



Yearly Status Report - 2019-2020

Part A

Data of the Institution

1. Name of the Institution		NETAJI SUBHASH ENGINEERING COLLEGE
Name of the head of the Institution		Tirthankar Datta
Designation		Principal
Does the Institution function from own campus		Yes
Phone no/Alternate Phone no.		033-24364929
Mobile no.		9830422806
Registered Email		naac.nsec@gmail.com
Alternate Email		principal@nsec.ac.in
Address		Techno City, Panchpota, Garia
City/Town		Kolkata
State/UT		West Bengal
Pincode		700152
2. Institutional Status		

Affiliated / Constituent	Affiliated
Type of Institution	Co-education
Location	Semi-urban
Financial Status	private
Name of the IQAC co-ordinator/Director	Prof.(Dr.) Sukumar Roy
Phone no/Alternate Phone no.	03324361285
Mobile no.	9433408287
Registered Email	naac.nsec@gmail.com
Alternate Email	sroybme@gmail.com

3. Website Address

Web-link of the AQAR: (Previous Academic Year)	https://www.nsec.ac.in/impdoc/aqar2018-19/AQAR_1st_Cycle_Report_2018-2019.pdf
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4. Whether Academic Calendar prepared during the year

Yes

if yes,whether it is uploaded in the institutional website:
Weblink :

<https://www.nsec.ac.in/page.php?id=557>

5. Accreditation Details

Cycle	Grade	CGPA	Year of Accreditation	Validity	
				Period From	Period To
1	B+	2.52	2019	26-Mar-2019	27-Mar-2024

6. Date of Establishment of IQAC

12-Jun-2013

7. Internal Quality Assurance System

Quality initiatives by IQAC during the year for promoting quality culture		
Item /Title of the quality initiative by IQAC	Date & Duration	Number of participants/ beneficiaries
Faculty Development Programmes on Data science & Machine	03-Jul-2019 10	25

Learning with python by Computer Science & Engineering dept. Objectives: To make the participants aware of the recent advancements, new techniques and scope of further technological advancement.		
Prototype Exhibition and Intra College Start-up pitching and Idea to Prototype Competition.	06-Jul-2019 2	534
Summer school on Wave Propagation & Remote Sensing 2019 by IEEE GRSS Student Branch-NSEC and IEEE AP/MTT Kolkata. A two-credit equivalent certificate course for students, research scholars, Professionals from academic institutes and industries.	14-Jul-2019 7	128
International Seminar on Recent Trends in Biotechnology. A six member team from OKAYAMA UNIVERSITY, Japan under the leadership of Prof. Masaharu Seno, Dean, delivered lectures and interacted with students.	31-Oct-2019 1	155
IIC-NSEC organized workshop on Design Thinking for the students of NSEC, who may become budding Tech Entrepreneurs in near future.	23-Nov-2019 1	158
Organized Smart India Hackathon 2020. Twenty one teams each comprises of six members participated in the competition. The eminent dignitaries from industries served the role of Jury for the event.	21-Dec-2019 1	132
NSEC E-Cell organized Hult Prize 2020- an event with the global challenges on Bold Business For A Better Planet. A total of thirty	25-Jan-2020 1	124

Start-up ideas comprising 120 students participated for the On-campus Winner & Runners Up position.		
Two student start-ups of NSEC THE DESIGNER BLOCK & STARTUP COTERIE in association with EDC-NSEC organized Hands-on workshop on Designing.	29-Feb-2020 1	122
Visit by Dr. Rujira Chaysiri & Ms. Nattaya Tempiam of Sirindhorn International Institute of Technology (SIIT), Thailand for MOU on student exchange & faculty exchange Programme.	05-Mar-2020 1	165
Institute & NSEC-Rotaract Club organized several programs for underprivileged sections and relief camps in the wake of Covid-19. Distributed essential commodities and packets to several families in nearby areas and other districts of West Bengal.	15-May-2020 5	265
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8. Provide the list of funds by Central/ State Government- UGC/CSIR/DST/DBT/ICMR/TEQIP/World Bank/CPE of UGC etc.

Institution/Department/Faculty	Scheme	Funding Agency	Year of award with duration	Amount
NSEC	TEQIP1	World Bank	2005 1460	74780000
Dr. P.P.Bhattacharya, ECE, NSEC	RPS	AICTE	2006 730	200000
Dr. P.P.Bhattacharya, ECE,NSEC	Fast track career young scientist scheme	SERC, DST	2008 1095	582000
Dr. Sudipta Nath, EE, NSEC	Young Scientist	DST	2008 1095	300000
Dr. Sudipta Nath, EE, NSEC	Career Award	AICTE	2009 1095	1050000
Dr. Sukumar Roy, BME, NSEC	RPS	DST, WB	2012 1095	533000

Electronics & Communication Engineering Dept., NSEC	MODROBs	AICTE	2017 730	960000
Biomedical Engineering Dept., NSEC	MODROBs	AICTE	2017 730	360000
Dr. Swapna Roy, Electrical Engineering	Seminar Grant	AICTE	2017 3	100000
Electrical Engineering Dept., NSEC	MODROBs	AICTE	2019 730	1475000
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9. Whether composition of IQAC as per latest NAAC guidelines:	Yes
Upload latest notification of formation of IQAC	View File
10. Number of IQAC meetings held during the year :	4
The minutes of IQAC meeting and compliances to the decisions have been uploaded on the institutional website	Yes
Upload the minutes of meeting and action taken report	View File
11. Whether IQAC received funding from any of the funding agency to support its activities during the year?	No
12. Significant contributions made by IQAC during the current year(maximum five bullets)	
Top Rank holder in COURSERA for MOOCs activities, with 53308 of total learning hours, 21061 enrollments and 4078 students joining courser, NSEC has topped the Ranking among all colleges under MAKAUT- the affiliated University.	
Institution Innovation Council (IIC) of Netaji Subhash Engineering College secured 5 Star Rating from Ministry of Education's Innovation Cell, Government of India. Out of total 1700 Institutes all over India participated, only 125 Institutes secured 5 star rating.	
Institute achieved prestigious NIRF Rank, India Ranking 2020: Engineering (Rank-Band: 251-300).	
Institute succeeded with high-status Atal Ranking of Institutions on Innovation Achievements-ARIIA 2020 in Band B (Rank Band: 26 -50).	

NPTEL local chapter activities and continuing position in top 100 with College Rating: A

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13. Plan of action chalked out by the IQAC in the beginning of the academic year towards Quality Enhancement and outcome achieved by the end of the academic year

Plan of Action	Achivements/Outcomes
Infrastructural improvement and CCTV connectivity	Digital classroom facilities have been created in each department to cope up with technological advancements in the space of e-learning. A separate computer center has developed with high end machines for enhancing computing facilities. CCTV camera surveillance systems are installed inside the classrooms, lobbies and important areas in the institute. This allowing the stakeholders to focus on their responsibilities and to prevent any undesirables from gaining access to the site.
Institute's Innovation Council (IIC) in accordance with MHRD's Innovation Cell, GOI	Institution Innovation Council (IIC-NSEC) has been formed in accordance with MHRD's Innovation Cell, GOI. A series of events were organized on Entrepreneurship, Design Workshop, Smart India Hackathon, Entrepreneur's Talk, Idea to Prototype Competition, B Plan Competition etc. as per guide lines of MHRD's Innovation Cell. IIC has earned full star in 1st quarter with scored 21.65/25 and in the next quarter 23.32/25 and as a whole 44.97/50.
Submission of proposal for recognition of CII-NSEC as Host Institute	The proposal submitted by the institute for its recognition as Host Institute / Business Incubation (HI/BI) for implementation of the scheme "Support for Entrepreneurial and Managerial Development of MSMEs through Incubator". It has been considered and approved during Meeting of PMAC held on 20/12/2019 at New Delhi. The institute is eligible for seeking Capital support for Plant and Machinery in BI: Rs.1 Crore.
Application for Unnat Bharat Abhiyan (UBA) Scheme for village adaptation under MHRD, GOI	The institute has applied for Unnat Bharat Abhiyan Scheme for village adaptation on 6th December 2019. MHRD, GOI considered NSEC as Participating Institute (PI) and 1st phase grant has

	<p>been released to complete the survey of all villages adopted under the program. As a part of UBA, five (05) villages viz. Ranabhutia, Jagatipata and Kantipota near the campus and another two villages Kamdebpur and Paschim Sripatinagar at Sudarban in the district 24 Parganas (South), WB have been adopted . The institute is always keen towards holistic development of these villages by providing knowledge and technological support to improve livelihoods in rural areas.</p>
<p>Seminars, workshops and Technical Talk on industry-academia innovative practices</p>	<p>International Seminar on "Robotics", Technical Lecture on "Planning and Design of an Urban Power Distribution Network", "Circa 70 - Si Device Progression and Challenges towards Nanoera", International Technical Talk on "Natural biomaterials in engineered medical devices", workshop on "Design Thinking", "Digital (In)securities in Digital World", "Framing up Institutional policies in aligning with National Innovation and Start Up Policy" and Hands-on workshop on "Designing" and "Embedded System and related use Cases" were organized in the campus. A series of webinar in similar areas were also conducted during lockdown period.</p>
<p>CSR through NSEC-Rotaract Club activities</p>	<p>Fostering Social Responsibility and Community Management, institute has formed NSEC-Rotaract Club in 2019 to uplift the needs and requirements of the deprived. Several notable events were conducted viz. "No Poor Sleeps Hungry", "Muktodhara", "Ichchapuran" and "Friends" for uplifting the needs and requirements of the deprived. Keeping in mind the strains and difficulties that the pandemic caused, some community service projects such as "Sankalp", "Cheshta", "Pratyasha" and more provided the basic necessities to the slum residents of various parts of the city.</p>
<p>Research and Publications</p>	<p>The members of faculty fraternity published fifty research papers in national and international journals, fifteen papers in national and international conference and fifty one books and chapters in edited volumes / books. A robust number of faculty members pursuing Ph.D. under different universities, several faculty members guiding Ph.D. scholars under affiliated</p>

	<p>university and other universities and four research scholars awarded Ph.D. during the year.</p>
<p>Initiatives of CII-EDC and participation in Hackathons & other competitions</p>	<p>Start-ups by Alumni Entrepreneur with the help of NSEC Incubation Centre viz. BIRPURUSH PRIVATE LIMITED and ZHAKASINDIA FOODS PRIVATE LIMITED were created. CII-EDC organized Smart India Hackathon 2020 (SIH 2020) - a total of 21 teams each comprises six members participated in the competition. NSEC E-Cell organized "Hult Prize 2020" on-campus Event with the global challenge on, "Bold Business For A Better Planet" - a total of 30+ Start up ideas, approximately 120 students registered in the competition. Other innovative events viz. Inter-College Business Plan Competition under Avenir'20 Techno Management Fest, Cloud Fest-2019, Code-O-War coding challenge and LINUX Fest and Orientation Program for 1st Year with Prototype Exhibition were organized for students.</p>
<p>Students participation in different National Innovation Contest</p>	<p>Team ENDG@ME of NSEC secured Runners-up position in Smart India Hackathon 2019 Hardware Edition Finale at IISER, Pune. They developed a prototype on "Water from thin air" developing process. Ms. Katha Sur and Mr. Karan Ghorai, 3rd year ECE won 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 for the same.</p>
<p>International Interaction and Collaboration</p>	<p>Visit by Dr. Rujira Chaysiri & Ms. Nattaya Tempiam of Sirindhorn International Institute of Technology (SIIT), Thailand for MOU for student and faculty exchange Programme. Prof. Masaharu Seno, Dean, Graduate School of Interdisciplinary Science & Engineering in Health System, Okayama University, Japan delivered lectures and interacted with students. A five member's Chinese delegation team of Sichuan Vocational College of Information Technology visited NSEC for collaboration in students exchange, faculty exchange, and joint research.</p>
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<p>14. Whether AQAR was placed before statutory body ?</p>	<p>Yes</p>

Name of Statutory Body	Meeting Date
BOG	20-May-2021
15. Whether NAAC/or any other accredited body(s) visited IQAC or interacted with it to assess the functioning ?	No
16. Whether institutional data submitted to AISHE:	Yes
Year of Submission	2020
Date of Submission	13-Feb-2020
17. Does the Institution have Management Information System ?	Yes
If yes, give a brief description and a list of modules currently operational (maximum 500 words)	The institution has Smart Management Information System TECHTRON ERP College Management V.2.0. The academic and nonacademic activities are well implemented through MIS. Viz. College Admission: ? Register Information ? Students Details ? Automatic Student ID Generation ? Account Details ? Registration Report ? Fee Structure Report ? Discount Report ? Payment detail Search by ID ? Refund Report ? Bank Loan Scholarship Tagging Report Purchase Management: ? Add New Requisition ? Requisition Type ? Justification ? Work/Supply Status Training Placement: ? Training Master List ? Training Budget Master List ? Placement Company Master List ? Student Training Appeared Detailed List ? Placement Eligible Candidate List ? Placement Appeared List

Part B

CRITERION I – CURRICULAR ASPECTS

1.1 – Curriculum Planning and Implementation

1.1.1 – Institution has the mechanism for well planned curriculum delivery and documentation. Explain in 500 words

