awareness program through in-campus activities and events aiming to inculcate research projects, surveys, awareness drives, creating content and publications.</p>
<p>5. Extent of students above 18 years who are yet to be enrolled as voters in the electoral roll and efforts by ELCs as well as efforts by the College to institutionalize mechanisms to register eligible students as voters.</p>	<p>Students above 18 years are encouraged to register as voters through awareness camps and pledges. The NSEC–ELC conducts year-wise camps.</p>

Extended Profile

1 Students

1.1

Number of students year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
2772	2785	2739	2887	3143

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

2 Teachers

2.1

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

Response: 261

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

2.2

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

2022-23	2021-22	2020-21	2019-20	2018-19
189	175	172	165	194

3 Institution

3.1

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

2022-23	2021-22	2020-21	2019-20	2018-19
1592.74	662.20	669.88	1141.20	1233.53

File Description	Document
Upload Supporting Document	View Document

4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curricular Planning and Implementation

1.1.1

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

Response:

Curriculum planning and delivery is one of the institutional strategic goals to create and maintain an environment for imparting knowledge, skills, concepts, processes, values and attitudes necessary for learners. Conscious and consistent efforts are put in to bring about desirable changes in students learning, abilities and behaviour. The course teachers frequently assess and document learner achievement, modify instruction to improve learner attainment, and participate in revision activities. The academic activities focus on mainly three strategic areas:

- **Instructional Planning:**

The central purpose is to promote student learning and satisfactorily achieve the learning objectives. The plan includes evidence-based teaching practices, assessment and reporting procedures.

- Prepare **Academic Calendar** in line with the affiliated university.
- Formulate the Academic Activities: A Ready Reckoner, a description of activities, target date, performers and reviewing/supervising/monitoring authority.
- Prepare and update lesson plan and course file. It includes the Vision and Mission of the Institute and the Department, PEOs, POs, PSOs, syllabus copy, COs, lesson plan, mapping of COs with POs and PSOs, handout, lecture notes, copies of PPT, question papers, assignments, result analysis and attainment level.
- Prepare course outcome-based question bank and rubrics for evaluation.
- Prepare a schedule for sustainable skill development programs, soft skills, value-added training programs and career development.
- Develop a schedule for the Induction Program and Bridge Courses.
- Strengthen self-learning/learning beyond syllabus: e-books, IEEE online journals, NPTEL (MOOC) courses, IITB Spoken tutorial courses, CDs of video lectures.

- **Execution:**

The students are appropriately exposed to each course over the semester through teaching-learning processes. Teachers communicate the lesson to the students using the designed teaching model/strategies. Classroom management and mentoring get prioritized.

- Familiarize the students with lesson plans, course objectives and outcomes at the onset of each semester.
- Deliver formal classroom lectures followed by presentations with visual aids and teaching

through smart techniques.

- Conduct extensive tutorial activities and laboratory experiments.
- Provide designed-based assignments, project works and seminars.
- Conduct internal tests, quizzes and group discussion.
- Arrange value-added training, industry visits and internships.
- Arrange social service in groups and collaboration.
- Remedial classes for weaker students and special classes for brighter students.
- Arrange invited lectures by academicians and industry persons on the latest technologies.

- **Evaluation:**

Student performance is measured through summative and formative assessments. Summative assessment includes the semester-end university examination and formative assessment includes **four internal continuous assessments** following the university guidelines to monitor the student's progress. The stated objectives are analyzed /ensured by documenting the attainment of COs, POs and PSOs. The teacher does all and ensures that the lesson is effective considering the teaching model used for a particular class.

- Direct Assessment:

1. Assignments / Internal Question Papers / Pre & Post Test Evaluation
2. Result Analysis (Internal & University Examination) and attainment of COs.
3. Project and Seminars

- Indirect Assessment:

1. Feedback (Course outcome survey, students' exit survey, co-curricular & extracurricular activities, placement record, competitive exam record, alumni survey, employers' survey)
2. Feedback from accreditation and professional bodies.

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

1.2 Academic Flexibility

1.2.1

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

Response: 200

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

Other Upload Files

1	View Document
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1.2.2

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

Response: 12.09

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

2022-23	2021-22	2020-21	2019-20	2018-19
201	135	100	420	876

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

1.3 Curriculum Enrichment

1.3.1

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

Response:

The institution addresses various cross-cutting societal issues through its curriculum, various bodies, programs, and policies. The institution has taken great care to introduce a culture of controlled behaviour, discipline, gender sensitization, respect for elders, environmental awareness, moral values, healthy relationships, empathy and sympathy for others.

1. Gender

1. The institution caters to all students (irrespective of gender, cast, creed etc) from a heterogeneous socio-cultural background; introducing the idea of gender sensitization from the very early days through the Orientation and Induction Program.
2. The issues about the relationship between men and women, caste, declining sex ratio, sexual harassment, eve-teasing, racism, sexism, new forums for justices, etc delicately discourse through English (HM-HU201) and Group Discussion (HU781/791) courses. A rigorous session on social concern and group activity of preparing posters on social issues are undertaken in the Language Laboratory (HM-HU291).
3. Awareness programs on strengthening gender equality and women's empowerment, psychometric counseling, and guest lectures with eminent social workers are undertaken through courses on Extracurricular Activities.
4. The institute has an Internal Complaints Committee (ICC) consisting of a Women's grievance cell and an anti-sexual harassment committee to handle the sensitive issues regarding women's rights and security within the campus premises and counselling beyond.
5. Students attend the labs, carry out project works and participate in group discussions batch-wise where mixing of girls and boys students is compulsory.
6. Overall, the institution treats the students exactly alike; and enjoys the same rights, resources, opportunities and protections.

1. Environment and Sustainability

1. Environmental Sciences (MC401) and Biology for Engineering (BS401) courses are compulsory to all branches of engineering in the second year aiming to create awareness and consciousness among the present generation to become environmentally responsible citizens. The course highlights the ecosystem, biodiversity and its conservation, renewable and non-renewable resources, environmental pollution and management, pollution control acts and fieldwork.
1. Assignments on home energy saving, green home projects, home water saving, rainwater harvesting, best use of recycling services, organic waste, composting, toxins/pollution prevention, waste and consumption, and sustainable living are given to students in extracurricular activities courses.
2. NSS unit conducts campus clean and green Abhiyan program under Swachh Bharat, tree plantation, eco-rallies and arranges lectures on environment and climate issues.

1. Human Values & Professional Ethics

1. Course on Values & Ethics in Profession is integrated with all B.Tech programs. This emphasizes Societal Values, Aesthetic Values, Psychological Values, Sustainable Development, Canon of Ethics, etc. It facilitates the development of a holistic perspective among students towards life,

profession and happiness, judges the value crisis in contemporary Indian society, and trains how to live a good professional and personal life.

2. Personality development program beyond curriculum, seminar, workshop and mentoring program arranged to imbibe moral values, principles of personal excellence and care for others.
3. Eco-cultural, NSS and CSR clubs arrange tree plantation, blood donation and health awareness programs, and rural upliftment activities through village adaptation under Unnat Bharat Abhiyan.

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

1.3.2

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

Response: 27.63

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

Response: 766

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

1.4 Feedback System

1.4.1

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

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

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

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1

Enrolment percentage

Response: 65.13

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

2022-23	2021-22	2020-21	2019-20	2018-19
691	642	519	547	655

2.1.1.2 Number of sanctioned seats year wise during last five years

2022-23	2021-22	2020-21	2019-20	2018-19
1053	873	903	930	930

File Description

Document

Institutional data in the prescribed format

[View Document](#)

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

[View Document](#)

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

[View Document](#)

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

[View Document](#)

2.1.2

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

Response: 66.05

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

2022-23	2021-22	2020-21	2019-20	2018-19
32	29	22	28	31

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

2022-23	2021-22	2020-21	2019-20	2018-19
43	43	43	43	43

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

2.2 Student Teacher Ratio

<p>2.2.1</p> <p>Student – Full time Teacher Ratio (Data for the latest completed academic year)</p> <p>Response: 14.67</p>

2.3 Teaching- Learning Process

<p>2.3.1</p> <p>Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences and teachers use ICT- enabled tools including online resources for effective teaching and learning process</p>

Response:

Institute emphasizes student-centric learning and fosters a creative environment where students are encouraged to think independently and engage with teachers and peers. The college has implemented various student-centric methods and activities through clubs and chapters, proving highly effective in enhancing the learning experience. Teachers utilize ICT tools and encourage students to take online courses from reputed MOOCs platforms.

Experiential Learning

Institute fully utilizes the university curriculum's ample opportunities for experiential learning and has developed innovative techniques to enhance this experience:

- **Learning through Observation:** This includes virtual labs, LabVIEW, industrial equipment models and cut sections in labs, industrial results interpretation, and understanding engineering drawings and graphics from models.
- **Value-Added Training Programs:** These programs acquaint students with state-of-the-art technology and the latest industrial practices, also include soft skills training for personality development and skill enhancement, significantly impacting students' final placements.
- **Extramural Laboratory Practices:** Encourages creating laboratory experiments beyond the syllabus, derived from students' project work.
- **Project Work:** Students are assigned projects to validate theoretical concepts, thereby enhancing practical skills and team-based experiences.
- **Industry Visits and Internships:** Provide students with real-world practical knowledge and understanding.

Participative Learning

Participative learning fosters self-learning and enhances students' awareness through various methods:

- **Teaching through Smart Techniques:** Web-based teaching and learning synergies significantly enhance the educational experience.
- **Teach While You Learn:** Involves students volunteering to deliver a topic related to the course. It allows to assess students' expressive abilities, analytical skills, and responsiveness to audience queries.
- **Seminar/PPT Presentations:** Students are inspired to delve beyond facts and explore the depths of the subject matter, developing their reasoning and aptitude skills.
- **Technical Events:** Students are encouraged to explore new ideas and innovative project proposals for various national-level competitions. Active participation in organizing technical seminars, tech fests, and cultural programs aids in developing managerial, leadership, and teamwork capabilities.