The curriculum 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 to bring about desirable changes in students' learning, abilities and behaviour. The course teachers frequently assess and document learner achievement, modify instruction to improve learning attainment, 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 affiliated university. ? Formulate the Academic Activities: A Ready Reckoner which consists of description of activities, target date, performers and reviewing / supervising / monitoring authority. ? Prepare and update lesson plan and course file. It includes 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 outcome based question bank and rubrics for evaluation. ? Prepare schedule for sustainable skill development program, soft skill, value added training program, career development. ? Develop schedule for Induction Program and Bridge Courses. ? Strengthen self-learning / learning beyond syllabus: e-books, IEEE on-line journals, NPTEL (MOOC) courses, IITB Spoken tutorial courses, CDs of video lectures.
- **Instructional Delivery** The students are appropriately exposed to each course over the semester through teaching-learning processes. Teachers are involved in communicating the lesson to the students using the designed teaching model/strategies. The classroom management and mentoring get prioritized. ? Familiarize the students with lesson plan, course objectives and outcomes at the onset of each semester. ? Deliver formal classroom lectures followed by presentation with visual aid and teaching through smart techniques. ? Conduct extensive tutorial activity and laboratory experiments. ? Provide design based assignments, project works and seminars. ? Conduct internal test, quizzes and group discussion. ? Arrange value added training, industry visit and internship. ? Arrange social service in group and collaboration. ? Remedial classes for weaker students and special classes for brighter students. ? Arrange invited lectures by academician and industry persons on latest technologies.
- **Evaluation:** This involves data collection on the unfolding curricular materials in order to take decision on its efficacy or otherwise. The stated objectives are analyzed /ensured by documenting the attainment of course outcomes, program outcomes and program specific outcomes. Effectiveness of teaching is assessed through: ? Direct Assessment : 2 Assignments, Quizzes, Internal Assessment Test, Session End Evaluation 3 Internal & End Semester Result Analysis and attainment of course outcomes. 4 Project and Seminars ? Indirect Assessment: 1 Feedbacks from students' exit survey, graduate survey, alumni survey, guardian survey and employers' survey. 2 Feedbacks from accreditation and professional bodies.

1.1.2 – Certificate/ Diploma Courses introduced during the academic year

Certificate	Diploma Courses	Dates of Introduction	Duration	Focus on employ ability/entrepreneurship	Skill Development
NPTEL-IITKgp	MOOCs	01/07/2019	120	Core and Software Industry	Analytical, Communication and Programming
IITB Spoken Tutorial	MOOCs	16/07/2019	90	Software Industry	Programming
NPTEL-IITKgp	MOOCs	02/01/2020	120	Core and Software Industry	Analytical, Communication and Programming

IITB Spoken Tutorial	MOOCs	20/01/2020	90	Software Industry	Programming
Coursera	MOOCs	20/03/2020	90	Core and Software Industry	Analytical, Communicatio n and Programming

1.2 – Academic Flexibility

1.2.1 – New programmes/courses introduced during the academic year

Programme/Course	Programme Specialization	Dates of Introduction
No Data Entered/Not Applicable !!!		
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1.2.2 – Programmes in which Choice Based Credit System (CBCS)/Elective course system implemented at the affiliated Colleges (if applicable) during the academic year.

Name of programmes adopting CBCS	Programme Specialization	Date of implementation of CBCS/Elective Course System
MBA	Null	01/08/2019

1.2.3 – Students enrolled in Certificate/ Diploma Courses introduced during the year

	Certificate	Diploma Course
Number of Students	1628	Nil

1.3 – Curriculum Enrichment

1.3.1 – Value-added courses imparting transferable and life skills offered during the year

Value Added Courses	Date of Introduction	Number of Students Enrolled
WEB DEVELOPMENT USING DJANGO (PYTHON FRAMEWORK)	06/02/2020	116
Data Science and Machine Learning with Python and MySQL DB	27/01/2020	119
DATA SCIENCE WITH MYSQL	28/01/2020	128
ANGULAR JS	24/02/2020	91
PCB DESIGN FABRICATION	29/01/2020	140
CCNA and ETHICAL HACKING (ISOEH)	23/01/2020	128
NETWORK SECURITY	28/01/2020	140
POWER DISTRIBUTION	03/02/2020	124
IOT IN HOME AUTOMATION	03/02/2020	58
JAVA PROGRAMMING	28/01/2020	60
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1.3.2 – Field Projects / Internships under taken during the year

Project/Programme Title	Programme Specialization	No. of students enrolled for Field Projects / Internships
BTech	Information Technology	4

BTech	Electronic & Communication Engineering	2
BTech	Biomedical Engineering	2
BTech	Civil Engineering	133
BTech	Electrical Engineering	6
BTech	Mechanical Engineering (ME)	79
BTech	Computer Science & Engineering	15
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1.4 – Feedback System

1.4.1 – Whether structured feedback received from all the stakeholders.

Students	Yes
Teachers	Yes
Employers	Yes
Alumni	Yes
Parents	Yes

1.4.2 – How the feedback obtained is being analyzed and utilized for overall development of the institution? (maximum 500 words)

Feedback Obtained

Institute considers feedbacks from all stakeholders as an essential component to improve the performance and effectiveness of the institution. The college has instituted an on-line students' feedback to obtain feedback on teaching, coursework and various academic activities. Students' performance in all courses in the curriculum is extensively assessed to achieve the intended course outcomes. The course teachers frequently assess and document the learner achievement, modify instruction to improve learner attainment, participate in revision activities. Different types of feedback are as follows: A. Feedback on Curriculum The institution collects the feedback on syllabus and courses from different stakeholders such as the students, teachers, alumni, parents and employers. This involves data collection on the unfolding curricular materials in order to take decision on its efficacy or otherwise. The data is analyzed and discussed the departmental academic committee for possible incorporation in the curriculum. B. Feedback on Teaching-Learning Process The college has adopted the following surveys as an important assessment tools for evaluating the overall performance and excellence in education. ? Feedback on Infrastructural Facilities: A structure feedback has taken from the students and teachers to optimize and augment the infrastructural facilities in the campus. ? End Semester Students Survey: At the end of each semester, feedbacks are taken from students for individual courses with reference to teaching-learning processes and for achieving the course outcomes. These feedbacks are used by the teachers to improve the modes of delivery and contents of specific instructional objectives. ? Graduate Exit Survey: Feedbacks are collected from the graduating students at the end of the final semester. The achievement of program outcomes and program specific outcomes are also taken as criteria in the feedback. The graduate exit survey helps to assess students' perception of how the course curriculum has advanced them toward achieving their goals. ? Alumni Survey: Alumni feedback is taken with reference to the achievement of program educational objectives. Alumni surveys are conducted during alumni meet as well as during any alumnus visit the college and further, college website

invites alumni to provide feedback through online. ? Employer Survey: Students who have undergone vocational/summer training and internship in the industries, feedback is taken for the performance of students. Feedbacks are also taken from the concerned persons when they come to department for invited lecture or institution for campus recruitment in order to fulfill the professional requirements and industry expectations. ? Guardian Survey: The primary purpose is to obtain information about guardians' satisfaction with a range of academic, co-academic experiences, performances during and after graduation. This opinion is very valuable for significant improvements to the content and delivery of graduate education. ACTION TAKEN ON FEEDBACK The college follows a continuous review system as a measure of quality sustenance and quality enhancement. The feedbacks are collected by the concerned department, analyzed and discussed in the departmental academic committee meeting. The suggestions are placed to principal for subsequent discussion in the Internal Quality Assurance Cell (IQAC) to address any issue of concern.

CRITERION II – TEACHING- LEARNING AND EVALUATION

2.1 – Student Enrolment and Profile

2.1.1 – Demand Ratio during the year

Name of the Programme	Programme Specialization	Number of seats available	Number of Application received	Students Enrolled
BTech	Applied Electronics and Instrumentation Engineering	60	7235	37
BTech	Biomedical Engineering	30	7128	28
BTech	Civil Engineering	120	9356	31
BTech	Computer Science and Engineering	120	11921	109
BTech	Electronics and Communication Engineering	120	10215	96
BTech	Electrical Engineering	120	11734	103
BTech	Information Technology	90	9865	73
BTech	Mechanical Engineering	120	8932	51
MBA	Master of Business Administration	60	428	7
Mtech	Power System	36	2	2

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2.2 – Catering to Student Diversity

2.2.1 – Student - Full time teacher ratio (current year data)

Year	Number of	Number of	Number of	Number of	Number of
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	students enrolled in the institution (UG)	students enrolled in the institution (PG)	fulltime teachers available in the institution teaching only UG courses	fulltime teachers available in the institution teaching only PG courses	teachers teaching both UG and PG courses
2019	2856	31	154	6	19

2.3 – Teaching - Learning Process

2.3.1 – Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc. (current year data)

Number of Teachers on Roll	Number of teachers using ICT (LMS, e-Resources)	ICT Tools and resources available	Number of ICT enabled Classrooms	Number of smart classrooms	E-resources and techniques used
165	165	17	48	15	18

[View File of ICT Tools and resources](#)

[View File of E-resources and techniques used](#)

2.3.2 – Students mentoring system available in the institution? Give details. (maximum 500 words)

Institute has well established “Mentoring System” and practiced diligently at individual level to better serve the needs of an ever-changing and dynamic learning community. Effective mentoring begins with the faculty and depends on the healthy relationship between faculty and students. Each faculty will be the mentor of a group of 20 to 25 students. First year students will have primary and joint mentors from the department of Basic Engineering Sciences and second, third, fourth year students will have mentors from the parent department. Departmental faculties will continue to be mentors for the same group of students till their graduation. Types of Mentoring: ? Professional Guidance - regarding professional goals, selection of career, higher education. Arrange lectures of eminent personalities from academics, industry and social workers. ? Career Advancement - regarding employment opportunities, entrepreneurship development, innovative practices, morale, honesty and integrity as required for career growth. The Training and Placement Cell (TPC) arranges value added training, aptitude and soft skill classes, and pre-placement training to make the students industry ready. The Career Development Cell (CDC) extends their service to the students in career guidance, organizes lectures concerning career planning. The Entrepreneurship Development Cell (EDC) inculcates the spirit of innovation and entrepreneurship amongst the students, encourages and supports start-up creation through guidance and mentorship. ? Course Work Specific - regarding attendance and performance in each semester. A thorough discussion takes place on the syllabus, exam module, the pattern and the ways of attempting the paper. The performance is analyzed after every test and then a brain storming session is organized to assess their strengths and weaknesses. ? Lab specific - regarding Do's and Don'ts in the lab. Responsibilities: The mentor will perform the following functions. The list of course cannot be exclusive. A mentor can always do more for the benefit of the students. 1. Meet the group of students at least twice a month. 2. Continuously monitor, counsel, guide and motivate the students in all academic matters. 3. Advise students regarding choice of electives, project, summer training etc. 4. Contact parents/guardians if situation demands e.g. academic irregularities, negative behavioral changes and interpersonal relations, detrimental activities etc. 5. Advise students in their career development/professional guidance. 6. Keep contact with the students even after their graduation. 7. Intimate HOD and suggest if any administrative action is called for. 8. Maintain a detail progressive record of the student in college standard format. 9. Maintain a brief but clear record of all discussions with students. HOD: The HOD will, 1. Meet all mentor of his/her department at least once a month to review proper implementation of the system 2. Advice mentors wherever necessary. 3. Initiate administrative action on a student when necessary. 4. Keep the head of the institute informed. Academic Committee: Institute's academic committee will discuss mentoring related issues at least twice in a semester during its meetings. The suggestions are placed for subsequent discussion in the Internal Quality Assurance Cell (IQAC) to revise/upgrade the system if necessary.

Number of students enrolled in the institution	Number of fulltime teachers	Mentor : Mentee Ratio
2856	154	1:19

2.4 – Teacher Profile and Quality

2.4.1 – Number of full time teachers appointed during the year

No. of sanctioned positions	No. of filled positions	Vacant positions	Positions filled during the current year	No. of faculty with Ph.D
231	165	66	11	45

2.4.2 – Honours and recognition received by teachers (received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the year)

Year of Award	Name of full time teachers receiving awards from state level, national level, international level	Designation	Name of the award, fellowship, received from Government or recognized bodies
2019	Dr. Atanu Das	Assistant Professor	IMFR Best Scientist Award-2019
2019	Dr. Rajdeep Chakraborty	Assistant Professor	Adarsh Vidya Saraswati Rashtriya Puraskar
2019	Hriya Banerjee	Assistant Professor	RUSA Scholarship
2019	Dr. Chandan Banerjee	Professor	Top performing mentor award , NPTEL-Swayam, IIT Madras
2019	Dr. Sukumar Roy	Professor	Topper-NPTEL online FDP Certification, IITKgp
2019	Argha Basu	Assistant Professor	Junior Research Fellowship , UGC
2019	Dr. Koushik Dutta	Assistant Professor	Best poster paper award (Rank III)
2019	Rajkumar Patra	Assistant Professor	Top Performer Mentor, NPTEL
2020	Dr. Atanu Das	Assistant Professor	InSc Research Excellence Award
2020	Dr. Dr. Rajdeep Chakraborty	Assistant Professor	Best Researcher Award

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2.5 – Evaluation Process and Reforms

2.5.1 – Number of days from the date of semester-end/ year- end examination till the declaration of results during the year

Programme Name	Programme Code	Semester/ year	Last date of the last semester-end/ year-end examination	Date of declaration of results of semester-end/ year- end examination
BTech	AEIE	1st Sem / 1st year	24/12/2019	17/03/2020
BTech	BME	1st Sem / 1st year	24/12/2019	17/03/2020
BTech	CE	1st Sem / 1st	24/12/2019	17/03/2020

		year		
BTech	CSE	1st Sem / 1st year	24/12/2019	17/03/2020
BTech	ECE	1st Sem / 1st year	24/12/2019	17/03/2020
BTech	EE	1st Sem / 1st year	24/12/2019	17/03/2020
BTech	IT	1st Sem / 1st year	24/12/2019	17/03/2020
BTech	ME	1st Sem / 1st year	24/12/2019	17/03/2020
MBA	MBA	1st Sem / 1st year	24/12/2019	17/03/2020
Mtech	CSE	1st Sem / 1st year	24/12/2019	17/03/2020

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2.5.2 – Reforms initiated on Continuous Internal Evaluation(CIE) system at the institutional level (250 words)

Internal Quality Assurance Cell (IQAC) of the institute continuously monitors and evaluates the internal evaluation mechanism and plays a pivotal role in enhancing the teaching-learning process by ensuring quality in all operations of various departments. The recommendations from various committees and from the management are scrutinized and subsequently corrective actions are undertaken. Based on the requirement, IQAC cell also formulate quality benchmark policies for improving quality in continuous internal evaluation and for proper implementation of outcome based education. At the institution level following reforms in continuous internal evaluation has been initiated to ensure transparent and objective assessment. ? Students' feedback on structured questionnaires. ? Monitoring and mentoring activities. ? Syllabus coverage reports. ? Course file, lesson plan and quality assignments and internal tests. ? Mandatory parent-teacher meeting. ? Academic audit report. ? Reports on training, internship, field project and campus recruitment. ? Rubrics based evaluation system ? Course outcomes based question paper for internal tests and assignments. ? Performances of students with respect to each course outcomes. ? Attainment level of course outcomes program outcomes and program specific outcomes. ? Learning through observation, extramural laboratory practices, designed based projects and extensive tutorial activities. ? Teach while you learn practices. ? Methodologies for strengthening program outcomes and program specific outcomes attainment. ? Seminar/ Project work: Students progress is evaluated through presentation at fortnightly Besides this, institute strictly follows the "Academic Activities - A Ready Reckoner" guidelines for scheduled monitoring reviewing of all academic activities round the year.

2.5.3 – Academic calendar prepared and adhered for conduct of Examination and other related matters (250 words)

The institute maintains its own academic calendar to ensure academic discipline and smooth conduction of the continuous internal evaluation process. For preparation of the detail academic schedule, the institute has to depend on the affiliated University calendar and the local needs. The institute has also developed a structured format "Academic Activities: A Ready Reckoner" to all, lists out component wise academic activities to be performed during the odd and even semester program including time limit for each work, name of the person responsible and the supervising authority. The activity schedules of the academic calendar for the academic year 2019-2020 as follows: ? The

Registration process commences online for newly admitted students: 22/07/2019. ? Admission activities (for ensuing new students) completed by 31/07/2019. ? Commencement of Academic Programme: 01/08/2019-new batch), 15/07/2019-continuing batch 20/01/2020. ? Registration activities completed by 25/09/2019 (newly admitted students 2019-2020). ? Enrolment of students: 14-30/08/2019 20-30/01/2020. ? Last date of continuous evaluation (Phase I): 31/08/2019 31/01/2020. ? Last date of continuous evaluation (Phase II): 30/09/2019 28/02/2020. ? Last date of continuous evaluation (Phase III): 31/10/2019 31/03/2020. ? Last date of continuous evaluation (Phase IV): 30/11/2019 30/04/2020. ? Practical Examinations Viva-Voce: 22-30/11/2019 11-16/05/2020. ? Theory Examinations: 4/12/2019-21/12/2019 22/05/2020-09/06/2020. ? Inter Semester Break: 22/12/2019-12/01/2020 10/06/2020-14/07/2020. ? Publication of Result February 2020 July 2020. ? Last date of reporting on Mentoring (Phase I): 30/09/2019 31/03/2020. ? Last date of reporting on Mentoring (Phase II): 30/12/2019 30/06/2020.

2.6 – Student Performance and Learning Outcomes

2.6.1 – Program outcomes, program specific outcomes and course outcomes for all programs offered by the institution are stated and displayed in website of the institution (to provide the weblink)

https://www.nsec.ac.in/impdoc/aqar2018-19/AQAR-2_6_2-ALL-PO-PSO-CO-NSEC.pdf

2.6.2 – Pass percentage of students

Programme Code	Programme Name	Programme Specialization	Number of students appeared in the final year examination	Number of students passed in final year examination	Pass Percentage
ECE	BTech	Electronics and Communication Engineering	141	137	97.16
CSE	BTech	Computer Science and Engineering	141	132	93.62
CE	BTech	Civil Engineering	137	137	100
BME	BTech	Biomedical Engineering	32	32	100
AEIE	BTech	Applied Electronics and Instrumentation	57	53	92.98
EE	BTech	Electrical Engineering	137	128	93.43
IT	BTech	Information Technology	84	84	100
ME	BTech	Mechanical Engineering	128	128	100
MBA	MBA	Master of Business Administration	11	11	100

CSE	Mtech	Computer Science and Engineering	2	2	100
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2.7 – Student Satisfaction Survey

2.7.1 – Student Satisfaction Survey (SSS) on overall institutional performance (Institution may design the questionnaire) (results and details be provided as weblink)

http://www.nsec.ac.in/impdoc/agar2019-20/AOAR-2_2_7_1-sss.pdf

CRITERION III – RESEARCH, INNOVATIONS AND EXTENSION

3.1 – Resource Mobilization for Research

3.1.1 – Research funds sanctioned and received from various agencies, industry and other organisations

Nature of the Project	Duration	Name of the funding agency	Total grant sanctioned	Amount received during the year
Major Projects	730	AICTE	14.75	11.8
International Projects	5	RUSA, Govt. Of India.	0.71	0.71
Industry sponsored Projects	30	DIGI20 INFORMATION SOLUTIONS PRIVATE LIMITED	0.07	0.07
View File				

3.2 – Innovation Ecosystem

3.2.1 – Workshops/Seminars Conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices during the year

Title of workshop/seminar	Name of the Dept.	Date
Workshop on Embedded System and related use Cases".	Electronics and Communication Engineering	09/11/2019
Workshop on Dissemination Methodology in ES-EE101	Electrical Engineering	03/07/2019
Seminar on Innovation Entrepreneurial Thinking	Information Technology	20/08/2019
Seminar on The Software Release Process	Information Technology	24/09/2019
Workshop on Business Analytics using MS-Excel	Master of Business Administration	22/10/2019
Seminar on Machine Learning for IoT Analytics"	Electronics and Communication Engineering	27/01/2020
International Seminar on Robotics	IT, CSE ECE	25/02/2020
Workshop on Sales Distribution Management - Excellence in Indian Markets	Master of Business Administration	27/02/2020

Webinar on IPR and Innovation	IIC-EDC, NSEC	23/04/2020
Workshop on Quantum Computing	GNX, NSEC	24/06/2020
Seminar on Head First Artificial Intelligence Machine Learning	Information Technology	12/02/2020
Seminar on Algorithm Design for Robotics	Information Technology	12/02/2020
Webinar on Doing Business in an Uncertain World	Master of Business Administration	15/05/2020
Webinar on Marketing how to conduct a Biz during pandemic crisis	Master of Business Administration	15/04/2020
workshop on Design Thinking	IIC-EDC, NSEC	23/11/2019
Workshop on Digital (In)securities in Digital World	IIC-EDC, NSEC	21/12/2019
workshop on Framing up Institutional policies in aligning with National Innovation and Start Up Policy	IIC-EDC, NSEC	21/12/2019
Hands-on workshop on Designing	IIC-EDC, NSEC	29/02/2020
Webinar on Break The Myth, an awareness program	IIC-EDC, NSEC	29/03/2020
webinar under lockdown impact series on "Ethical Hacking Penetration Testing with Kali LINUX	IIC-EDC, NSEC	09/04/2020
Webinar on Innovation and Branding-A Case study of a leading B2B Brand from TATA STEEL	IIC-EDC, NSEC	09/04/2020
Webinar Break The Myth against Covid-19	IIC-EDC, NSEC	29/04/2020
Webinar on SHINNING THROUGH THE COVID FOG	IIC-EDC, NSEC	06/05/2020
Webinar on Computing using Python	Tech Club, NSEC	15/05/2020
Webinar Campus Commune Program-CodeVita	Tech Club, NSEC	12/05/2020
Weninar on Disruption is the new normal - Ways to cope post lockdown	IIC-EDC, NSEC	13/05/2020
Webinar on Robotics and artificial intelligence	IIC-EDC, NSEC	20/06/2020

Webinar on Applications of Machine Learning in Space Expedition	IIC-EDC, NSEC	28/06/2020
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3.2.2 – Awards for Innovation won by Institution/Teachers/Research scholars/Students during the year

Title of the innovation	Name of Awardee	Awarding Agency	Date of award	Category
White Coal from Jute Sticks	Katha Sur and Karan Ghorai	3M India and Confederation of Indian Industries (CII)	28/08/2019	Winner in Product Innovation Category
White Coal from Jute Sticks	Katha Sur and Karan Ghorai	Chatra Viswakarma Award, AICTE	24/02/2020	Winner in Energy Category
Water from Thin Air	Sumit Kumar, Shilpi Mukherjee and other 4	SIH, Hardware, AICTE	07/09/2019	Runners up
Sukhsath IOT based posture detection system for Senior Care	Avijit Das, and other 3	PRAYAS, 2020, TITE- Khurda, VTU-Karnataka and AKU- Bihar	14/02/2020	3rd Position
Cardiacotech	Procheta Bhattacharya	IIEST, Shibpur	16/02/2020	3rd Position
Adarsh Vidya Saraswati Rashtruya Puraskar - 2019	Dr. Atanu Das	Global Management Council and Glacierjournal Research Foundation, Ahmedabad-380061 (Gujarat),	17/12/2019	National Award in Excellence
IMRF Best Scientist Award -2019	Dr. Atanu Das	International Multidisciplinary Research Foundation, Leading Research Organization in India Abroad, Institute of Higher Education and Research	06/12/2019	IMRF Academic Awards
InSc Research Excellence Award-2020	Dr. Atanu Das	Institute of Scholars, Department of Awards, #1338, 2nd Cross, 7th Block Sir M V Layout, Muddhinapalya Bengaluru-560091	16/01/2020	International Award

		, Karnataka, India.		
VDGOOD Outstanding Scientist Awards 2020	Dr. Atanu Das	4th International Scientist Awards on Engineering, Science, and Medicine on 1516-Feb-2020 at Chennai, India, VDGOOD Professional Association	23/01/2020	International Award
PRAYAS 2020	Soumyajit Podder	TEQIP-III	14/02/2020	National Level Inter College Project Competition
View File				

3.2.3 – No. of Incubation centre created, start-ups incubated on campus during the year

Incubation Center	Name	Sponsored By	Name of the Start-up	Nature of Start-up	Date of Commencement
NSEC Incubation Center	NSEC Incubation Center	Institutio nal Own Fund	Birpurush Private Limited	Private Ltd	17/10/2019
NSEC Incubation Center	NSEC Incubation Center	Institutio nal Own Fund	ZHAKASINDIA FOODS PRIVATE LIMITED	Private Ltd	18/01/2020
View File					

3.3 – Research Publications and Awards

3.3.1 – Incentive to the teachers who receive recognition/awards

State	National	International
1	7	5

3.3.2 – Ph. Ds awarded during the year (applicable for PG College, Research Center)

Name of the Department	Number of PhD's Awarded
Applied Electronics Instrumentation Engineering, Computer Science Engineering and Information Technology (Guiding Research Scholars under Affiliated University and Other Universities)	3

3.3.3 – Research Publications in the Journals notified on UGC website during the year

Type	Department	Number of Publication	Average Impact Factor (if any)
International	Applied Electronics and Instrumentation	7	1.23

	Engineering		
International	Basic Engineering Sciences	1	2.05
International	Computer Science and Engineering	13	1.72
International	Electronics and Communication Engineering	11	2.75
International	Electrical Engineering	2	1.84
International	Information Technology	2	Nil
International	Mechanical Engineering	3	1.14
National	Mechanical Engineering	1	0.73
View File			

3.3.4 – Books and Chapters in edited Volumes / Books published, and papers in National/International Conference Proceedings per Teacher during the year

Department	Number of Publication
Applied Electronics and Instrumentation Engineering	2
Basic Engineering Sciences	1
Computer Science and Engineering	24
Electronics and Communication Engineering	7
Electrical Engineering	4
Information Technology	15
Mechanical Engineering	2
View File	

3.3.5 – Bibliometrics of the publications during the last Academic year based on average citation index in Scopus/ Web of Science or PubMed/ Indian Citation Index