Problem-Solving Methodologies

To enhance students' analytical abilities and problem-solving skills, these techniques are employed:

- **Design-Based Assignments and Industry-Related Issues:** These assignments address realistic constraints in the design process and contemporary issues commonly encountered by practicing

engineers.

- **Extensive Tutorial Work/Activities:** Short questionnaires, doubt-clearing sessions, and problem sheets are introduced in an engaging and realistic manner.
- **Group and Collaborative Social Services:** Students are assigned various activities related to society and the environment, fostering a concern for social issues and encouraging the application of engineering knowledge to societal causes.

ICT-Enabled Tools for Effective Teaching-Learning

- **Multimedia Teaching Methods:** Teachers use chalk-and-talk, PPT presentations, animations, and video lectures to visualize concepts.
- **Advanced Classroom Technology:** Classrooms are equipped with LCD projectors, Smart TVs (seminar Hall), and Wi-Fi. The college uses Google Meet Classroom as LMS platforms, enabling teachers to create, share, and upload content and conduct assessments.
- **Online Course Enrolment:** NSEC maintains a SWAYAM-NPTEL local chapter, encouraging students to enrol in NPTEL, Coursera, Udemy, and EdX courses to broaden their knowledge base and earn honours degrees through MOOCs.
- **Library Resources:** Central library has a collection of e-books and e-journals. The college is also a member of KNIMBUS and NDLI providing resources for students and staff.*

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

2.4 Teacher Profile and Quality

2.4.1

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

Response: 88.09

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

2022-23	2021-22	2020-21	2019-20	2018-19
200	177	177	231	231

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

2.4.2

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

Response: 38.1

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

2022-23	2021-22	2020-21	2019-20	2018-19
64	65	69	66	77

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

2.5 Evaluation Process and Reforms

2.5.1

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

Response:

Netaji Subhash Engineering College (NSEC), as an affiliated institute of Moulana Abul Kalam Azad University of Technology (MAKAUT), adheres to the evaluation scheme and process prescribed by the University. The evaluation of students in a course consists of two components as follows:

Internal Assessment

Internal Assessment carries a weightage of 30% and is managed by the individual course faculty. It comprises various elements such as assignments, quizzes, unit tests, online tests, and attendance.

- **Assignments & Quizzes:** Students are required to submit time-bound assignments and quizzes per courses in each semester. These assessments aim to foster applicative learning and submitted physically or uploaded on Google Classroom.
- **Unit Tests:** Each student must participate in two unit tests conducted by the individual subject experts. Unit Test 1 occurs approximately one and a half months after the semester commences, while Unit Test 2 is held two weeks before the semester ends. These tests cover 90% of the course content delivered in classes.
- **Proctored Online Test:** Conducted by the university and monitored by the college, this online test occurs just before the semester examination.

After the completion of each of the four tests, students' evaluated answer scripts and results are shown to them within seven days, and marks and answer scripts are uploaded to the university portal, accessible to both the university and students through their logins. A student must maintain a minimum attendance of 75% in aggregate of all courses taken together in a semester to be eligible to appear for the examinations. Any discrepancies in marks or attendance can be reported to the concerned teacher or authority directly.

External Assessment

The external assessment, regulated by the university and managed by the institute, comprises examination held at the end of the semester, carrying a weightage of 70%. The institute follows the academic calendar, ensuring students appear in all internal tests and end-semester examinations. All examinations, including theory, practical, sessional, project reports, and any other term-end evaluation components, are conducted by the Controller of Examinations.

Grievance Redressal System

The institute provides a time-bound and efficient grievance redressal system. A senior faculty nominated as Officer-in-Charge and authorized by the university oversees examination-related processes such as form filling, examination seat allotment, results, photocopies, and revaluations. If a student is dissatisfied with their marks, they can request a rechecking of papers by submitting a prescribed form to the university after the results are declared. Additionally, students failing in a particular subject can reappear in the examination by submitting a backlog form along with the requisite fee to the university.

Internal Quality Assurance Cell (IQAC)

The Internal Quality Assurance Cell (IQAC) continuously monitors and evaluates the internal mechanism to enhance the teaching-learning process. It ensures quality in all operations of various departments and gathers feedback from students and teachers regarding the evaluation process. The cell also addresses grievances submitted by different stakeholders. The institute strictly follows the

"Academic Activities - A Ready Reckoner" guidelines for scheduled monitoring and reviewing of all academic activities throughout the year.*

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

2.6 Student Performance and Learning Outcomes

2.6.1

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

Response:

The institution has embraced the Outcome-Based Education (OBE) approach, shaping Programme Educational Objectives (PEOs), Programme Outcomes (POs), Programme Specific Outcomes (PSOs), and Course Outcomes (COs) as fundamental components. At the heart of this approach lie the Course Outcomes (COs), which focus on measuring student performance through clearly defined outcomes. These outcomes encapsulate the knowledge, skills, and attitudes students acquire upon completing a course, meticulously defined by course coordinators in consultation with stakeholders. Typically, each course outlines around six COs, crafted with Bloom's Taxonomy of Cognitive Skill in mind to ensure meaningful, observable, and measurable learning objectives.

Additionally, Programme Specific Outcomes (PSOs) delineate explicit graduate attributes tailored to each discipline and level of study. Typically, three PSOs are defined per program, aligning with specific program objectives aimed at highlighting the direct implications of acquired knowledge and techniques on societal betterment and sustainability. The institution places paramount importance on setting clear COs and PSOs for all programs under study, ensuring alignment with overarching Program Outcomes (POs) that students should achieve by the end of their graduation. The institute measures the level of attainment of the program outcomes, program specific outcomes and course outcomes from all stakeholders concerned, with modes of evaluation.

The institute's commitment to OBE is further underscored by continuous accreditation of four programs by the National Board of Accreditation (NBA), affirming meticulous adherence to OBE principles.

To ensure transparent communication and dissemination of these outcomes, the institution employs various channels:

- All POs, PSOs, and COs are prominently featured on the departmental homepage of the institute's website.
- POs and PSOs are visibly displayed in key areas such as the Head of Department's room, faculty rooms, laboratories, and departmental notice boards.

- These outcomes are included in course catalogues, brochures, and news bulletins.
- At the outset of each semester, subject teachers and Heads of Department elucidate the desired course outcomes to students.
- Unit test questions are meticulously crafted to align with course outcomes, with each question addressing a specific CO. Furthermore, all COs for a subject are highlighted at the end of the question paper to aid student recollection.
- Faculty members and staff are kept abreast of all POs, PSOs, and COs through departmental meetings, discussions, and email notifications.
- Course files maintained by subject teachers include lists of all POs, PSOs, and relevant COs necessary for assessing course outcome attainment based on internal and external assessments.
- Lesson plans for each course outline all POs, PSOs, COs, and correlation matrices for CO-PO and CO-PSO alignments, ensuring cohesive integration of learning objectives throughout the curriculum.
- Furthermore, course outcomes are clarified to the students by the course instructor/faculty in the first few classes at the beginning of semester.

This multifaceted approach ensures that all stakeholders, including faculty and students, are well-informed and actively engaged in achieving the institution's educational objectives.*

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

2.6.2

Attainment of POs and COs are evaluated.

Explain with evidence in a maximum of 500 words

Response:

NSEC has a tradition of obtaining accreditation from NBA since 2006 and adheres to the guidelines specified by NBA. Initially, the Course Outcomes (COs) for each course are mapped to the Programme Outcomes (POs) and Programme Specific Outcomes (PSOs) based on their relevance, categorized as low (1), moderate (2), or substantial (3). A correlation matrix is established between the COs and the POs and PSOs.*

Questions and assessments are prepared using the action verbs of revised Bloom's Taxonomy. All question papers, assignments, and quizzes are designed based on COs. The attainment of outcomes is evaluated through 80% direct assessment and 20% indirect assessment, while CO attainment is calculated based solely on direct assessment. The following attainment levels are set in terms of actual percentage of students getting set percentage of marks.

- Attainment Level 1: 60 % of students scoring > set percentage of marks

- Attainment Level 2: 70 % of students scoring > set percentage of marks
- Attainment Level 3: 80 % of students scoring > set percentage of marks

Direct Assessment

- Direct assessment is conducted according to the guidelines prescribed by the affiliating University, MAKAUT.
- It is divided into internal examinations (30 marks) and external examinations (70 marks) for theoretical courses, and continuous evaluation (40 marks) and final examinations (60 marks) for laboratory courses.
- Internal examinations/assessments for theory courses include Mid Semester Exam: 15 Marks, Assignment & Quiz: 10 Marks, and Attendance: 5 Marks, totaling 30 marks. Mid semester exams are conducted twice in a semester.
- Internal examinations/assessments for laboratory courses are conducted twice in a semester, based on day-to-day performance in laboratories, totaling 40 marks.
- External examinations are conducted by the University: 70 marks for all theory courses and 60 marks for all laboratory courses, at the end of the semester.
- Results from internal and external examinations are used to calculate attainment.

The overall course attainment is calculated by combining the CO attainment measured through University examinations with the CO attainment measured through Internal Assessments. The final course attainment is calculated as follows:

- Theory courses: $0.7 * \text{External Assessment} + 0.3 * \text{Internal Assessment}$
- Laboratory courses: $0.6 * \text{Final Assessment} + 0.4 * \text{Continuous Assessment}$

Indirect Assessment

At the end of the program, surveys such as the Graduate Exit Survey, Alumni Survey, and Employer Survey are conducted. The attainment of a survey is calculated as the weighted average of responses using the rubric: Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1). The consolidated indirect component of PO/PSO assessment is the arithmetic average of all survey attainment values.