Title of the Paper	Name of Author	Title of journal	Year of publication	Citation Index	Institutional affiliation as mentioned in the publication	Number of citations excluding self citation
Bis(isothiocyanato methyl) Benzene, a plant derived anti-neoplastic compound: purified from Moringa	Samrat Paul, Piyali Basak, Chayan Guha and Nandan Kumar Jha	Anticancer Agents in Medicinal Chemistry	2019	1	Netraji Subhash Engineering College	1

oleifera leaf extract						
Combined Triple Band Circularly Polarized and Compact UWB Monopole Antenna	Anirban Karmakar, Utsab Banerjee, Anuradha Saha and Piyali Chakraborty	IET Microwaves, Antennas Propagation	2019	5	Netaji Subhash Engineering College	1
A CPW-fed Compact Monopole Antenna with Defected Ground Structure and Modified Parasitic Hilbert Strip having Wideband Circular Polarization	Utsav Banerjee, Anirban Karmakar, Anuradha Saha and Piyali Chakraborty	International Journal of Electronics and Communications	2019	5	Netaji Subhash Engineering College	9
A framework for managing uncertainty in information system project selection: an intelligent fuzzy approach	D. Pramanik, S Mondal, A. Halder	INTERNATIONAL JOURNAL OF MANAGEMENT SCIENCE AND ENGINEERING MANAGEMENT	2019	9	Netaji Subhash Engineering College	8
A review on circularly polarized antennas, trends and advances	Utsav Banerjee, Anirban Karmakar and Anuradha Saha	International Journal of Microwave and Wireless Technologies, Cambridge University Press	2020	5	Netaji Subhash Engineering College	2

Three-phase thyristor controlled reactor using two sets of delta connected switches without low harmonics	Dipten Maiti, Susovan Mukhopadhyay and Sujit K. Biswas	IET Power Electronics	2020	50	Netaji Subhash Engineering College	50
Modelling the Constraint effect on Reference Temperature with finite element parameters for RPV material 20MnMoNi55 steel	K. Bhattacharyya, S. Acharyya, S. Dhar and J. Chattopadhyay	Defense Science Journal (DRDO Publication)	2020	1	Netaji Subhash Engineering College	Nil
Resilient supplier selection to mitigate uncertainty : soft-computing approach	D. Pramanik, S. Mondal, A. Halder	Journal of Modelling in Management	2020	1	Netaji Subhash Engineering College	1
Design of an antipodal Vivaldi antenna with fractal-shaped dielectric slab for enhanced radiation characteristics	Anindita Bhattacharjee, Abhirup Bhawal, Anirban Karmakar and Anuradha Saha	Microwave and Optical Technology Letters, Willey Periodicals	2020	5	Netaji Subhash Engineering College	2
Wavelet Kernel based Convolutional Neural	B. Ganguly, S. Biswas, Sugata Munshi,	IEEE Transactions on Industrial Informatic	2020	105	Netaji Subhash Engineering College	4

Network for Localization of Partial Discharge Sources within a Power Apparatus	Sovan Dalai, B.Chatterjee and S.Chakravorty	s				
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3.3.6 – h-Index of the Institutional Publications during the year. (based on Scopus/ Web of science)

Title of the Paper	Name of Author	Title of journal	Year of publication	h-index	Number of citations excluding self citation	Institutional affiliation as mentioned in the publication
Software for Feedback System using Adaptive Categorization Authenticated Recommendation	Ayan Banerjee, Anirban Kundu	International Journal of Open Source Software and Processes	2019	7	Nil	Netaji Subhash Engineering College
Bis(isothiocyanato methyl) Benzene, a plant derived anti-neoplastic compound: purified from Moringa oleifera leaf extract	Samrat Paul, Piyali Basak, Chayan Guha and Nandan Kumar Jha	Anticancer agents in medicinal Chemistry	2019	1	Nil	Netaji Subhash Engineering College
Combined Triple Band Circularly Polarized and Compact UWB Monopole Antenna	Anirban Karmakar, Utsav Banerjee, Anuradha Saha and Piyali Chakraborty	IET Microwaves, Antennas Propagation	2019	7	1	Netaji Subhash Engineering College
A CPW-fed Compact Monopole	Utsav Banerjee, Anirban Karmakar,	International Journal of Electronic	2019	7	4	Netaji Subhash Engineering College

Antenna with Defected Ground Structure and Modified Parasitic Hilbert Strip having Wideband Circular Polarization	Anuradha Saha and Piyali Chakraborty	s and Communications				
A framework for managing uncertainty in information system project selection: an intelligent fuzzy approach	D. Pramanik, S Mondal, A. Halder	INTERNATIONAL JOURNAL OF MANAGEMENT SCIENCE AND ENGINEERING MANAGEMENT	2019	5	5	Netaji Subhash Engineering College
Electrochemical Discharge Machining Technology Applied for Turning Operation	MN ali, BR Sarkar, B Doloi	Materials Science and Engineering	2019	1	5	Netaji Subhash Engineering College
A review on circularly polarized antennas, trends and advances	Utsab Banerjee, Anirban Karmakar and Anuradha Saha	International Journal of Microwave and Wireless Technologies, Cambridge University Press	2020	7	2	Netaji Subhash Engineering College
Design of an antipodal Vivaldi antenna with fractal-shaped dielectric	Anindita Bhattacharjee, Abhirup Bhawal, Anirban Karmakar and	Microwave and Optical Technology Letters, Wiley Periodicals	2020	7	2	Netaji Subhash Engineering College

slab for enhanced radiation characteristics	Anuradha Saha					
Wavelet Kernel based Convolutional Neural Network for Localization of Partial Discharge Sources within a Power Apparatus	B. Ganguly, S. Biswas, Sugata Munshi, Sovan Dalai, B.C hatterjee and S.Chakravorti	IEEE Transactions on Industrial Informatics	2020	4	4	Netaji Subhash Engineering College
Resilient supplier selection to mitigate uncertainty : soft-computing approach	D. Pramanik, S. Mondal, A. Halder	Journal of Modelling in Management (Emerald Insight)	2020	5	1	Netaji Subhash Engineering College
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3.3.7 – Faculty participation in Seminars/Conferences and Symposia during the year :

Number of Faculty	International	National	State	Local
Presented papers	8	3	1	Nil
Resource persons	2	Nil	Nil	Nil
Attended/Seminars/Workshops	4	11	2	Nil
View File				

3.4 – Extension Activities

3.4.1 – Number of extension and outreach programmes conducted in collaboration with industry, community and Non- Government Organisations through NSS/NCC/Red cross/Youth Red Cross (YRC) etc., during the year

Title of the activities	Organising unit/agency/ collaborating agency	Number of teachers participated in such activities	Number of students participated in such activities
SANKALP -Sankalp, a relief camp aimed at distributing essential commodities to 25 families at Cochbehar District	ROTARACT, NSEC ROTARY, Dhakuria	1	15

Sikkar Alo - Book donation event for needy students in the locality school.	ROTARACT, NSEC ROTARY, Dhakuria	3	24
Tree Plantation along with China delegates	NSS-NSEC	45	65
Carnival -Intra-college competition among students of all year in different competitions and fund raised from this event was invested for the purchase of new books for an under developed primary school, Ranabhutia Abaitanik Prathomik Vidyalay, near	ROTARACT, NSEC ROTARY, Dhakuria	11	315
Ichchapuron - Distribution of new clothes to the children of Ashiyana Happy Home during Durga Puja	ROTARACT, NSEC ROTARY, Dhakuria	2	40
Drops of Hope - Blood Donation Camp	ROTARACT, NSEC ROTARY, Dhakuria	15	120
Tree Plantation on Independence Day	NSS-NSEC	25	215
Muktodhara - Cultural programs for poor childrens	ROTARACT, NSEC ROTARY, Dhakuria	5	170
Friends - Educational programs with orphans "Ashiyana Happy Home" situated at DumDum Cantonement.	ROTARACT, NSEC ROTARY, Dhakuria	3	60
No Poor Sleeps Hungry - distribution of corn to the slum dwellers of Gariahat flyover	ROTARACT, NSEC ROTARY, Dhakuria	3	25
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3.4.2 – Awards and recognition received for extension activities from Government and other recognized bodies during the year

Name of the activity	Award/Recognition	Awarding Bodies	Number of students Benefited
PRAYAS 2020	TEQIP-III	TEQIP-III	2
NPTEL Motivated Learner	NPTEL EVANGELIST	NPTEL, IITKgp	1
Scholarship Programme 2020	APC WomenTechmakers	Google	1
Lead	Google Developers Student Club	Google	1
CS106A-Code in Place	Python Facilitator	Standford University	1
Microsoft Learn	Ambassador	Microsoft	1
Pie AI	Ambassador	Deep Learning AI	1
Fashion Show Competition-2020	Winner Award	National Institute Of Fashion Technology	9
Decov Mega Hackathon 2020	Code Tigers in association with Satyam Roychowdhury foundation	Code Tigers in association with Satyam Roychowdhury foundation	3
Hackbenchers#4	Hackerearth	Hackerearth	3
View File			

3.4.3 – Students participating in extension activities with Government Organisations, Non-Government Organisations and programmes such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the year

Name of the scheme	Organising unit/Agency/collaborating agency	Name of the activity	Number of teachers participated in such activities	Number of students participated in such activities
Community Services during pandemic	ROTARACT, NSEC ROTARY, Dhakuria	Ichchapuron - Distribution of new clothes to the children of Ashiyana Happy Home during Durga Puja, SANKALP-relief camp aimed at distributing essential commodities to 25 families at Cochbehar District, SWAPNAPURAN - Relief Camp was organized an	16	125
Charity	ROTARACT, NSEC ROTARY, Dhakuria	No Poor Sleeps Hungry - distribution of corn to the slum dwellers of Gariahat	12	145

		flyover and Drops of Hope - Blood Donation Camp e in association with Thakurpukur Cancer Hospital.		
Womens Empowerment	NSS-NSEC	Carada Training and show on Independence Day	2	35
Education	ROTARACT, NSEC ROTARY, Dhakuria	Sikkar Alo - Book donation event for needy students in the locality school and RACE THE CHASE - books collection event for creating a library at Ranabhutia Abaitanik Prathomic Vidyalay, a .primary school near the location of the college.	8	45
Childrens Right	ROTARACT, NSEC ROTARY, Dhakuria	Friends - Educational programs with orphans "Ashiyana Happy Home" situated at DumDum Cantonement and Muktohdhara - Cultural programs for poor childrens.	8	230
Gender Issue	NSS-NSEC	Gender Sensitization Program-Course embeded in Induction Program	35	450
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3.5 – Collaborations

3.5.1 – Number of Collaborative activities for research, faculty exchange, student exchange during the year

Nature of activity	Participant	Source of financial support	Duration
Ph. D. Guidance	Dr. Atanu Das	Self sponsored	2190
PhD work	Sujan Krishna Samanta	Self sponsored	512
Ph.D. Guidance	Dalia Achary under the guidance of Dr. Sukumar Roy	Self sponsored	2190
PhD Research / PhD Guidance to research scholar	Ms. Somasree Bhadra (research scholar of Dr. Anirban Kundu)	Visvesvaraya PhD Scheme (under Govt. Of India)	1825
Ph.D. work	Dipika Pramanik	Self sponsored	1825
Research Guidance (as PhD supervisor)	ANUPAM GHOSH	UGC, Rajib Gandhi National Fellowship	1825
Research Guidance (as a PhD supervisor)	ANUPAM GHOSH	Self sponsored	2190
Research (Ph.D. work)	Dr. Anuradha Saha	Self sponsored	365
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3.5.2 – Linkages with institutions/industries for internship, on-the- job training, project work, sharing of research facilities etc. during the year

Nature of linkage	Title of the linkage	Name of the partnering institution/ industry /research lab with contact details	Duration From	Duration To	Participant
Engineering Study Centre	Student Project	NSEC and Engineering Study Centre, S.D.F. Building, Salt Lake Kolkata	01/08/2019	20/06/2020	75
Educational Visit to Water Treatment Plant	Educational Visit	Jai Hind Water Treatment Plant	14/03/2020	14/03/2020	132
On-the-job training	Vocational training on Transformer design and manufacturing aspects	Gupta Transformer Pvt Ltd (033 24052337)	14/01/2020	14/01/2020	4
Internship	Winter Internship	Ardent Computech	26/12/2019	25/01/2020	2

		Pvt Ltd, Kolkata			
Research work / supervision	Supervisor	Jadavpur University, Kolkata -700032	01/07/2019	30/06/2020	1
PhD related research activities	An Automated Approach toward Smart Traffic	University of Calcutta	01/07/2019	30/06/2020	1
Collaborative linkage in arranging Seminar, Workshop and on site training	Adviser, CE Students Chapter with IEI at NSEC	Institution of Engineers (India)	01/07/2019	30/06/2020	1
Industry Visit	CII Industry-Institute Partnership	TATA Timken LTD, TATA Cummins LTD.	01/07/2019	30/06/2020	1
Collaborative Research	Joint supervision in Ph.d Guidance, Co PI in DBT Project	CMATER Lab, Computer Science Engg, Jadavpur University	01/07/2019	01/06/2020	1
Student project work	M.Tech. project guide	School of bioscience and engineering , Jadavpur university	01/07/2019	30/06/2020	1
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3.5.3 – MoUs signed with institutions of national, international importance, other universities, industries, corporate houses etc. during the year

Organisation	Date of MoU signed	Purpose/Activities	Number of students/teachers participated under MoUs
BSE Institute Limited, Kolkata	20/06/2019	Offering BSc. Data Science	20
Indian School of Ethical Hacking	20/06/2019	Offering BSc. Cyber Security	16
The Linux Foundation	29/04/2019	Associate membership	124
Confederation of Indian Industry (CII)	17/05/2019	Facilitate and arrange institute-industry interaction, student and faculty	370

		development programs	
National Entrepreneurship Network (NEP)	31/08/2019	Offer Wadhvani entrepreneurship curricula, content and methodology to students.	745
Sirindhorn International Institute of Technology, Thammasat University, Thailand	21/12/2019	Faculty, staffs and Students exchange program	6
University of Mostar, Bosnia, Hercegovina	13/01/2020	Faculty and Students exchange program	4
Manipal International University, Malaysia	11/11/2019	Research, teaching, learning and exchange programs	7
View File			

CRITERION IV – INFRASTRUCTURE AND LEARNING RESOURCES

4.1 – Physical Facilities

4.1.1 – Budget allocation, excluding salary for infrastructure augmentation during the year

Budget allocated for infrastructure augmentation	Budget utilized for infrastructure development
110	101.49

4.1.2 – Details of augmentation in infrastructure facilities during the year

Facilities	Existing or Newly Added
Campus Area	Existing
Class rooms	Existing
Laboratories	Existing
Seminar Halls	Existing
Classrooms with LCD facilities	Existing
Seminar halls with ICT facilities	Existing
Video Centre	Existing
Value of the equipment purchased during the year (rs. in lakhs)	Newly Added
Others	Newly Added
Number of important equipments purchased (Greater than 1-0 lakh) during the current year	Newly Added
Classrooms with Wi-Fi OR LAN	Existing
View File	

4.2 – Library as a Learning Resource

4.2.1 – Library is automated {Integrated Library Management System (ILMS)}

Name of the ILMS software	Nature of automation (fully or partially)	Version	Year of automation
LIBSYS	Fully	Web Centric Lsease EJB version LMS	2006

4.2.2 – Library Services

Library Service Type	Existing		Newly Added		Total	
Text Books	99190	12384315	952	587495	100142	12971810
Reference Books	65	414272	16	56334	81	470606
e-Books	58	89741	Nil	Nil	58	89741
Journals	34	107000	Nil	189400	34	296400
e-Journals	175	836503	15	65860	190	902363
Digital Database	6	994684	1	35560	7	1030244
CD & Video	2	700000	Nil	Nil	2	700000
Library Automation	Nil	243139	Nil	305210	Nil	548349
Weeding (hard & soft)	5716	354392	Nil	Nil	5716	354392
View File						

4.2.3 – E-content developed by teachers such as: e-PG- Pathshala, CEC (under e-PG- Pathshala CEC (Under Graduate) SWAYAM other MOOCs platform NPTEL/NMEICT/any other Government initiatives & institutional (Learning Management System (LMS) etc

Name of the Teacher	Name of the Module	Platform on which module is developed	Date of launching e-content
Debasish Chowdhury	Fundamental Dependency	YouTube	06/03/2020
Dr. Koushik Dutta	Analog Design 1 (Analog Design Lab): Full wave Rectifier	YouTube	09/03/2020
Dr. Apurba Das	Slope and Deflection of beams: Double Integration Method	YouTube	08/03/2020
Sayan Mandal	Maximum, minimum and best wire sizes in Three Wire Method of Measurement of	YouTube	16/03/2020

	Effective/Pitch Diameter		
Swati Chakraborti	Quadrature Amplitude Modulation	YouTube	21/03/2020
Dr. Anuradha Saha	Basics of Fuzzy Inference System Dr. Anuradha Saha EI604B	YouTube	17/03/2020
Lidiya Priyadarsini K	Iron-iron carbide diagram, Heat Treatment of Steels, Time Temperature Transformation Diagram	YouTube	03/03/2020
Dr. Swapna Roy	Maxwells Inductance Capacitance Bridge part 2- Phasor diagram	YouTube	24/03/2020
Ranajit Midya	Easy way to remember equations for solving problems regarding design procedure of gears	YouTube	15/03/2020
Dr. Kushal Bhattacharyya	Hydraulic Power Steering for modern Automobile Vehicles	YouTube	21/03/2020
View File			

4.3 – IT Infrastructure

4.3.1 – Technology Upgradation (overall)

Type	Total Computers	Computer Lab	Internet	Browsing centers	Computer Centers	Office	Departments	Available Bandwidth (MBPS/GBPS)	Others
Existing	1096	890	778	35	35	19	117	70	50
Added	40	25	20	0	15	0	0	30	0
Total	1136	915	798	35	50	19	117	100	50

4.3.2 – Bandwidth available of internet connection in the Institution (Leased line)

100 MBPS/ GBPS

4.3.3 – Facility for e-content

Name of the e-content development facility	Provide the link of the videos and media centre and recording facility
Media Centre and Content Development Centre	https://www.nsec.ac.in/page.php?id=518

Departmental content development centre	https://www.nsec.ac.in/page.php?id=518
Online e-Resources	https://www.nsec.ac.in/page.php?id=518

4.4 – Maintenance of Campus Infrastructure

4.4.1 – Expenditure incurred on maintenance of physical facilities and academic support facilities, excluding salary component, during the year

Assigned Budget on academic facilities	Expenditure incurred on maintenance of academic facilities	Assigned budget on physical facilities	Expenditure incurred on maintenance of physical facilities
1050	994.39	350	309.51

4.4.2 – Procedures and policies for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc. (maximum 500 words) (information to be available in institutional Website, provide link)

The policy for maintenance and utilization of the infrastructures depend on the type of equipment or facility. The campus infrastructures are grouped into five categories, they are stated below. • Category I: Academic tools, equipment and essential academic support systems All laboratory equipment, computers, library books, pedagogic tools like projectors, laptops, microphones, etc. located in the departments are to be taken care of by the HOD. Stock Registers are maintained as regards their procurement prices and other details like location. For expensive items separate log books for utilization are maintained. In case of repair of these items, the HOD is empowered to contact the supplier or servicing centre and place order after obtaining approval from the authority. • Category II: Support systems which are not related to academics but essential For the gadgets like drinking water facility, wash rooms, lights, fans, air conditioners, furniture, etc. located in the departments, repair or replacement are taken centrally (Estate Maintenance under Administrator or Electric Section) on receipt of complaint from HOD. • Category III: General purpose campus infrastructure-essential or of aesthetic values All items like cars, Institute ambulance, Diesel Generator sets, Power Supply interface (sub-station), solar system, pump sets, gardening and horticulture, etc. are under the direct control of the Administrator. Administrator reports directly to the Director/Principal, supervises the maintenance and up keep of these items, organizes their repair or replacement with due approval from the authority. Internal audit is organized annually and writing off is done as per laid down procedure. • Category IV: Sports and Extra-curricular activities Sports items are replaced on recommendation of the Faculty-in-charge (FIC) of Sports and games. The play-ground is maintained under the FIC supported by the Estate Maintenance. Student Common rooms are maintained by the Administrator. • Category V: Central Facilities - academic and general All central facilities are under the direct control of the Principal, who is responsible for supervising their utilization and functioning with the help of relevant committees. Two categories of Central facilities are: (a) Academic facilities (b) Institute functional (General) facilities (a) Academic facilities: All computers and peripherals are maintained centrally. Location and utilization wise they are normally under the day to day supervision of the users / user department / section. Replacement needs approval from Principal / Director. Photo copiers are also maintained under the supervision of the central committee. (b) General facilities: Telephone, air conditioners, Elevator are maintained under the direct control of the Principal through Administrator. These items are usually covered under AMC with the institute.

<https://www.nsec.ac.in/page.php?id=566>

CRITERION V – STUDENT SUPPORT AND PROGRESSION**5.1 – Student Support**

5.1.1 – Scholarships and Financial Support

	Name/Title of the scheme	Number of students	Amount in Rupees
Financial Support from institution	Full Freeship, Half Freeship, TFW and SWC	64	1103000
Financial Support from Other Sources			
a) National	National Scholarship Portal (NSP 2.0): Merit-cum-Means Scholarship for Professional And Technical courses, E-Kalyan, Jharkhand Scholarship, Swami Vivekanada Merit-cum-Means Scholarship, Kanyasree Prokalpo-WB and Kanyasree Prokalpo-WB.	168	6645000
b) International	NIL	Nil	0
View File			

5.1.2 – Number of capability enhancement and development schemes such as Soft skill development, Remedial coaching, Language lab, Bridge courses, Yoga, Meditation, Personal Counselling and Mentoring etc.,

Name of the capability enhancement scheme	Date of implemetation	Number of students enrolled	Agencies involved
Aptitude development	05/07/2019	136	Mr Ankuran Dutta
Career counselling	14/08/2019	100	Internal Faculty
Special grooming for technical subjects	12/11/2019	112	Internal Faculty
Aptitude and Soft Skill	12/08/2019	27	MJ MAJIC STUDIO MOHIT JAIN//9007221556
In Search of Silver Lining (Online)	02/06/2020	525	Faculty Members of English Language Communication, Deptt. Of BES, NSEC
Employability Skills Development Innovation Entrepreneurship	08/12/2019	525	Subhabrata Bhattacharjee, Regional Manager - East Wadhvani Foundation 9163308898 Email: s

			ubhabrata@wfglobal.org www.wfglobal.org
Soft skill	08/09/2019	525	Coherent Training Solutions , R.N. Mukherjee Road, Kolkata 700001 West Bengal www.ctstrainings.com, Pinki Tandon 7003852830
Motivational Speaker and Career Counselling	08/08/2019	525	Sajal Mitra 9831029372
Aptitude Test and Sensitization on need of Aptitude Enhancement Training	22/07/2019	525	Faculty Members Physics, Mathematics and English Language Communication, Deptt. Of BES, NSEC
Bridge Courses: Physics, Mathematics English Language	22/07/2019	525	Faculty Members Physics, Mathematics and English Language Communication, Deptt. Of BES, NSEC
View File			

5.1.3 – Students benefited by guidance for competitive examinations and career counselling offered by the institution during the year

Year	Name of the scheme	Number of benefited students for competitive examination	Number of benefited students by career counseling activities	Number of students who have passed in the comp. exam	Number of students placed
2020	Aptitude Training and Test	24	36	3	34
2019	CAREER GUIDANCE & MENTORING -ME	2	32	1	32
2020	Mock Interview-CE	35	40	5	35
2019	Tutorial Class-ME	32	40	3	36
View File					

5.1.4 – Institutional mechanism for transparency, timely redressal of student grievances, Prevention of sexual harassment and ragging cases during the year

Total grievances received	Number of grievances redressed	Avg. number of days for grievance redressal
2	2	5

5.2 – Student Progression

5.2.1 – Details of campus placement during the year

On campus			Off campus		
Name of organizations visited	Number of students participated	Number of students placed	Name of organizations visited	Number of students participated	Number of students placed
SOPRA STERIA, TCS DIGITAL, TCS (NINJA), THOUGHTWORKS , LTI, ITC INFOTECH, BYJUS, MPHASIS, CTS, WIPRO, and FORTY FOUR other organization	524	404	CAPGEMINI, ERBE BIOMEDICAL	142	17
View File					

5.2.2 – Student progression to higher education in percentage during the year

Year	Number of students enrolling into higher education	Programme graduated from	Department graduated from	Name of institution joined	Name of programme admitted to
2019	1	B.Tech in Biomedical Engineering	Biomedical Engineering	Ohio State University, USA	INTEGRATED PhD PROGRAM
2019	1	B.Tech in Biomedical Engineering	Biomedical Engineering	Otto Von Guericke University, Magdeburg, Germany	Masters in Medical Systems Engineering
2019	1	B.Tech in Biomedical Engineering	Biomedical Engineering	RWTH Aachen University, GERMANY	Master's course of study in Biomedical Engineering
2020	1	B.Tech in Civil Engineering	Civil Engineering	Jadavpur University	M.E. - Spl. STRUCTURAL REPAIR & RETROFIT ENGG.
2020	1	B.Tech in Electrical Engineering	Electrical Engineering	NIT Bhopal	Energy System Management
2019	1	B.Tech in Information Technology	Information Technology	DELHI UNIVERSITY	PGDCSL
2020	1	B.Tech in		DR. B R	COMPUTER

		Information Technology	Information Technology	AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY, JALANDHAR	SCIENCE & ENGINEERING
2020	2	B.Tech in Mechanical Engineering	Mechanical Engineering	Thapar Institute of Engineering & Technology, Patiala	M.E Thermal Engineering
2020	1	B.Tech in Mechanical Engineering	Mechanical Engineering	National Institute Technology Agartala	M.Tech in Thermal Science and Engineering
2020	1	B.Tech in Mechanical Engineering	Mechanical Engineering	Indian Institute of Social Welfare & Business Management	MBA in Transportation & Logistics Management
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5.2.3 – Students qualifying in state/ national/ international level examinations during the year (eg:NET/SET/SLET/GATE/GMAT/CAT/GRE/TOFEL/Civil Services/State Government Services)