Attainment of Program Outcomes & Program Specific Outcomes

Both direct assessment (DA) and indirect assessment (IA) tools are used to evaluate the attainment of PO and PSO. The overall attainment is calculated with an 80% weightage to direct assessment and a 20% weightage to indirect assessment. The total attainment for each PO/PSO is calculated using the following formula:

$$\text{Total Attainment (TA)} = 0.8 \times \text{DA} + 0.2 \times \text{IA}$$

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

2.6.3

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

Response: 96.45

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

2022-23	2021-22	2020-21	2019-20	2018-19
610	755	786	851	800

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

2022-23	2021-22	2020-21	2019-20	2018-19
652	757	788	877	868

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

2.7 Student Satisfaction Survey

2.7.1

Online student satisfaction survey regarding teaching learning process

Response:

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

Criterion 3 - Research, Innovations and Extension

3.1 Resource Mobilization for Research

3.1.1

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

Response: 86.19

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

2022-23	2021-22	2020-21	2019-20	2018-19
46.51	0	2.5	3.76	33.42

File Description

Document

Upload supporting document

[View Document](#)

Institutional data in the prescribed format

[View Document](#)

3.2 Innovation Ecosystem

3.2.1

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

Response:

The institute encourages the creative energy of the students to work on new ideas and innovation. The major focuses are to create a vibrant local innovation ecosystem and to develop better cognitive ability for technology students. The institute's **Entrepreneurship Development Cell (EDC)** aims to foster innovation and entrepreneurship among students, encouraging start-up creation through guidance, mentorship, and support. It promotes a culture of entrepreneurship on and beyond the campus, converting some job-seekers into job-generators. The cell focuses on channeling student knowledge and energy towards economic development and innovation-driven enterprises, creating employment opportunities. Through its collaboration with the Wadhvani Foundation and later the Confederation of Indian Industries, the NSEC-EDC incubation center provides mentorship and support to students developing prototypes and participating in innovation challenges, demonstrating its effectiveness.

The **Institution's Innovation Council (IIC)** has been constituted as prescribed by MHRD-IIC to

methodically foster the culture of innovation as a part of the curriculum. The council encourages, inspires and nurtures the talent of young and creative students to work on new ideas leading to establishing an innovative ecosystem on the campus. The young and innovative minds are attracted through expert talk sessions, periodic workshops, seminars, interactions with entrepreneurs, investors, and professionals. Several Hackathons, idea competitions, and mini challenges with the involvement of industries are arranged for active involvement and even encourage the students to participate at national and state levels. Few amongst the “Job-Seekers” would be converted to “Job- Generators” through the entrepreneurial route.

The institute has fostered a robust ecosystem for innovation and knowledge transfer through a range of activities and initiatives through the IIC and EDC. Key initiatives include:

Awareness and Training Programs: Technical sessions on React JS, Git & GitHub, and workshops on entrepreneurship, health, and fitness were organized. Significant emphasis was placed on intellectual property rights (IPR), including a session on World Intellectual Property Day and workshops on IPR.

Innovation and Entrepreneurship Support: The IPR cell and incubation center facilitated various programs such as motivational sessions by successful innovators, a hackathon on Cyber Security, and an exposure visit to pre-incubation units. The EDC hosted workshops on design thinking, business model canvases, and the legal and ethical aspects of startups.

Competitions and Exhibitions: Events like the Cyber D-Day Hackathon, Hult Prize contest, and inter-college innovation competitions provided platforms for students to showcase their ideas and prototypes. Several teams competed for funding and won.

Collaborations and Mentorship: Partnerships with industry veterans and organizations like the Wadhvani and SwitchOn Foundation were instrumental. Mentoring events linked students with experts for guidance on innovation and business strategies.

Celebrations and Special Events: Celebrations of National Youth Day, National Technology Day, and World Environment Day included motivational talks, boot camps, and tree plantation drives, respectively.

Outcomes and Achievements: Notable achievements include winning at the IIT Roorkee hackathon, participating in Toycathon 2021, and conducting a successful multi-disciplinary hackathon “InnovatriX” with significant student involvement. The institution's focus on IPR, coupled with hands-on workshops and expert talks, has enhanced students' understanding and engagement in innovation and entrepreneurship.*

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

3.2.2

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

Response: 121

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

2022-23	2021-22	2020-21	2019-20	2018-19
31	6	14	28	42

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

3.3 Research Publications and Awards

3.3.1

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

Response: 0.42

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

2022-23	2021-22	2020-21	2019-20	2018-19
29	31	13	16	20

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

3.3.2

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

Response: 1.05

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

2022-23	2021-22	2020-21	2019-20	2018-19
55	58	79	55	26

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

3.4 Extension Activities

3.4.1

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

Response:

The institute firmly believes that education is not only confining to classroom activities of students but also sensitizing them to understand the people's life in the society and improve the living of the underprivileged. The objective lies in taking action through community and services in creating head-on sustainable solutions to local and world challenges. The students and faculty members regularly conduct various extension activities in the neighboring community mainly through the **NSS Unit, Rotaract Club, and IEEE Student Branch of NSEC**. The institute has also adopted five villages under **Unnat Bharat Abhiyan** along with the existing social activities. Participation in extension activities transforms the outlook of students and enlightens the spirit of social responsibility to create a peaceful society. The Rotaract community looks forward to expanding their professional network and exchanging ideas to cultivate life-long global friendships and highlighting the importance of community service as well as self-service.

The Rotaract Club has initiated numerous activities, fostering social responsibility among students while benefiting the community. Key initiatives include:

Cloth Bag Donation: Aimed at reducing plastic use, the campaign involved donating cloth bags to promote environmental sustainability.

Independence Day Celebration with Underprivileged Children: This event revived patriotism and involved underprivileged children in various activities, enhancing their cultural and educational experiences.

COTS: A collaborative training seminar with multiple Rotaract clubs, focusing on personality development and responsibilities within the Rotaract movement.

Essay Writing Competition: Commemorating Raksha Bandhan, this event encouraged participants to express their thoughts on the festival, fostering creative expression.

Day Out with Underprivileged Children During Durga Puja: Provided a joyful experience for shelter home children, including cultural programs and gifts.

Meals Distribution to Artisans: Distributed meals to artisans during Durga Puja, promoting shared happiness.

Stationery Distribution among HIV affected Kids: Conducted interactive sessions and distributed stationery to HIV affected children, spreading joy during Vijaya Dashami.

Talent Hunt: Organized talent showcases and fundraising events, supporting underprivileged children and involving a large number of participants.

Webinar on Child Rights: Focused on human rights and women empowerment, enhancing awareness among students.

Street Dog Vaccination and Feeding Drive: Vaccinated and fed street dogs, addressing rabies prevention and animal welfare.

Dengue Awareness: Distributed Odomos cream and gifts to children, promoting dengue awareness.

Gaming Event: Fundraising event involving multiple games, engaging a broad audience.

IEEE Student Branch: The NSEC IEEE Student Branch has significantly contributed to students' technical and professional development through activities such as, (i) **Workshops and Seminars:** Organized multiple events focusing on professional development, industry collaboration, and leadership skills, (ii) **Community Engagement:** Conducted outreach activities with industries and academic institutions, promoting innovation and continuous learning, (iii) **Awards and Grants:** Secured grants and awards for students, facilitating participation in conferences and workshops, and supporting research publications.

Overall Impact: Through these activities, students have been sensitized to social issues, engaged in community activities, improved their technical skills, and developed ethical and professional qualities. The initiatives have benefited not only the community but also the student's educational experience and personal growth through collaboration, innovation, and continuous improvement.*

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

3.4.2

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

Response:

Netaji Subhash Engineering College (NSEC) has shown unwavering commitment to social responsibility through extensive extension activities, earning numerous awards and recognitions from government and government-recognized bodies. These accolades highlight the college's dedication to fostering holistic student development while addressing societal needs.

The Institute has actively participated in the Smart India Hackathon, where students have consistently showcased their innovative solutions to real-world problems. Several students win multiple accolades, underscoring their technical acumen and problem-solving abilities. The institute's engagement with the National Programme on Technology Enhanced Learning (NPTEL) has also been noteworthy. Through active participation in NPTEL-Swayam courses, students and faculty have enhanced their skills, leading to the college being recognized as a Local Chapter with an 'A' rating multiple times. This initiative has elevated academic standards and empowered students to contribute meaningfully to the community.

The college's National Service Scheme (NSS) unit has been a cornerstone of its extension activities, conducting blood donation camps, cleanliness drives under Swachh Bharat Abhiyan, and environmental awareness campaigns. Additionally, the Rotaract Club of NSEC has been recognized for activities such as cloth/bag donations to underprivileged children, HIV-affected kids, street dog vaccination and feeding drives, child/human rights awareness, and women empowerment. These activities have significantly impacted the local community, promoting health, hygiene, and sustainability.

The NSEC IEEE Student Branch has contributed to students' technical and professional development through events focusing on professional development, industry collaboration, and leadership skills. They have secured grants and awards for students, facilitating participation in conferences, workshops, and supporting research publications. These activities have sensitized students to social issues, engaged them in community activities, and improved their technical skills, fostering ethical and professional qualities.

In recognition of its contributions to technology and innovation, institute has received accolades from bodies like the AICTE and the Confederation of Indian Industry (CII). The institute was awarded under the SPICES initiative by AICTE, including a financial grant for community development projects. Institute's commitment to fostering an entrepreneurial mindset has been acknowledged by several organizations, with awards from MSME for promoting entrepreneurship through workshops and training programs. The college's participation in the ARIIA by the Ministry of Education has also been commendable, earning recognitions for its innovative approaches to education and community service.