Items	Number of students selected/ qualifying
GATE	10
CAT	1
Any Other	2
View File	

5.2.4 – Sports and cultural activities / competitions organised at the institution level during the year

Activity	Level	Number of Participants
CARROM	Intra college Carrom Tournament	125
CHESS	Intra college Chess Tournament	105
BADMINTON	Intra college Badminton Tournament	135
TABLE TENNIS	Intra college Table Tennis Tournament	60
FOOTBALL	Intra college Football Tournament	70
VOLLEYBALL	Intra college Volleyball Tournament	120
TUG OF WAR	Intra college Tug of War Tournament	120
PRELUDE	Inter college	215
MESMERIZER - Annual Cultural Fest	Inter college	325

[View File](#)**5.3 – Student Participation and Activities**

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

Year	Name of the award/medal	National/ International	Number of awards for Sports	Number of awards for Cultural	Student ID number	Name of the student
2020	Winners of "Fashion Show Competition-2020" organized by National Institute of Fashion Technology .	National	Nil	1	Nil	Mashhadi Hossain (2nd Year-IT), Mansi Kumari (2nd Year-IT), Subhasis Samanta (3rd year-EE), Swarnali Roy (2nd Year-CE), Akrity Pandey (2nd Year-EE), Trina Maity (3rd year-BME), Krishnendu Sarkar (3rd year-ECE), Rahul Gupta (3rd year-CSE) and Ujaan Ro

[View File](#)

5.3.2 – Activity of Student Council & representation of students on academic & administrative bodies/committees of the institution (maximum 500 words)

The students of this college are an integral part of all college activities. Students provide the necessary input required by the management as they are directly connected and are involved in various important processes of the college. They are given the responsibilities to organize different activities, event organization and coordination among many other roles. With the objective of inculcating the qualities of leadership, organization, and responsibility in the students, active student bodies are in place along with a strong representation of students in the academic and administrative bodies/committees. Different student bodies involve in organizing co-curricular and extra-curricular activities under the guidance of the faculty representatives. Such platform offers a plethora of opportunities to students to give them a voice of their own and shed their inhibitions through enriching and engaging experiences. Club activities, workshops and intra-domain competitions enhance the communication, team management, time-management,

resource management, and leadership skills and above all build confidence in each student. The student bodies and activities as follows: ? Technical Club-Phoenix: Annual Technical Fest - Avenir, Inter college quiz - Brainstormer, Intra college debate - Kuruksheetra, Peer teaching forum, Technical talk, Seminar, Workshop, Aptitude test, Group discussion, Soft skills, Wall magazine, Annual magazine-synergy ? Eco Cultural Club: Freshers welcome, Teachers day, College foundation day, annual cultural program, national festivals and birth and death anniversaries of great Indian personalities. ? Sports Club : Intra and Inter college sports, Annual sports, ? E-cell: Startup and B-plan development, Higher education and Job counseling, Technical research and Project work, ? NSS students' wing NSEC-Rotaract Club: Yoga, blood donation camp, plantation, eco-rallies and health awareness camp, womens day and noble services to society. Students are nominated as members in different academic and administrative bodies/committees of the college. Students members are given more freedom in presenting various issues and their suggestion are given due importance in taking decisions at the respective committee meeting. Students constitute in these bodies' plays a vital role in improving the quality of teaching learning processes. Students represent the following academic and administrative bodies of the college: ? Internal Quality Assurance Cell ? Library Committee ? Placement Training Committee ? Student Affairs Committee ? Cultural Affairs Committee ? Games Sports Committee ? Disciplinary Committee ? Internal Complaint Committee ? Anti-Ragging Committee ? Students' Grievance Redressal Committee ? Students' Welfare Committee Student participation ensures the systems efficiency and effectiveness in putting forward the interests and views of the students. Several student chapters in various bodies like IEEE, IEI are in place. The views and suggestions of class representatives are discussed in departmental academic committee meeting and finally placed in the college academic committee meeting. The active mentoring system continuously monitors, counsel, guide and motivate the students in all academic matters. Students' suggestions for academic improvement are placed to the concerned heads of the departments through faculty mentors. The academic committee of the institute discusses mentoring related issues at least twice a semester during its meetings. Members of different students committee are the representation of college.

5.4 – Alumni Engagement

5.4.1 – Whether the institution has registered Alumni Association?

Yes

The alumni association started its journey in the year 2008 with the name Netaji Subhash Engineering College Alumni Association (NSECAA). This NSECAA is organized exclusively for charitable, literacy and educational purposes. The institution is extremely proud of every member of its alumni. Most of them are successful in their careers in profession, higher education and in the field of entrepreneurship. College successfully draws on their support through Alumni meets on 23rd January each year in College Foundation Day and seeks suggestions for the development of the institution. They share their experiences and knowledge with the ace students and motivate them to achieve their goals. Through these alumni meets, a strong bond is created between the pass out students and the current batches. Alumni share their accomplishments and their success mantra. All departments also arrange reunion/alumni meets and functions under NSECAA. It is a custom for all the ex-students of each department in this college to register themselves with the Alumni Association. The alumni spread around the globe, support the college in various activities. Alumni Contribution: ? Establishing and fostering community relationship amongst NSEC alumni residing anywhere in the world, irrespective of nationality, race, gender, and discipline of education. ? Providing suggestions to modernize the existing facilities and upgrade the quality of education as per industry

requirements. ? Helping in identifying and inviting industrial experts to college for organizing technical seminars, workshops and guest lectures. ? Facilitating the industrial training, field visit, placement and internship for the present students. ? Sharing their opinion, exchange of experience, dissemination of knowledge and advancement of scientific knowledge in general. ? Assisting financial support to department and college for co-curricular and extra-curricular activities. ? Conducting lecture sessions, career counseling, pre-placement training by highlighting the job opportunities available in various sections. The alumni also share their journey and personal experience in the fields of their expertise. They discuss the educational path chosen by them the obstacles they overcame, the choices they made that benefitted them and much more. From their recent findings to their collaborations, they can freely discuss their work with the other students of the college. This helps the current batches learn from their alumni and allow them to contact for any help needed. It inspires the students to see their theoretical work being used practically by someone they can relate to. They find in the alumni their mentors whom they can approach for any educational and/or personal query. The alumni can voice their opinions and communicate their views to contribute towards the betterment of the college. In any academic reform alumni feedback is a valuable input. Several lectures are organized where the alumni are invited to share their experience. This gives the students a window of opportunity to learn from people in the working field. Many field visits are also organized to those industries, hosted by the alumni.

5.4.2 – No. of enrolled Alumni:

1265

5.4.3 – Alumni contribution during the year (in Rupees) :

41850

5.4.4 – Meetings/activities organized by Alumni Association :

28/09/2019 CSE Alumni Association Meet-Melange 2019 (17) 13/09/2019 AEIE Alumni Association Meet-AIKATAN (24) 23/08/2019 IT Alumni Association Meet-Inceptra (31) 22/03.2020 EE Alumni Association Meet-Reminiscence (25) 25/03/2020 ECE Alumni Association Meet-Homecoming (36) 15/03/2020 BME Society Alumni Meet-NSEC SRITI (35) 23/01/2020 Institute Alumni Meet on college foundation day. 29/02/2020 Alumni led workshop on "Designing" supported by two student start-ups of College named as THE DESIGNER BLOCK STARTUP COTERIE. 24/02/2020 Alumnus Rahul Chatterjee and Aritro Sanyal exclusive talks on "Innovators In You" - a glimpse for harnessing talents. 29/03/2020 Break The Myth, an awareness program on COVID-19 from medical fraternity organized by AURA, the start-up by our alumni. 24/06/2020 Workshop on Quantum Computing, speaker Soujanya Ray-GNX Founder and NSEC Alumni, Former DSC Lead.

CRITERION VI – GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 – Institutional Vision and Leadership

6.1.1 – Mention two practices of decentralization and participative management during the last year (maximum 500 words)

The institute follows a Bottom-Top approach, pursuance of which results in a decentralized and participative management. It is believed that any problem or issue should be handled at the level of origin by those who are directly involved. It is brought to the notice of the hierarchy only when it cannot be solved or resources are needed. Quite naturally it starts from pedagogic management of departmental programmes, and related physical and academic resources. However, the guidelines are framed by the department collectively under the guidance of HODs/Deans/Principal. Board of Governors (BOG) has

empowered different committees under the guidance of Principal/Director to manage all issues related to academics, their implementation, and administrative problems involving students. Institution's academic administrators enjoy financial and academic autonomy. 1. Institute Committees - Majority of the members are faculty members. The committee decisions are final and in case of dispute, the BOG is the final authority. These are: Academic Committee (AC) Library Committee (LC) Research and Development Committee (RDC) Student Affairs Committee (SAC) Examination Committee (EC) Training and Placement Committee (TPC) Career Development Cell (CDC) Cultural Affairs Committee (CAC) Internal Complaints Committee (ICC) [Grievance Redressal Sexual harassment] Anti-Ragging Committee (ARC) Fire and Safety Committee (FSC) 2. BOG Committees - One professor and one assistant professor are nominated to the committees. These are high power committees as they take decisions on issues that involve substantial funds. These are: Institutional Planning Development and Evaluation Committee (IPDEC) Building and Works Committee (BWC) Central Purchase Committee (CPC) Disciplinary Committee (DC) Admission Committee (AC) Finance Committee (FC) Internal Quality Assurance Cell (IQAC) 3. Board of Governors (BOG) - The apex body to take final decisions on academic, administrative and financial issues related to the institute. ? Case Study As per the decentralization policy, all academic matters are considered to be under the purview of the faculty members through IQAC/AC. A couple of years back when India became one of the signatories of Washington Accord, the institute, thanks to its advisory committee "Emeritus Forum" was made aware of the importance of this event, namely, mandatory adaptation of Outcome Based education (OBE) and accreditation by statutory bodies like NBA, NAAC. The faculty perceived the importance of OBE and its adaptation. Subsequent preparations for NBA were formulated under Academic Committee. The decision of the academic committee was placed before the BOG. Initially, members of BOG desired preparation for NBA to be made under the guidance of an external professional agency. However, the institute could prevail upon the wisdom of the BOG, convince its members, and the institute was permitted to plan for NBA accreditation in its own way. Four departments CSE, ECE, EE and BME applied for NBA and successfully accredited in 2016, and re-accredited in 2019 for a period of three years. BOG has subsequently given approval for NAAC accreditation and the college is accredited with B Grade on March 28, 2019 valid up to March 27, 2024.

6.1.2 – Does the institution have a Management Information System (MIS)?

Yes

6.2 – Strategy Development and Deployment

6.2.1 – Quality improvement strategies adopted by the institution for each of the following (with in 100 words each):

Strategy Type	Details
Curriculum Development	The institute is affiliated to MAKAUT, who drafts the curriculum for the affiliated institutes. However, NSEC is vigilant to put forward inputs during drafting of the curriculum based on experience of its faculty and considering its own vision. Different stages of interaction with the MAKAUT in this respect are: <ul style="list-style-type: none"> • Active participation in pre-drafting seminars organized by MAKAUT. • Forwarding suggestions to the BOS. Final curriculum is further reviewed during class room teaching gaps are identified

and bridged through industrial visits, lectures by experts, extramural laboratories, problem based assignments, etc. Course outcomes (4-6) for each course are prepared and mapped accordingly.

Teaching and Learning

Teaching: • Conventional blackboard blended with CT enabled teaching. • Need based development programmes are organized to improve quality of teaching for the point of view of domain knowledge and pedagogic skill. • Students' feedbacks for appreciation of food teaching and counseling for poor performance. Learning: • Preparation of course specific instructional objectives (SIOs) using Bloom's Taxonomy. • Familiarize the students with SIOs and COs • Rubrics based assessment • Project based active learning • Arrange quizzes and learn while you teach programmes on specific topics. • Arrange industrial visits, internships, expert lectures. • Encourage team work, leadership, entrepreneurship skills. • Support for innovative competition.

Examination and Evaluation

Examination: • Course coordinator prepares question banks • Course outcome based internal tests • End semester examination by the university where faculty participates by submitting model questions following the university suggested format. • 25 weightage for continuous evaluation, 5 for attendance and 70 on end-semester examination. Evaluation: Participation of the institute in evaluation process is restricted to internal evaluation content only. To make the process effective, the following steps are adopted: • Quizzes, verbal interaction, assignments and tutorial problems are regularly organized. • Students access to answer scripts of each course. • Rubrics based evaluation of laboratory performance. • Seminars, periodic review and evaluation of projects, viva-voce.

Research and Development

Research: Research is considered to be an important component for career development. • Institute has well defined RD policies and is reviewed time to time. • Faculty is encouraged to enroll for award of PhD degree and continue research award of the degree. • Partial financial support is given

for attending conferences and seminars.

- Guidance of research scholars is encouraged.
- Support for patent filling and recognition for paper publishing.
- RD: • Faculty is encouraged to take up innovative students' project - B.Tech and M.Tech level.
- IIC-EDC activities are augmented promoting student / faculty skills.
- Industrial collaboration • Projects are submitted to different agencies for funding.