The institute's involvement in international collaborations has been significant, with students participating in global competitions like the NASA Space Apps Challenge and the Google Summer of Code, receiving accolades and gaining invaluable exposure to global standards and practices. The institute has been recognized by various professional bodies, underscoring its emphasis on research and development to contribute to societal advancement.

The awards and recognitions received during the last five years reflect a sustained commitment to excellence in extension activities. These accolades from diverse organizations like TCS EnginX, BNCCI, IACS, CII, AICTE, and numerous ministries of the Government of India validate the institution's efforts in fostering a socially responsible, innovative, and technically proficient student community.*

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

3.4.3

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

Response: 55

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

last five years

2022-23	2021-22	2020-21	2019-20	2018-19
25	6	10	10	4

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

3.5 Collaboration

3.5.1

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

Response: 20

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

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

4.1.1

The Institution has adequate infrastructure and other facilities for,

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

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

Response:

The institution has established physical facilities and infrastructure in line with AICTE and MAKAUT norms to support high-quality teaching and learning processes. It offers essential facilities such as laboratories, graphics halls, and workshops. Spanning approximately 3.0 acres, the campus includes 5,500 square meters of open space, providing an ideal setting for teaching, learning, career development, higher education, and research.

The institution follows a policy for creating and enhancing infrastructure based on changes in curriculum, student enrollment, or the introduction of new courses. Budgeting for these needs involves consultation among the Heads of Departments (HODs), the Principal, and the Management, followed by approval from the Board of Governors (BOG). Once approved, implementation is carried out with the help of relevant professionals.

Continuous infrastructure upgrades are a priority. Overhead projectors have been replaced with LCD projectors, classroom acoustics have been improved, and new seating arrangements have been installed. Classrooms and laboratories have enhanced ventilation, Wi-Fi has been augmented with Alliance services, and new printers and scanners have been added. Additionally, an extra graphics hall and AutoCAD laboratory is now operational to accommodate first-year students.

Classrooms, laboratories, workshops, and computing equipment meet AICTE guidelines. The institution offers a sufficient number of well-furnished, spacious, and well-ventilated classrooms. Each department also has dedicated tutorial rooms. Multimedia facilities include audio-visual equipment and a Webinar center for video conferencing, enhancing the learning process. Teachers are encouraged to use ICT facilities to improve student visualization.

The institution houses a Central Library with an extensive collection of books, along with individual departmental libraries that hold seminar reports, thesis reports, and reference books. These resources benefit both faculty and students. Additionally, there is a fully equipped reading room and e-library to support quiet study and research activities.

To keep up with modern teaching methods, the institute regularly upgrades its internet bandwidth, supporting platforms like MOOCS, SPOKEN TUTORIAL, NPTEL, COURSERA, and Webinars.

The college has nine seminar halls of varying sizes to host workshops, seminars, guest lectures, and other programs across all departments. Five seminar halls are equipped with smart boards. Laboratories are well-equipped and maintained to support both curriculum-based and extracurricular experiments. The college also features two advanced language labs where students can enhance their communication skills, monitored by qualified teachers.

The training and placement department, a key component of the Finishing School, is located on the ground floor near the administrative block. Some departments have additional laboratories beyond the curriculum to better prepare students for industry demands. In summary, the institution is dedicated to maintaining and improving its infrastructure to provide a conducive environment for academic excellence, career development, and research.*

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

4.1.2

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

Response: 9.12

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

2022-23	2021-22	2020-21	2019-20	2018-19
349.28	0.92	2.74	63.36	67.22

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

4.2 Library as a Learning Resource

4.2.1

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

Response:

Name of the ILMS software: LSEase (Release 1.0)

Nature of automation: Fully automated

Version: Cloud Version

Year of automation: 2006

The Central Library began its journey in 2000 in a small room and moved to its current location in 2004. Since then, it has grown significantly, boasting an impressive collection of resources compared to other self-financed colleges in West Bengal. The library provides a wide range of materials, including books, periodicals (journals and Magazines), special reports, theses, Indian standards, newspapers, and previous semester question papers from the affiliating university.

A large reading room within the library caters to both students and teachers, and it also houses a digital library. The library underwent digitization in 2006, adopting the ILMS software LSEase (rel.5.0) College version for fully automation. This system, first implemented in 2006, utilizes LIBSYS with unlimited user login capabilities. Currently a cloud-based Integrated Library Management System (ILMS) is being used. These systems are designed to manage library operations such as Cataloging, Circulation, Acquisitions, OPAC and Administration, all through a cloud-based platform. The advantages of using a cloud-based ILMS is that the users can access the system from anywhere with an internet connection, which is particularly useful for remote work and for patrons accessing the library's catalog online.

The library's collection is extensive, which includes the following:

- 103042 books,
- 07 print journals,
- 01 print magazine,
- 13337 Knimbus
- e-books and 294 e-journals (accessible Off campus) and lecture videos from NPTEL.

The E-library : (Accessible on College Campus) has the following

- E-books (2572 Titles)
- MAKAUT Question Paper
- Spoken Tutorials
- PhD Thesis
- NPTEL Video Library

E-Journals and E-Books (accessible off campus):

- Elsevier Science Direct e-journals (294 Titles)
- E-Books – (13337 Titles)
- Plagiarism Checker X

The Reading Room accommodates 100 people and features 25 computers with internet access. Library hours are 9:00 AM to 8:00 PM, Monday through Friday, and 9:00 AM to 5:00 PM on Saturday.

Continuous development is a priority for the library, with new titles, volumes, and editions regularly added each semester. Additionally, new e-journals are procured to enhance the teaching and learning environment.

Book purchases are driven by departmental needs, with each department submitting requests for books and journals. These requests are reviewed and approved by the library committee. The principal oversees the procurement process, ensuring alignment with budgetary and other provisions.

To ensure the library meets user needs, a suggestion box is available for feedback. Suggestions are collected and analysed time to time by the Library Committee, and corrective actions are taken by the Internal Quality Assurance Cell (IQAC) on a priority basis.

In summary, the Central Library of the institute is a well-resourced and continually evolving facility, fully automated and digitized, providing comprehensive support to the institution's academic community.*

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

4.3 IT Infrastructure

4.3.1

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

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

Response:

The institute is committed to continually upgrading its internet bandwidth to meet the demands of modern teaching and learning methods, including the use of MOOCs, SPOKEN TUTORIALS, NPTEL, Coursera, and webinars. A dedicated server with a 20 TB HDD is maintained exclusively for NPTEL

video streaming within the campus. Software packages are regularly updated, and industry-relevant software purchased to ensure students are well-prepared for the workforce. The institution also continuously upgrades its multimedia facilities, including audio-visual equipment, and has a webinar centre for video conferencing, enhancing the teaching-learning process. All classrooms are equipped with the latest technology projectors, enabling teachers to use audio-visual aids and show video lectures by eminent personalities. Teachers receive ongoing training to utilize ICT facilities more effectively, and students use these facilities to present seminars and project progress reports.

The institution allocates an adequate budget for the purchase, upgrading, and maintenance of computers, servers, and other related equipment.

Online Library System

The entire library system is managed by Libsys Software, allowing students and faculty to access it online from their own devices. Dedicated computers are available in the central library and reading room for student use.

LAN and Wi-Fi Facilities

All institutional computers are connected via LAN, and the entire campus is Wi-Fi enabled.

IT Resource Upgrades

The institute has a systematic approach to updating its IT resources, including:

- Wi-Fi access points increased from 15 to 127.
- Internet Bandwidth Upgraded (Alliance-1GBPS,Meghbala-40MBPS,Tata-50MBPS)
- 247 CCTV cameras installed.
- Seventy HP Core i5 Desktop purchased.
- Four hundred Twenty Dell Core i7 desktops purchased.
- There are 3 new labs established in the academic year 22-23.
- Two 6 KVA UPS for the APC Room and R.N Tagore were purchased.
- Four 10 KVA online UPS purchased for labs.
- One 15 KVA UPS For Management Building
- 7 interactive panels for 4 departments seminar room and library and placement in 23-24
- One Digital Duplicating machine was purchased.
- 8 HP MFP126nwAll-in One purchased.
- One HP Smart Ink Tank printer was purchased.
- 100 number of Webcam Purchased.
- 14 number of computer laboratories have been modernized
- Conference room has been renovated with state-of-the-art facilities to conduct the events on a blended mode.
- Seminar halls are equipped with smart boards.

Continuous IT Improvement Activities

- The internal backbone network connectivity has been upgraded from STP to fibre optics.
- The network environment now operates at GBPS speed.

- Internal online mock tests are conducted for industry readiness programs.
- The online e-library features over 2000 e-books and MAKAUT question papers.
- Online feedback is collected after value-added training and industrial training sessions.