Library, ICT and Physical Infrastructure / Instrumentation

Library: • Library is fully automated using ILMS software: LSEase (rel.5.0) College version • Digital library is housed inside reading room. • Central library has been using LIBSYS with unlimited user login. • Rich collection books, print journals, IEEE/e books / e journals, CD / DVDs, lecture videos from NPTEL. • Separate reading room equipped with computers and internet facility. ICT: • Wi-Fi enabled campus • LAN connectivity • LCD projectors in classrooms, laboratories and seminar halls • Multimedia facilities with audio-visual equipment and webinar center for video conferencing Physical Infrastructure • Sprawling campus with gymnasium, yoga centre, bank and ATM • Additional state-of-the-art language lab, computer centre and AutoCAD laboratory.

Human Resource Management

The administrative department headed by Registrar and senior administrative officer deal with human resource management. Recruitment of faculty and staff are done by direct recruitment process. The effective welfare measures for teaching and non-teaching staff are as follows: • Staff development and motivational programmes • Monitoring and continuous appraisal • Service books for employees • Performance appraisal system • Career advancement scheme • Contributory employees provident fund • Gratuity and leave encashment • Welfare cooperative society • Medical unit and ambulance facilities • Children's education concession policy • Policy for support to career development of employees • Study leave for degree enhancement scheme.

Industry Interaction / Collaboration

The institute has interaction and collaboration with reputed industries and organizations. The institute has MOU with Confederation of Indian

Industry to establish NSEC-Innovation Club for academia outreach and exchange programs. National Entrepreneurship Network offers Wadhvani entrepreneurship curricula, content and methodology to students. Several visits by senior professors from Australia, Italy and Japan are arranged. The industry institute interactions are enhanced through:

- Encourage faculty to get exposed to industries through visit, training and consultancy
- Invite industrial experts for course / curriculum development, special lectures, joint guidance of projects
- Students' summer training, industry visit, industry orientation through internship and Industry edge programmes.

Admission of Students

The admission of students are based on merit in accordance with the rank obtained in the West Bengal Joint Entrance Examination (WBJEE) and rank obtained in all India level entrance examinations of JEE (Main). The institute maintains transparency in admission and all the admission are as per the list communicated to the institution. The institute makes awareness and encourages technical education through:

- Interact with neighboring school students to expose them to our activities and programmes
- Arrange inter school events : Technical and cultural
- Pre counseling
- Financial supports to economically weaker bright students
- Make admission smart through "one window programme".

6.2.2 – Implementation of e-governance in areas of operations:

E-governance area	Details
<p>Planning and Development</p>	<p>Institute prepares and upload academic calendar on the institute website before commencement of academic session. Formulate and strictly adhere the Academic Activities: A Ready Reckoner for odd and even semester. Develop schedule and implement induction program and bridge courses for 1st year students. Strengthen self-learning / learning beyond syllabus: e-books, IEEE on-line journals, NPTEL (MOOC) courses, IITB Spoken tutorial courses, CDs of video lectures. Attainment is calculated for all courses and set target levels are set accordingly for next session. Different</p>

cross cutting societal issues are addressed by the institution through courses in curriculum, various bodies, programs and policies.

Administration

Academic administrative information is communicated digitally. Regular students' attendance is recorded and analyze through "SARTHAK" software. Essential information is communicated timely to students and parents digitally. Faculty and staff attendance are recorded through biometric system. All important areas and lobbies are under CCTV surveillance.

Finance and Accounts

Account department use Tally System for maintaining the accounts. Fees are collected through bank transfer and salaries are credited directly to the accounts with SMS intimation. Students' scholarships and freeships are maintained digitally. Purchase requisition and procurement are well maintained through ERP V.2.0. At the end of financial year, account details are audited by external auditor.

Student Admission and Support

Admission information and notices are put up on the college website and student admission is carried out through Management Information System TECHTRON ERP College Management V.2.0. Student related all information is stored along with auto-generated student unique identification number. Financial supports are provided to economically poor students through institutional freeship scheme, transparent mechanism for timely redressal of student grievances, students' assessment at the entry level, post orientation/induction programme, special programs for assisting slow learners and advanced learners. Capability enhancement and development schemes for competitive examinations, career counseling, soft skill development, yoga, meditation and personal counseling.

Examination

Examination related information and notices are uploaded on the college website. Four continuous evaluations (CAs) at regular are conducted by the college and end semester examination by the affiliated university. Two internal tests are taken for two CAs and quizzes, assignments, etc. for another two CAs. Internal test answer scripts

are accessible to all students. Marks (25) for continuous assessment are uploaded on the university portal and students can check the marks through students' login ID portal. University examination forms are filled on-line and end semester examination is held as per the university schedule. The university results are available in the Member's Area on university website and the same is circulated to all departments for record.

6.3 – Faculty Empowerment Strategies

6.3.1 – Teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the year

Year	Name of Teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee is provided	Amount of support
2019	Mr. Tarak Das	Workshop on State Intellectual Property Right, State IP Office, WB	Nil	1000
2019	Dr. Chandra Das	Two days' workshop on IPR: Awareness, Practice and Challenges in Academia at IEST, Kolkata, WB	Nil	1000
2019	Dr. Swapna Roy	Workshop on State Intellectual Property Right, State IP Office, WB	Nil	1000
2019	Prof. Tirthakar Datta	Two days' workshop on IPR: Awareness, Practice and Challenges in Academia at IEST, Kolkata, WB	Nil	1000
2019	Prof. Amal K. Ghosh	Two days' workshop on IPR: Awareness, Practice and Challenges in Academia at IEST,	Nil	1000

		Kolkata, WB		
2019	Mr. Sourav Mitra	Visit to Smart Maker Festival at IEM, Kolkata	Nil	1000
2020	Supriyo Dhabal	Visit to MSME Fair at Meghalaya House, Kolkata	Nil	1000
2020	Dr. Tridibesh Nag	Innovation Ambassador Training at IISER	Nil	1200
2020	Mr. Dhritiman Mondal	Innovation Ambassador Training at IISER	Nil	1200
2020	Mr. Shilpi Bose	Chatra Viswakarma Award-AICTE, National Meet	Nil	14000
View File				

6.3.2 – Number of professional development / administrative training programmes organized by the College for teaching and non teaching staff during the year

Year	Title of the professional development programme organised for teaching staff	Title of the administrative training programme organised for non-teaching staff	From date	To Date	Number of participants (Teaching staff)	Number of participants (non-teaching staff)
2019	Faculty Development Program on Data Science and Machine Learning with Python.	Nil	03/07/2019	12/07/2019	25	Nil
2019	Faculty Development Program on Advanced topics of Civil Engineering.	Nil	04/07/2019	10/07/2019	18	Nil
2019	Faculty Development Program on Dissemination Method	Nil	04/07/2019	10/07/2019	22	Nil

	ology in ES-EE-101					
2019	Summer school on "Wave Propagation Remote Sensing (WPRS 2019)" by IEEE GRSS Student Branch Chapter of NSEC, IEEE GRSS Kolkata Chapter and IEEE AP/MTT Kolkata Chapter.	Nil	14/07/2019	20/07/2019	5	128
2019	Hands-on Workshop on "Embedded System and related use Cases"	Nil	09/11/2019	09/11/2019	8	25
2019	IIC-NSEC organized workshop on Design Thinking for the students of NSEC, who may become budding Tech Entrepreneurs in near future	Nil	23/11/2019	23/11/2019	3	115
2019	EDC-NSEC organized workshop on Digital (In)securities in Digital World	Nil	21/12/2019	21/12/2019	7	58
2020	Webinar on "IPR and Innovation	Nil	23/04/2020	23/04/2020	65	450

	by Prof. Manas Kumar Sanyal (HOD-HRM), IEST, Shibpur, Howrah, WB.					
2020	Workshop on "Quantum Computing". Distinguished speakers Soujanya Ray, GNX Founder and NSEC Alumni, Former DSC Lead and Ritajit Majumder Research Scholar at ISI.	Nil	24/06/2020	24/06/2020	10	125
View File						

6.3.3 – No. of teachers attending professional development programmes, viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programmes during the year

Title of the professional development programme	Number of teachers who attended	From Date	To date	Duration
NPTEL-SWAYAM online FDP on NBA Accredited and teaching - Learning in Engineering (NATE)	3	18/01/2020	26/04/2020	84
NPTEL-SWAYAM online FDP on Accreditation and Outcome based Learning	4	22/07/2019	18/10/2019	56
FDP on Data Science and Machine Learning with Python	4	03/07/2019	12/10/2019	84
NPTEL course on Cryptography and Network	1	27/01/2020	17/04/2020	84

Security				
FDP on Block Chain	1	15/06/2020	19/06/2020	5
Short Term Training Programme through ICT Mode on Testing Purification of Drinking Water and Health	1	11/05/2020	22/05/2020	12
Research Methodology and Intellectual Property Right	1	13/04/2020	24/04/2020	12
Short Term Training Programme through ICT Mode on Management of Laboratory and Workshop Classes	1	04/05/2020	08/05/2020	5
Effective and Efficient Online Teaching in the Age of Corona, A Hands On Workshop	1	16/05/2020	20/05/2020	5
Online STTP on Internet of Things (IOT) Its Application in Industry	1	08/06/2020	12/06/2020	5
View File				

6.3.4 – Faculty and Staff recruitment (no. for permanent recruitment):

Teaching		Non-teaching	
Permanent	Full Time	Permanent	Full Time
8	3	Nil	Nil

6.3.5 – Welfare schemes for

Teaching	Non-teaching	Students
Employees Provident Fund (EPF) Medical and Maternity Leave Gratuity Welfare Cooperative Society Financial support for conference, seminars, workshops, paper publications and patent filing Free treatment on	Employees Provident Fund (EPF) or ESI as per ESI Act Medical and Maternity Leave Gratuity Welfare Cooperative Society Free treatment on working days at the Medical Unit of the institute Free ambulance	Tuition Fee Waiver Scheme Students Feeships Scheme Free treatment on working days at the Medical Unit of the institute Free ambulance facility Financial support for paper publications, patent

<p>working days at the Medical Unit of the institute Free ambulance facility for employee and family from home. Concession to teaching loads and special leaves for support to career development of employees Fee concession to ward of employee in TIG manage Techno Model School Transport facility.</p>	<p>facility for employee and family from home. Fee concession to ward of employee in TIG manage Techno Model School Transport facility.</p>	<p>filing, innovation competitions, etc.</p>
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6.4 – Financial Management and Resource Mobilization

6.4.1 – Institution conducts internal and external financial audits regularly (with in 100 words each)

The institute has a transparent mechanism for internal and external audit as per the government rules. Institute conducts internal and external audit annually. Internal Audit: The audit team consists of: ? Qualified auditor from Corporate (Society's) Office nominated by the BOG ? Institute Accountant ? Office Assistant attached to institute account's section Institute account section provides all necessary records of income-expenditure vouchers, approval documents, approved budget, etc. to the team. This includes revenue generated from all sources for the college. The internal auditor does a thorough check and verification of supporting documents including fee receipts and payment vouchers of the transaction carried out in each financial year. The auditor also ensures that all payments are duly authorized. A statutory audit report is prepared and submitted to the college management for review. External Audit: External audit is carried out every year by the corporate office. On submission of the internally audited accounts to the corporate office, the accounts are arranged to be audited by a chartered accountant appointed by the board of trustees. Institute's accounts are examined as those of a group's (Society's) subsidiary. The institute accountant is also asked to be present. Last audit was done on 30th October 2020 for the financial year 2019-2020.

6.4.2 – Funds / Grants received from management, non-government bodies, individuals, philanthropies during the year(not covered in Criterion III)

Name of the non government funding agencies /individuals	Funds/ Grnats received in Rs.	Purpose
Integrated Business Planning	13825	Conduction Online Examination
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6.4.3 – Total corpus fund generated

757790

6.5 – Internal Quality Assurance System

6.5.1 – Whether Academic and Administrative Audit (AAA) has been done?

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	University Expert	Yes	NSEC
Administrative	Yes	University	Yes	NSEC

6.5.2 – Activities and support from the Parent – Teacher Association (at least three)

? Parent teacher meeting by the respective department ? Guardian / parents feedback on a standard format ? On-line students attendance and relevant information to parents ? Parents / guardian meet on orientation program for 1st year ? Mentoring scheme for follow up of wards and parents

6.5.3 – Development programmes for support staff (at least three)

? Computer operation and basic preventive maintenance ? Awareness programs on digital hacking through mobile ? Medical check-up and hygiene awareness programme

6.5.4 – Post Accreditation initiative(s) (mention at least three)

? Arranged International Professional Exchange Program ? Arranged FDP in collaboration with IIT Guwahati ? Review of Institutional Policies ? Re-accreditation of four B.Tech Programmes ? Establish CII-NSEC Innovation Club

6.5.5 – Internal Quality Assurance System Details

a) Submission of Data for AISHE portal	Yes
b) Participation in NIRF	Yes
c) ISO certification	No
d) NBA or any other quality audit	Yes

6.5.6 – Number of Quality Initiatives undertaken during the year

Year	Name of quality initiative by IQAC	Date of conducting IQAC	Duration From	Duration To	Number of participants
2019	Industry-academia induced Faculty Development Programmes for Techno India Group Colleges: Three FDPs arranged by CSE, CE and EE department.	03/07/2019	03/07/2019	12/07/2019	67
2019	Summer School "Wave Propagation Remote Sensing (WPRS 2019)"- A two-credit equivalent certificate course for students conducted by IEEE GRSS Student	14/07/2019	14/07/2019	20/07/2019	128

	Branch Chapter in association with IEEE AP/MTT Kolkata Chapter.				
2019	International Seminars: Recent Trends in Biotechnology, lecture delivered by six members team from OKAYAMA UNIVERSITY, Japan under the leadership of Prof. Masaharu Seno, Dean, Graduate School of Interdisciplinary Science Engineering in Health Sys	31/10/2019	31/10/2019	31/10/2019	155
2019	Enterpreneurship activities: EDC-NSEC organized workshop on Digital (In) securities in Digital World and National Awareness Programme on Build The Enterprise of your Dreams. NSEC E-Cell organized Hult Prize 2020- an event with the global challe	21/12/2019	21/12/2019	25/02/2020	287
2019	Innovation	21/12/2019	21/12/2019	23/04/2020	694

and Start-up activities:
IIC-NSEC organized Innovators In You” Harnessing Talents, workshop on Framing up Institutional policies in aligning with National Innovation and Start Up Policy and webinar on “IPR and Innovation.