These upgrades and enhancements demonstrate the institute's commitment to providing a state-of-the-art learning environment that supports the latest educational technologies and methodologies. This continuous improvement ensures that both students and faculty have access to the resources they need to succeed in an increasingly digital and interconnected world.*

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

4.3.2

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

Response: 2.33

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

Response: 1191

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

4.4 Maintenance of Campus Infrastructure

4.4.1

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

Response: 47.72

4.4.1.1 Expenditure incurred on maintenance of infrastructure (physical facilities and academic

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

2022-23	2021-22	2020-21	2019-20	2018-19
627.86	308.62	363.13	544.29	685.18

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

Criterion 5 - Student Support and Progression

5.1 Student Support

5.1.1

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

Response: 14.27

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

2022-23	2021-22	2020-21	2019-20	2018-19
757	522	179	232	354

File Description

Document

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

[View Document](#)

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

[View Document](#)

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

[View Document](#)

Institutional data in the prescribed format

[View Document](#)

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

[View Document](#)

5.1.2

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

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

Response: A. All of the above

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

5.1.3

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

Response: 9.97

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

2022-23	2021-22	2020-21	2019-20	2018-19
287	265	374	279	223

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

5.1.4

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

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

Response: A. All of the above

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

5.2 Student Progression

5.2.1

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

Response: 51.75

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

2022-23	2021-22	2020-21	2019-20	2018-19
520	407	455	388	270

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

2022-23	2021-22	2020-21	2019-20	2018-19
652	757	788	877	868

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

5.2.2

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

Response: 4.47

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

2022-23	2021-22	2020-21	2019-20	2018-19
12	13	23	13	24

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

5.3 Student Participation and Activities

5.3.1

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

Response: 28

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

2022-23	2021-22	2020-21	2019-20	2018-19
5	4	14	1	4

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

5.3.2

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

Response: 11.8

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

2022-23	2021-22	2020-21	2019-20	2018-19
25	3	1	20	10

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

5.4 Alumni Engagement

5.4.1

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

Response:

The Netaji Subhash Engineering College Alumni Association (NSECAA), established in 2008, is dedicated to charitable, educational, and literacy purposes, connecting its alumni worldwide irrespective of nationality, race, gender, or discipline. This network, which has a strong global presence, holding many reputed portfolios plays a critical role in the continuous development and modernization of their alma mater through financial and advisory capacities.

Annual Gatherings and Sustained Engagement: NSECAA celebrates its annual alumni meet every January 23rd during the College Foundation Day. This event fortifies the bond between alumni and current students. This provides a solid platform for sharing valuable experiences and professional insights. These meetings are instrumental in motivating current students and offering them direct guidance to navigate their future careers. Additionally, department-specific gathering “reunion” under the auspices of NSECAA enables personalized engagement, allowing alumni to directly impact their specific departments with their success stories and strategies.

Educational Development and Infrastructure Enhancement: Alumni contributions are vital in updating the educational facilities and identifying the curriculum gaps to make the current students ready for the present industry standards. They help in bringing the latest technologies and practices to the institution, ensuring that the education provided remains relevant and cutting-edge.

Empowering Current Students: The Alumni Association facilitates numerous professional growth opportunities by organizing technical seminars, workshops, and guest lectures through its network of industry experts. It also plays a pivotal role in arranging industrial training, field visits, and internships. All these significantly enhance the academic and practical learning environment for students.

Back to Class Initiatives: Alumni are invited to take classes to bridge the gap between industry and academia. The sharing of professional experiences regarding the latest technology help the present students to understand and realign their mindset as per the industry standard and expectation.

Financial Support and Mentorship: Beyond updating infrastructure and educational content, alumni also provide financial support for co-curricular and extra-curricular activities. They offer career counselling and conduct pre-placement training sessions, which are crucial in preparing students for the competitive job market and making them employable.

Role as Mentors and Inspirational Figures: Alumni share not only their achievements but also the challenges they have faced, providing a realistic perspective on professional life. These narratives are invaluable for current students, giving them relatable role models who demonstrate the practical application of their classroom learning in real-world scenarios.

Promoting Industry Connections: The Alumni Association also helps organize field trips to various industries and companies, where alumni have prominent professional roles, providing students with first-hand exposure to their future working environments. Alumni frequently return to campus to engage in lectures and discussions called Back to Classroom Programs, bridging the gap between theoretical knowledge and practical application.

Through its multifaceted efforts, the NSECAA enhances the institutional standards and enriches the educational experiences at Netaji Subhash Engineering College. This dynamic interplay between past and present students helps maintain the college's reputation as a progressive institution aligned with the demands of the global marketplace, preparing students effectively for their future careers.

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

Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

6.1.1

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

Response:

The institution's well articulated vision and mission guide its academic and administrative governance.

- **Nature of governance: Role of Board of Governors (BOG)**

The Board of Governors (BOG) holds supreme authority over academic, administrative, and financial matters within the institution's purview. BOG recognizes faculty members as pivotal to the institute's success. Rather than micromanaging, it empowers them to lead and implement decisions, fostering a robust academic foundation. The Board of Governors (BOG) leads policy formulation and supports faculty members in policy implementation. It acts primarily as a facilitator, providing necessary assistance to ensure effective execution. This approach promotes collaboration and empowers faculty members to take ownership, enhancing the institution's overall effectiveness and success.

- **Perspective plans: Mission of the institute**

The policies set by the Board of Governors, aligned with the institute's vision, emphasizes achieving excellence in engineering and technological education, research, and entrepreneurship. It aims to provide valuable services to society by encouraging innovation, knowledge dissemination, and practical skill development, thus contributing to societal advancement and progress. The institution's vision is actualized through perspective plans, detailed in four sequential stages of mission. These plans empower faculty members to achieve targets with minimal guidance from the Board of Governors (BOG) or management. This approach ensures faculty autonomy while aligning actions closely with the institution's overarching goals and objectives. The Internal Quality Assurance Cell (IQAC) always uphold educational standards and quality of teaching-learning.

- **Role of faculty members in decision making and implementation of plans**

In our faculty-centric institute, faculty members encompass all course instructors and academic administrators, including heads of departments (HODs), deans, and the Principal. In the prevailing hierarchical system institutional governance, faculty members are empowered to make and execute academic decisions within the framework of the institute's vision, mission, and regulations set by AICTE or MAKAUT, fostering alignment with comprehensive objectives and industry standards. BOG's periodic invaluable guidance aids faculty members in advancing towards their goals.

The institute focuses on diversity, equal access and holistic development in line with National Educational Policy to equip students with the necessary skills and competencies to become good human

beings and responsible global citizens. To illustrate, as the institute strives for a solid educational foundation, the BOG has wisely stressed fostering a research culture. Faculty members have responded aptly to this guidance; currently, 60% either hold a Ph. D degree or are pursuing one. Advanced laboratory developments, research publications, and sponsored projects signify the thriving research culture, propelling the institute into the next phase of its perspective plans. Some of the key decisions predominantly initiated by faculty members include: (a) Library automation, (b) Introduction of FDP, Value added training programmes for students, and Social Entrepreneurship Education (SEE), (c) preparation of institute’s vision and mission statements and (d) adoption and implementation of outcome based education, (e) preparation for accreditations like NBA and NAAC, etc.*

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

6.2 Strategy Development and Deployment

6.2.1

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

Response:

The institute’s organizational hierarchy ensures clear, reliable executive processes that support effective decision-making aligned with its purposes. Different committees within the organizational structure drive institutional capacity and educational effectiveness through their diverse functions. The institutional Management is logically structured for transparency and optimal outcomes. A hierarchical system delineates duties, responsibilities, accountability, and authority levels from top management downward. The Society, Board of Governors, the principal, Dean- Academic Affairs (AA), HODs, teaching, non-teaching, and students work as a team to reinforce the culture of excellence. The Principal oversees administrative and academic activities, as chairman of all the committees. Department heads manage departmental affairs autonomously, making decisions aligned with institutional needs and possessing academic autonomy in all aspects. The Dean-AA, Campus Administrator and Administrative Officer assist the Principal in taking various academic and administrative decisions. The administrative activities like civil maintenance, electrical maintenance and housekeeping effectively functions under the office of the Campus Administrator.

The IQAC submits the Strategic Perspective Plan and various proposals for academics, administration, and policy formulations. Approved (by Board of Governors and the Society members) proposals are deployed and periodically reviewed by the IQAC.

Various Committees in the College independently deploy their plans and report to the IQAC with regard to Quality Assurance. College employees adhere to existing service rules, subject to periodic

amendments. Teaching staff selection follows standard procedures: vacancy identification, advertisement, application submission, interviews by the Selection Committee, result publication, document verification, recommendation submission for appointment by the Committee to the society, and issuance of appointment letters.

The institute is unwaveringly dedicated in delivering quality education to the youth, nurturing the development of the right attitude, professional competence, and ethical values. It implements multidimensional strategic planning aligned with formal quality policies, ensuring alignment with the college's vision and mission to ensure the following:

- Providing excellent infrastructure and a conducive learning environment
- Building a harmonious work culture and motivating everybody to contribute the best.
- Proactively responding to changing needs of industry, parents, and society by embracing the latest technological trends in the field of education and research.
- Complying with latest global requirements and striving continually to improve the quality of operations of the Institution.

To stay competitive amidst global changes, technological advancements, and digitization, institutions must upgrade to meet stakeholder expectations. Brainstorming sessions with stakeholders led to a strategic plan for 2019-2024. Based on SWOC analysis, this following strategic plan was developed:

- Attaining academic excellence through curriculum orientation and fostering experiential learning through ICT.
- Advancing knowledge through innovation, research, and addressing societal needs.
- Advocating for well-rounded individuals with global vision and social responsibility.
- Continuously strive for institutional effectiveness via quality assurance systems.
- Holistic institutional development, infrastructure, faculty enhancement, and examination reform prioritized.

The strategic planning document serves as a self-appraisal and guiding tool from management to staff. Plans are systematically deployed by empowering stakeholders and providing necessary resources. Achievements include NBA accreditation, NIRF ranking, ARIIA, HI/BI, publications, and R&D projects.*

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

6.2.2

Institution implements e-governance in its operations

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

Response: A. All of the above

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

6.3 Faculty Empowerment Strategies

6.3.1

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

Response:

The institute has implemented comprehensive policies to ensure the well-being of both teaching and non-teaching staff. These policies aim to boost professional development and facilitate improved performance.

Performance Appraisal is compulsory for staff confirmation and promotion. The process involves evaluation by the Principal, Dean, HOD, and self-appraisal by the Appraisal Committee. The Committee, led by an experienced academic like a Senior Professor, is appointed by the competent authority.

Self-Appraisal Form (SAF): Employees seeking confirmation or promotion must complete a Self-Appraisal Form (SAF). Only regular employees are eligible for promotion, while temporary or contractual employees can seek increment or contract renewal through an appraisal committee. SAF entails necessary details and typically spans a year, aligning with contract duration.

The contents of SAF are:

- Employee details
- Qualifications

- Description of job carried out in details
- Achievements (related to the period concerned)
- For faculty members: academic, professional membership, research and guidance, publications, professional, innovative practices, technological developments, contributions to the institute
- For non-teaching staff: job related proficiency, commendable services rendered, contributions to the institute
- Verification of authenticity of statements and appraisal with comments by HOD

Annual Performance Review (APR): Annually, the institute requests Self-Appraisal Forms (SAF) from eligible candidates, meeting regulatory or college norms. Papers are reviewed by the Appraisal Committee, appointed by the BOG, for personal interviews. Employees with poor ratings in the last three Annual Performance Reviews require two excellent ratings for promotion, with one from the latest review.

The institute offers these welfare schemes to faculty members and staff:

- Netaji Subhash Engineering College Employees Cooperative Credit Society Ltd. Established in 2013 (Regd. 1/2013-14, dt. 11.04.2013) aiming at pool funds for providing loans to members, fostering financial support and solidarity within the community.
- Medical allowances component in the salary, equivalent to the state government's rates, faculty members and staff are provided free treatment on working days at the institute's medical unit, complimentary ambulance services for employees and their families from home to hospital and 20% discount on total medical expenses at Techno Global Hospital.
- A benefit for their children's education if they attend TIG-managed Techno Model Schools and Colleges.
- Faculty members have opportunities to engage in research, including pursuing Ph.D programs, with reduced teaching loads and flexible leave arrangements, special leave and financial support for attending faculty development programmes, training sessions or industry visits and without pay study leave without affecting annual increment or seniority calculations
- Technical staff can enroll in qualification enhancement programs like evening B. Tech courses, and/or M Tech/Ph.D programs with duty hour adjustments.
- Non-teaching staff are urged to pursue career development programs aligning with their aspirations.
- Employees are enrolled in the EPF scheme as per rules. Employees eligible under the ESI Act are covered by ESI, ensuring comprehensive social security benefits for all eligible individuals.
- Employees are entitled to different leaves as per leave rule of the institute.
- Employees' Gratuities.*

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

6.3.2

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

Response: 3.8

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

2022-23	2021-22	2020-21	2019-20	2018-19
3	2	2	25	2

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

6.3.3

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

Response: 28.77

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

2022-23	2021-22	2020-21	2019-20	2018-19
45	58	53	57	56

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

2022-23	2021-22	2020-21	2019-20	2018-19
8	11	9	7	5

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

6.4 Financial Management and Resource Mobilization

6.4.1

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

Response:

The college enacts self-conceived development programs, emphasizing quality, relevance, excellence, resource mobilization, institutional autonomy with accountability, research, and equity, encompassing academic and non-academic reforms. The major revenue is generated through tuition fees paid by the students in each semester. However, IQAC has classified activities to mobilize funds and resources for stakeholders' benefit.

Mobilization of Funds and Resources

For a self-sponsored educational institute additional efforts to generate recurring revenue are not within its usual scope. The major revenue (that too recurring) is raised from students' tuition fees i.e. semester fees. However, IQAC has categorized specific activities for mobilization of funds and resources on top of the regular fund flow activities i.e. teaching - learning activities from and for use of its stake holders. These are:

- Fees for professional, soft skills, and industrial training per semester/one time.
- Grants for R & D activities and consultancy, organizing seminars and conferences (funding agencies like DST, AICTE, MHRDC (Malaviya Mission Teacher Training Centre), UGC, DRDO, Industrial Houses, etc)
- Endowment for Scholarships and Awards for academic excellence.
- Donations from alumni / employers / stake holders / well-wishers / local people for specific activities,
- Revenue collected from Library Fines, deduction from Caution money of students
- Rental / license fees collected from recruiting agencies like IT companies, Banking Services, DRDO, or for academic exercises like WBJEEB, NTA, IIT GATE/JAM, etc. (laboratories, class rooms, computers are permitted to be shared on holidays under institute supervision)
- Rental from commercial organizations like Bank, Food Court located in institution's premises (a mutual benefit scheme)
- Bank Loans, Surplus from Society funds

The institute employs a rigorous mechanism to assess the efficient use of financial resources for academic processes and infrastructure development. The Principal prepares the annual institutional budget, incorporating recurring and nonrecurring expenses, with input from administrative and academic heads, as well as coordinators of various cells and submit it to the institute's Board of Governors (BOG).

The BOG makes key financial decisions based on proposals from the finance committee of the society. The committee scrutinizes major transactions across various areas like Research & Development, Training & Placement, and Equipment & Consumables, ensuring alignment with the institute's growth objectives through meticulous financial planning. A flexible financial system allows spending more than the budget allocated as per the approved budget on the benefit of demands and requirements.

Optimal utilization and execution of the budget are monitored through internal and external auditing. Internal audit is conducted annually by:

- Qualified auditor from Corporate (Society's) Office nominated by the BOG
- Institute Accountant
- Office Assistant attached to institute account's section

An annual statutory external audit is performed by chartered accountants hired by the Society's office, examining the institute's accounts as a subsidiary of the society.*

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

6.5 Internal Quality Assurance System

6.5.1

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

Response:

As per AICTE, UGC, and NAAC guidelines, institution established its Internal Quality Assurance Cell (IQAC) in 2013 to enhance institutional academic and administrative performance through evaluation, assessment, accreditation, and quality improvement. The IQAC aims to foster conscious, continuous, consistent and catalytic actions towards improvement and internalize quality culture and initiatives and institutionalizing best practices. It monitors and reviews teaching-learning processes, and methodologies regularly through its organizing committee and periodic meetings.

Aligning with the institution's vision and mission, as well as those of individual departments and programs, several following best practices have been institutionalized through IQAC initiatives:

- Introduced in 2013, the OBE system is rigorously followed by departments and the Institute. Internal assessments and University results are used to calculate the attainment levels of all the Course Outcomes, Program Outcomes and Program Specific Outcomes This helps in monitoring the outcome attainment levels and discuss action plans for any deficiencies.
- The institution has adopted an ICT-based education system as part of the teaching and learning reforms implemented by the IQAC.
- A Teaching Learning Monitoring System is used and overseen by Heads of Departments, the Dean (Academic Affairs), and the Principal. The following parameters are considered:
 1. Adherence to Academic calendar.
 2. Regular and proper class conduction
 3. Regular conduction of internal examination, followed by proper evaluation and result analysis
 4. Continuous upgradation of study materials, assignments, course contents and laboratory manuals.
 5. Continuous internal assessments
 6. Regular collection of feedback from the students (for teachers and institution), analysis of the same and appropriate action taken on the basis of the feedbacks.
 7. Semester wise computation of attainment levels of Course, Programme and Programme specific outcomes.
- IQAC has initiated aptitude, soft skill & personality development and value-added training programs for students across all disciplines for enhancement of employability.
- The BOG and society was persuaded to sanction a budget for upgrading existing infrastructure and facilities.
- The IIC-NSEC and EDC-NSEC have been constituted as prescribed by MHRD-IIC to methodically promote the culture of innovation and entrepreneurship as a part of curriculum, by organizing workshops, seminars, and talks by industry experts, successful entrepreneurs, and academicians to inspire students and faculty and to facilitate the development of innovative projects and ideas through hackathons, innovation challenges, and competitions.
- Under IQAC's initiative, the NSEC Incubation Center was established, later recognized as Host Institute/Business Incubator (HI/BI)-MSME, providing students with comprehensive support in product development, including technical and business mentoring, IPR creation, market

validation, startup registration, and ongoing incubation support.

- Undergraduate students are trained and motivated to write research papers for journals and conferences, based on their graduation projects, and encouraged to participate in project presentations.
- Regular performance appraisal of the faculty members and technical staff and provision for career advancement for the faculty members and technical staff.
- The IQAC and its implementing body, the Academic Committee, vigilantly monitor all academic events in the college. Through regular and thorough academic and administrative audits (AAA), the teaching-learning process is continuously reviewed.*

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

6.5.2

Quality assurance initiatives of the institution include:

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

Response: A. Any 4 or more of the above

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

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

7.1.1

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

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

Response:

The ideologies of Netaji Subhash Chandra Bose are the foundation stones of the institute and that reinforce the value of human dignity. Like Gloria Steinem, we too, believe that, 'A gender-equal society would be one where the word 'gender' does not exist: where everyone can be themselves'; and our every step is directed towards that optimization.

The fundamental essence of a well-grounded socio-psychological sense of discrimination fans the very need to consciously inject and practice a series of gender neutral activities throughout the existing set of interdisciplinary academic orders. The institution religiously looks into the matter of providing academic and non-academic help to students beyond their socio-cultural and sexual identities with reference to the quoted categories:

Safety and Security: To fight and annul the discrimination on the grounds of moral, physical, psychological and gender inequality the institution has successfully managed to introduce and run an anti-sexual harassment committee, internal complaints committee and anti-ragging committee led and guided by core academic members, besides organizing numerous workshops, seminars and conventions. We believe this is worth noticing that though the institution runs with the female faculty strength counting to a bare minimal of less than 40%; it has dexterously channelized its female power by ensuring their involvement in almost all the functioning committees. CC cameras are installed in the classrooms, library, parking areas and also in the office and lobbies to ensure the safety and security.

Counselling: The first step towards sensitization of students and employees of the institution to the constitutional obligations is formulation of rules and regulations approved by the Board of Governors, strict observance of the rules, and constitution of a Grievance Redressal Cell in case of any violation. The rules and regulations are so framed that they are applicable to all irrespective of gender, creed and culture. Right to Information Cell takes care of maintenance of transparency.

The students are sensitized about gender issues during the Induction programme, within a socio-cultural and socio-academic environment. A lady psychologist offers counseling and guidance to the students once in every week. Faculty mentor counsel and allows every individual to nurture and flourish their talent with no gender discrimination.

The discourse continues to occupy large sections through humanities curriculum as well. Group activity of preparing a poster (HU 181/191), preparation of technical report, to the rigorous sessions of Group Discussion (HU 781/791), this social concern hardly runs out of focus. On International Women's Day

the academic committee organizes a mass awareness campaign, a cultural programme followed by a paper presentation session. Every year the college puts in an effort to invite a guest speaker belonging to the core field.

Common Room and Other Amenities and Facilities: The institution harvests a couple of common rooms for both boys and girls alike. These rooms are well equipped with indoor games like chess, carom, and table tennis and so on. Sanitary napkin vending machine has also been installed in the girls' common room.*

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

7.1.2

The Institution has facilities and initiatives for

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

Response: A. 4 or All of the above

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

7.1.3

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

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

Response: B. Any 3 of the above

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

7.1.4

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

Response:

Netaji Subhash Engineering College takes immense pride in fostering an environment that nurtures tolerance, harmony, and understanding among its diverse community of students and employees. The institute has taken various initiatives for promoting tolerance and harmony towards cultural, regional, linguistic, communal, socio-economic, and other diversities. Under the Unnat Bharat Abhiyaan (Ministry of HRD) the institute has adopted five villages in the district. The NSEC Rotaract club conducts special camps in villages, slums and for pavement dwellers through student volunteers. These camps are organized to provide services for upliftment of the downtrodden and sensitize the students to have a harmonic approach towards the socioeconomic gap. Students from various regional and cultural backgrounds participate in various cultural fest and technical fest. Programs like Republic Day and Independence Day are celebrated every year in the College Campus. Fresher's Day, World Environment Day, Engineers Day, Teachers Day, Yoga day, World Intellectual Property day, National Technology day, etc are celebrated. These events provide an opportunity for students and employees from different backgrounds to come together, share their traditions, and build strong bonds of friendship, fostering a deeper understanding and appreciation of each other's customs and practices. The institute encourages embracing various forms of social service activities including blood donation camp, encouraging the

noble spirit of giving back to the society.

The course 'Values and Ethics in Profession' is offered to the students of B. Tech programmes through curriculum. A Case Study approach, using interactive group sessions is adopted. Student flexibility in choice of Case Studies is an important feature of the course. This course emphasizes on Environmental Studies, Societal Values, Aesthetics Values, Psychological values, Sustainable Development, Canon of Ethics etc. The objective of this course is to develop a value system amongst the engineering students who will soon turn as professionals. This course also aims to give paramount importance to ethical behaviour which a student must possess while they fulfil their personal as well as the organizational goals. A specific advantage for engineering students who learn about ethics is that they develop clarity in their understanding and thought about ethical issues and the practice in which they arise. The study of ethics helps students to develop widely applicable skills in communication, reasoning and reflection. These skills enhance students' abilities and help them engage with other aspects of the engineering programme such as group work and work placements.

The subject Constitution of India has been made mandatory to all undergraduate students across every discipline, making them aware about the fundamental rights and duties as well as constitutional obligations of every responsible citizen of the country, by instilling ethics, integrity, and civic responsibility in the students.

In conclusion, institute exemplifies an inclusive environment that promotes tolerance, harmony and constitutional awareness. Through the various array of events and initiatives, institute aims at holistic development of the students towards creation of responsible citizens who mutually respect and celebrate cultural, regional, communal and linguistic diversities.*

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

7.2 Best Practices

7.2.1

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

Response:

Best Practice 1: Employability Enhancement Programmes:

Context:

Employability Enhancement Programmes in the college aim to equip students with the skills, knowledge, and attributes necessary to succeed as workforce. These programs focus on bridging the gap between

academic learning and real-world application, preparing students for the demands of the job market.

Objectives of the Practice:

Technology and industry change rapidly with new innovations and requirements. Consequently the nature of jobs changes with increased competitiveness. To keep pace with the dynamic situation, enhancing employability skill of the aspiring minds is a compulsion and the institution aims at integrating skill based training programmes in the learning ecosystem. So, additional training programs are offered to the students with the following objectives:

- To enhance students' technical skills relevant to their chosen field of study, as well as soft skills such as communication, teamwork, decision making, problem-solving, and leadership.
- To provide students with insights into industry trends, expectations, and practices, enabling them to adapt quickly to workplace environments and contribute effectively from day one.
- To encourage entrepreneurial mindset and providing resources, guidance, and mentorship to students interested in starting their own ventures or pursuing entrepreneurial careers.

Practice:

Various exciting beyond curriculum programs are introduced for re-skilling and up-skilling opportunities of students. The practices include:

- Inclusion of soft skill, competitive coding and aptitude training in class routine
- Value Added Training in each semester
- Technical webinars and Google Developer Students Club Activities
- IIC& EDC activities
- Academic Interface Programme
- MoUs with industries for Training Activities
- Collaboration for Internship programmes

Skill enhancement programmes are conducted by Great Lakes E-Learning Services Pvt. Ltd. and Accenture. Mock personal interview for final year students and Softs skill classes for 2nd and 3rd year students by Global Talent Track Foundation (GTTF). TCS Academic Interface Programme for Computer Science and Business System. The Future Skills Prime (FSP) by NASSCOM for 1st and 2nd year students.

Evidence of Success:

The campus placement is very much exciting and a large number of students undertook internships viz. Thoughtworks, Telaverge Communication, Persistent, Amazon, Xenonstack, MAQ, Tiger Analytics, Pinnacle Infotech, Titagarh Wagons Limited.

Problems Encountered:

However, some significant challenges to employability enhancement programmes include the following:

- Lack of enthusiasm among some students
- Behavioural problems in some cases within students

- Issues in expressing the concepts in their own ways

Best Practice 2: IIC-EDC ACTIVITIES:

Context:

The Institution's Innovation Council (IIC-NSEC) serves as a catalyst for nurturing innovative mindsets and entrepreneurial spirit within the students to work on new ideas and innovation. By providing a structured framework and necessary resources, IIC-NSEC aims to transform the landscape of higher education into one that actively fosters a culture of innovation and contributes to the nation's innovation-driven growth. The major focuses are to create a vibrant local innovation ecosystem, to integrate and streamline efforts in promoting innovative thinking and entrepreneurial skills among students and faculty and thereby develop better cognitive ability for technology students.

The Entrepreneurship Development Cell (EDC-NSEC) was established with the objective of fostering entrepreneurial spirit and skills among students. Recognizing the importance of entrepreneurship in economic development, job creation, and innovation, EDC-NSEC aims to bridge the gap between theoretical knowledge and practical entrepreneurial skills, by creating a conducive environment for budding entrepreneurs by providing them a comprehensive support system, so that the students can be transformed into successful entrepreneurs.

Objectives of the Practice:

The IIC-NSEC and EDC-NSEC have been constituted as prescribed by MHRD-IIC to methodically promote the culture of innovation and entrepreneurship as a part of curriculum, by organizing workshops, seminars, and talks by industry experts, successful entrepreneurs, and academicians to inspire students and faculty and to facilitate the development of innovative projects and ideas. The council tries to create an ecosystem that encourages creativity and critical thinking by providing the necessary infrastructure and resources, such as setting up innovation labs, incubation centres, and research facilities to support the development of new technologies and start-ups. It also builds networks with other educational institutions, industry partners, research organizations, and government bodies and facilitates internships, mentorship programs, and collaborative research projects to provide practical exposure and hands-on experience.

Practice:

EDC-NSEC has formed an incubation centre and signed MOU with Wadhvani Foundation Entrepreneurship Network (WFEN) and Confederation of Indian Industries (CII). The IIC-EDC at NSEC works continuously to channelize the knowledge and the energy of students towards becoming active partners in the economic development process.

Evidence of Success:

The major activities carried out by IIC-EDC:

- *Winning 1st prize in 3M- CII Young Innovators Challenge Award 2019*

Katha Sur and Karan Ghorai, students of 3rd year ECE winning 1st prize in 3M- CII Young Innovators

Challenge Award 2019 at Bangalore in PRODUCT INNOVATION Division for their product "WHITE COAL" from Jute Stick. They won the prize money of Rs.3 Lakh along with Trophy.

- *Start-up by Alumni Entrepreneur with the help of NSEC Incubation Centre*

Name of company: TEAMCOGNITO TECH LLP, SANKET SARKAR, Alumni, EE, NSEC

- *Orientation Program for 1st Year with Prototype Exhibition, 6th Feb., 2019*

A delegation team from ITALY accompanying by CII members visited this exhibition. 18 Eighteen prototypes were exhibited in this event.

- *Hult Prize-19 "Idea to Prototype" 16th February, 2019.*

Annual Challenge of Hult Prize is "For Us By Us" "Youth Unemployment". 46 (Forty Six) teams comprising 186 (One hundred eighty six) students registered in this event. Out of all registered teams 29 (twenty nine) teams were selected for delivering their ideas.

- *Smart India Hackathon 2018 & 2019*

23 team of NSEC submitted 43 solutions. Five teams qualified for final and one team became runners-up in SIH Hardware 2019.

Problems Encountered:

Encouraged by the motivating ecosystem students are no longer giving preference to only campus placements and are going for deferred placement to give a chance to their dream projects. It has however been seen that initial support to the start-ups has been one of the deterrent in the process of the launch.

File Description	Document
Any other relevant information	View Document
Best practices as hosted on the Institutional website	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:

- **??????Area distinctive to Vision, Priority and Thrust of the Institute**

“Pursuit of excellence in Education” has been identified as the first and foremost distinctive feature in the vision of the institute followed by two other associated features, namely, Research and Entrepreneurship. The institution has extensively practiced outcome based education to increase knowledge, skills and behaviours of the learners. Student centric experimental learning, participative learning and problem solving methodologies are adopted for enhancing learning experiences. The teaching through smart techniques especially ICT-enabled teaching and learning synergies the learning and make a big difference.

- **Institutional policy for implementation**

Building Rich Resources for Teaching and Learning

The institute in its wisdom is continuously providing resources necessary to impart quality education.

- **Infrastructure**

Modern class rooms, well equipped spacious laboratories, seminar rooms with smart board, recreation rooms, etc. are designed for delivering high standard education both quantitatively and qualitatively. Libraries (both central and departmental) are equipped with adequate books, specially designed reading room, journals and modern facilities like e-journals, digital library which can be accessed from the wi-fi enabled campus. Extramural laboratories, extramural instructions and activities continuously supplement the programmes to bridge the gap in the curricula. Two state-of-the-art language laboratories for enhancing soft skills and one dedicated computer centre for imparting value added training programs.

- **Faculty**

The institute has a gamut of young, dynamic as well as senior, experienced and overall dedicated faculty members of whom 60% are PhD degree holders. Faculty members have been trained and motivated to design instructional delivery and internationally accepted evaluation process to obtain desired outcomes. Modern web based teaching learning methods are made available to faculty members for up gradation of the quality of pedagogy as well as learning process.

Research and Entrepreneurship

With an established legacy of vibrant research culture, majority of faculty members are either guiding research work or/ and pursuing research work towards obtaining Ph. D degree. The Institution’s Innovation Council (IIC-NSEC) and Entrepreneurship Development Cell (EDC-NSEC) have been constituted as prescribed by MHRD-IIC to methodically promote the culture of innovation and entrepreneurship as a part of curriculum and beyond.

Best Practices – Innovative means for up gradation

To enhance the quality of education, a number of “Best Practices” have been introduced. Some of them are:

- **Employability Enhancement Programmes**
- **IIC-EDC Activities**

- **Performance of the Institution**

During 2018-19, IIC-NSEC received two full golden stars 21.65/25 and 23.32/25 in 1st and 2nd quarter respectively. Students secured 2nd position in SMART INDIA HACKATHON 2019 (Hardware) for the prototype “Water to Thin Air” and arranged 23 Winter Internships.

During 2019-20, as one of the leading self-financed technological Institute in Eastern India, has received accreditation by NAAC, NBA-in four premier programmes, ranked by NIRF 2020 (Band: 251-300) and ARIIA 2021 (Band B: 26 -50), TCS, Wipro, and Capgemini. NSEC-NPTEL Local Chapter continued position in Top 100 Colleges in India. IIC-NSEC secured 5 Star Rating from MoE’s Innovation Cell and NSEC Business Incubator Centre (HI/BI) approved by MSME-DI. NSEC-Rotaract Club significantly contributed to the society through outreach programmes and students won several awards and prizes in national and international competitions and Hackathons.

During 2020-21, IIC-NSEC and EDC-NSEC has organized a series of events based on entrepreneurship, idea to prototype competitions, prototype realization competitions, Hackathon, Entrepreneurial Talk, 3-months training programme on entrepreneurship development among students etc. During pandemic, IIC-NSEC in collaboration with IEEE and CII has organized several webinars by Industry Professionals. The institute has got selected as Mentor Institute by Innovation Cell of MHRD & MoE, Govt. of India, selected as Host Institute/Business Incubation (HI/BI) Centre by MSME, Govt. of India and IIC-NSEC has received 5-Star rating in IIC2.0 during September 2020 & 3.5 Star IIC3.0 during December 2021 from MoE’s Innovation Cell, Govt. of India.

During 2021-22, the institute has signed MoUs with Great Lakes E-Learning Services Pvt. Ltd., Global Talent Track Foundation (GTTF) and NASSCOM for skill based training programs and internship. Under this venture, 650 students trained with skill enhancement program through Great Learning, 25 students completed skill enhancement program conducted by Accenture under NASSCOM, 440 students of final year experienced with mock personal interview and 310 students are trained with soft skills by GTTF. A significant number (75) of final year students have secured internship in different industries. Deep Narayan Bhagat, a student of information technology has been selected for Microsoft Mentee Intern Engage 2022.

During 2022-23, the institute signed MoUs with SunEco Tech Venture Pvt. Ltd., Google Asia Pacific Pte. Ltd. and National Institute of Electronics & Information Technology (NIELIT) for skill based certification programs and internship. Under this venture, 25 students have been trained with skill enhancement program through SunEco Tech. Pvt. Ltd., 550 students completed skill enhancement program conducted by Google Asia Pacific Pte. Ltd. and 185 students completed certification course on block chain technology from NIELIT. Fourteen faculty members certified as Training of Trainers [TOT] for Introduction to Blockchain Technology from NIELIT. A significant number (108) of final year students have secured internship in different industries. Faculty members have published 26 research papers in peer-reviewed journals and conferences this year. Students have published 6 papers in journal and conferences.

Sri. Anirban Chatterjee a Ph. D student and his supervisor Dr. Koushik Dutta of NSEC received best paper award on all tracks in IEEE WAMS 2023, Gandhinagar, Gujrat. Anirban Chatterjee has also received a cash prize of Rs 15k and a travel grant. Faculty members have completed 16 FDPs. Nine

faculty members have successfully completed 5 Days FDP on "AI & Machine Learning for Computer Vision Applications", Electronics & ICT Academy, IIT, Roorkee.

Conclusion

Excellence has no upper limit and hence complacency while assessing success can be catastrophic. In house research and sponsored research projects are being continuously encouraged. Utilizing the strength and opportunities towards the endeavour of establishing a quality research culture in the institute is a challenge. But, the institute is optimistic about its success in producing entrepreneurs and achievement of excellence in holistic quality education at the global level will not be far.

File Description	Document
Appropriate web in the Institutional website	View Document
Any other relevant information	View Document

5. CONCLUSION

Additional Information :

Integration of the institute with the neighbourhood

The college is located at the border of a rural area near the city of Kolkata, fostering integration with the local community, thanks to its founders' Non sibi ethos.

Economic growth of the locality

Local socio-economic growth thrives via employment opportunities and support for nearby businesses through purchases of goods and services. Except for some local contract workers, the majority of the institute's Group D staff hails from the nearby locality. Establishing a variety of shops, service centers and food stalls, branch of a nationalized bank on campus, and approved student housing in nearby residences indirectly boosts the local economy.

Development of local physical infrastructure

The institute greatly aids local road construction through contributions to the local panchayat and municipality. The institute offers both banking and healthcare services to locals. To assist students travelling to nearby bus and railway stations, e-rickshaw and auto-rickshaw services enhanced public transportation options significantly.

Training on trade courses: Increase in employability

The institute utilizes resources and manpower to offer trade courses, viz. Computer basics, Mobile phone repairs, TV repairs, Welding, Electrical Machine winding, House electrical wiring, etc. improving the employability of local youth.

Medical facilities

The institute organizes health camps, blood donation camps and awareness programs. Local communities benefit from subsidized medical services provided by the institute's physician and ambulance.

Environment and Pollution control

The institute's purified mini water bottling plant offers discounted water to locals. Additionally, water and soil testing services benefit the community.

Local social service initiatives

Donating books to local by Rotaract Club of the Institute promotes literacy, empowers their education, and fosters a love for learning. It contributes to intellectual development, expands their knowledge base, and enhances their future opportunities. Ultimately, it cultivates a more informed and engaged citizenry, benefiting society as a whole.

Organizing Cultural programmes involving local children promotes community cohesion, celebrates diversity, and nurtures artistic talents. It fosters a sense of belonging, instills confidence, and bridges generational gaps. Such events cultivate social skills, respect for cultural heritage, and unity, enriching the fabric of society.

Concluding Remarks :

The institute's Vision and Mission, aligned with modern global standards in engineering education, are executed by a stakeholder team led by the Board of Governors (BOG), with faculty as the driving force, ensuring their realization and relevance in contemporary education paradigms.

The IQAC serves as the primary policymaking body for academic and administrative matters. Faculty members and management collaborate to enact decisions, striving to meet objectives. Inclusive of students, employers, and guardians, stakeholders participate in activities, ensuring comprehensive engagement and effective outcomes.

The curriculum and syllabi, established by the affiliating university (MAKAUT), initiate the educational process. Teaching-learning endeavors adhere to both national and international standards, fostering stakeholder involvement. The institute operates under a hierarchical management system, wielding deliberate financial and administrative authority over academic affairs. As a facilitator, it furnishes infrastructure in compliance with AICTE guidelines, including supplementary resources like extramural laboratories, a cell for social entrepreneurship, and a Medical Unit, all geared towards ensuring quality education.

Adopted methods' effectiveness is gauged via feedback from students, employers, and external bodies like AAA and NBA. This feedback informs adjustments to actions and benchmarks as needed. Student-mentorship, a potent corrective tool, is diligently implemented, offering tailored support via remedial, career advancement, and value-added programs. Emphasizing holistic development, students engage in industry exposure, managerial tasks, social activities, as well as entrepreneurial and innovation initiatives through EDC and IIC activities.

The institute has carved a niche in state and national engineering education. Research, led by a qualified faculty, is burgeoning, with plans to enhance R&D, consultancy, and intellectual property rights, fostering entrepreneurship and innovation.

The institute's uniqueness stems from:

- Providing quality education over two decades
- A distinctive integration with the local community and student development programs focused on societal service
- Consistent evolution of innovative practices for efficient academic and administrative operations.