2019	International Technical Talk on Natural biomaterials in engineered medical devices, by Prof. (Dr.) John A. M. Ramshaw from University of Melbourne, Australia.	22/11/2019	22/11/2019	22/11/2019	52
2020	International Seminar: “Robotics” organized by IT, CSE ECE departments, Dr. Monica Anderson, Associate Professor the University of Alabama, USA was the key speaker.	25/02/2020	25/02/2020	25/02/2020	118
2020	Faculty-student exchange programs and	09/01/2020	09/01/2020	09/01/2020	35

collaborative research program: Visit and interactions with five members Chinese delegates from Sichuan Vocational College of Information Technology.

2020	MOU for student exchange and faculty exchange Programme: Visit and interactions with Dr. Rujira Chaysiri and Ms. Nattaya Tempiam of Sirindhorn International Institute of Technology (SIIT), Thailand.	05/03/2020	05/03/2020	05/03/2020	165
2020	Programming Proficiency Skill Enhancement: Organized webinar under lockdown impact series "Ethical Hacking Penetration Testing with Kali LINUX", workshop on "Quantum Computing",	09/04/2020	09/04/2020	24/06/2020	340

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CRITERION VII – INSTITUTIONAL VALUES AND BEST PRACTICES

7.1 – Institutional Values and Social Responsibilities

7.1.1 – Gender Equity (Number of gender equity promotion programmes organized by the institution during the year)

Title of the programme	Period from	Period To	Number of Participants	
			Female	Male
Gender Sensitization	06/08/2019	08/08/2019	130	320
Self Defence Workshop	15/08/2019	15/08/2019	25	5
International Women's Day	08/03/2020	08/03/2020	120	Nil

7.1.2 – Environmental Consciousness and Sustainability/Alternate Energy initiatives such as:

Percentage of power requirement of the University met by the renewable energy sources

? Electric fittings are kept in proper conditions to prevent leakage of electricity. ? Refrigerators and air conditioners are purchased with star rating. ? College has adopted E governance practices including paperless office, Cloud Storage, E circulars, E bulletins, ? ERP software in use is MIS for all academic, students section and examination work. ? Use of Tobacco and Cigarettes are strictly prohibited in the college ? Solar energy is used as renewable energy source which has reduced the consumption of conventional electricity (presently 0.5 KWH but planned to increased by 20) ? Water Harvesting Roof water harvesting is done and collected water is used for gardening purpose. ? Hazardous Chemicals are kept separately, away from the reach of students Chemicals and safety norms in the laboratory are strictly followed Students are made aware of the hazardous chemicals and safety aspects when they are given instructions before utilizing the chemicals. ? The labs are well ventilated and spacious and equipped with exhausts. ? UPS Batteries are recharged/repaired/exchanged in time. ? Electronic and computer accessories which are declared "Obsolete" are collected at one place and disposed off properly.

7.1.3 – Differently abled (Divyangjan) friendliness

Item facilities	Yes/No	Number of beneficiaries
Physical facilities	Yes	Nil
Provision for lift	Yes	Nil
Ramp/Rails	Yes	Nil
Braille Software/facilities	No	Nil
Rest Rooms	Yes	Nil
Scribes for examination	No	Nil
Special skill development for differently abled students	No	Nil

7.1.4 – Inclusion and Situatedness

Year	Number of initiatives to address	Number of initiatives taken to	Date	Duration	Name of initiative	Issues addressed	Number of participating students
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	locational advantages and disadvantages	engage with and contribute to local community					and staff
2019	1	1	15/08/2019	1	Tree Plantation	1	240
2019	1	1	20/09/2019	1	Drops of Hope - Blood Donation Camp	1	135
2020	1	2	02/06/2020	2	Covid-19 Relief Camp	2	35
2020	1	2	12/02/2020	2	Sikkar Alo - Book donation event for needy students in the locality school purchase of new books for creation of a library at Ranabhutia Abaitanik Prathomic Vidyalay primary school.	2	45

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7.1.5 – Human Values and Professional Ethics Code of conduct (handbooks) for various stakeholders

Title	Date of publication	Follow up(max 100 words)
Code of Conduct for Students (Amended)	12/07/2019	The code of student conduct is established to foster and protect the missions of the college, to foster the scholarly and civic development of the students in a safe and secure learning environment, and to protect the people, properties and processes that support the college

		and its missions. Student community should cultivate higher values of honesty, integrity, responsibility, mutual respect for persons and property, respect for human rights. Students are prohibited from indulging in anti-institutional, anti-national, antisocial, communal, immoral or political expressions and activities within the Campus and hostels.
Code of Conduct for the Students for Freshers	22/07/2019	Each student has been provided with the code of conduct at the time of admission. It includes model responsibilities of the students, behaviour of the students, dress code, punishments and etc.

7.1.6 – Activities conducted for promotion of universal Values and Ethics

Activity	Duration From	Duration To	Number of participants
Independence Day Celebration	15/08/2019	15/08/2019	150
Engineers Day Celebration	15/09/2019	15/09/2019	125
Birth Anniversary of Dr. Sarvepalli Radhakrishnan	05/09/2019	05/09/2019	350
Birth Anniversary of Netaji Subhash Chandra Bose	23/01/2020	23/01/2020	200
Republic Day Celebration	26/01/2020	26/01/2020	75
Rabindra Jayanti Celebration	08/05/2020	08/05/2020	120
Mother's Day Celebration	10/05/2020	10/05/2020	165
Observe National Technology Day	11/05/2020	11/05/2020	115
Birthday Celebration of Kazi Nazrul Islam	25/05/2020	25/05/2020	75
Observe World Environment Day	05/06/2020	05/06/2020	250

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7.1.7 – Initiatives taken by the institution to make the campus eco-friendly (at least five)

? Plastic free campus: The College is keenly vigilant to make the campus a "plastic free zone". Plastic bags and packaging materials in any form are strictly prohibited. NSS unit jointly with "Art of Living" organization drives massive campaign among students. Security guards strictly check and ensure that no one carrying any plastic bags in the campus. ? Tree Plantation: Plantation programmes are organized through NSS-Rotaract club volunteers for increasing the green coverage in the college campus and surrounding the playground. The college has appointed staffs (Mali) for maintaining the green plants and garden in the campus. ? Paperless Office: Notices, circulars and reports are served through electronic communication medium, viz. e-mail, WhatsApp, facebook page, etc as practicable as possible. Initiatives have been taken to carry out the official works with minimum possible usage of paper. ? Rain Water Harvesting: Rain water harvesting is practiced religiously in the college campus. The open reservoir is used for gardening through manual and automatic mechanisms. The underground reservoir is used solely for fire protection purposes. ? E-Waste Management: Electronic waste generated from hardware and condemned materials which cannot be reused or recycled are stored in a separate safe zone and disposed centrally through authorized vendors.

7.2 – Best Practices

7.2.1 – Describe at least two institutional best practices

1. Title of the Practice: CSR THROUGH NSEC-ROTARACT CLUB Objectives of the Practice: The Rotary members of The Rotaract Club of NSEC (NSEC-Rotaract Club) aim to recognize the changes implemented by the young adults in empowering themselves into the professional world by developing leadership skills through professional development and gain a global perspective that nurtures peace and cultivates world harmony. Our objective lies in taking action through community and international services and creating head-on sustainable solutions to local and world challenges. 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 Context: NSEC-Rotaract Club focused on empowering and encouraging the underprivileged section of the society. From orphanages to old-age homes, the sole purpose of the Rotary members was to uplift the needs and requirements of the deprived. A few notable events such as "No Poor Sleeps Hungry", "Muktodhara", "Ichchapuran" and "Friends" fulfilled this purpose. Along with this, the club started working towards and raising funds for a currently on-going project - development of The Ranabhutia Primary School. In the last few months of 2020, owing to the ongoing COVID-19 pandemic, several virtual events were organized. A few of the noteworthy virtual events include - "Soch aur Satark" and "And People Stayed Home". Keeping in mind the strains and difficulties that the pandemic caused, some community service projects such as "Sankalp", "Cheshta", "Pratyasha" and more provided the basic necessities to the slum residents of various parts of the city. The Practice: NSEC-Rotaract Club, ever since its inception in the year 2019 has been nurturing a full-fledged focus on giving the students of the institution a voice and encouraging them to spread community awareness. Taking inspiration from our parent Rotary - Rotaract Club of Dhakuria, NSEC-Rotaract Club (NSEC-RC) has not only organized independent events but also co-hosted several on-field and off-field community events. Even during the ongoing pandemic, several initiatives were taken by the club to provide necessary essentials such as Sanitary Napkins, Rice grains, Pulses, Medicines and Masks and Sanitizers to the underprivileged. Amidst all these initiatives, the club faced certain challenges such as garnering permissions for the on-site events and raising sufficient funds for a few of them. In spite of these constraints and limitations, the message that the students wanted to spread through their awareness program was successful and

well taken care of. Evidence of Success Till date, NSEC-RC has ensured a major success rate in all of its events. From active participation of all Rotary members to support of the teachers-in charge, NSEC-RC has been successful in executing all of its community service events as well as social campaigns. One such notable event is - Race The Chase x Shikhar Alo. The aim of this event was to purchase educational books for the Ranabhutia Primary School library from funds collected through a certain Rotaract Carnival. The event plans were implemented over a period of 3 months starting from purchasing the books through a fun-filled competition and then distributing it to the children by inviting them to NSEC and indulging in an event marked with grace and gratitude. Another successful event worth talking about and mentioning include - Drops of Hope. A blood donation campaign was organized at the premises of Netaji Subhash Engineering College in association with Thakurpukur Cancer Hospital. More than 100 volunteers - students and teachers - participated in the event and donated blood. It was one kind of event which garnered huge attention and encountered highly successful results. Problems Encountered and Resources Required: Although NSEC-RC has witnessed remarkable success in most of its campaigns, there were quite a few challenges that had to be overcome. One of the major challenges that the club had to face is shortage of funds. Although the institution has always offered to help in every possible way, funds have often fallen short in few of the events. Often the club has organized a few fund-raising events to raise awareness and funds for a pending community service, not every time has it been successful. Similarly, another resource that the club is in need of is getting in touch with suitable and willing sponsors. Getting in touch with such organizations has been a major challenge.

2. Title of the Practice: IIC-EDC ACTIVITIES Objectives of the Practice: Institutions Innovation Council (IIC-NSEC) 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 NSEC Entrepreneurship Development Cell (EDC-NSEC) started its journey with the aim to inculcate the spirit of innovation and entrepreneurship amongst the young students, encourage and support start-up creation through guidance, mentorship and support. The cell would also spread the message of entrepreneurship and create a culture of entrepreneurship at NSEC campus and also beyond the campus. The Context: The IIC has been constituted as prescribed by MHRD-IIC to methodically foster the culture of innovation as a part of curriculum. The council encourages, inspire and nurture the talent of young and creative students to works on new ideas leading to establish an innovative ecosystem in the campus. The innovative minds are to be attracted through experts talk session, periodic workshops/ seminars/ interactions with entrepreneurs, investors, professionals and to create a mentor pool for student innovators. Several Hackathons, idea competitions, mini-challenges with the involvement of industries are arranged for active involvement and even promotes the students to participate in national and state levels. Few amongst the "Job-Seekers" would be converted to "Job- Generators" through the entrepreneurial route. The Practice: EDC-NSEC has formed an incubation center and signed MOU with Wadhvani Foundation Entrepreneurship Network (WFEN) to promote entrepreneurship among students. Later, signed MOU with Confederation of Indian Industries (CII) and named the incubation center as CII-NSEC Innovation Club. The primary objective is to provide students proper mentorship to realize the prototypes of their ideas and in turn initiating start-ups as well as to submit prototypes in various innovation competitions within India and abroad. India witnesses an upsurge of technology-driven and knowledge-based enterprises. Whether it is the field of conventional business or in IT and ITES, a sudden spurt in the number of new ventures or start-ups has taken the country by surprise. 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. Moreover,

to catalyze and promote development of knowledge-based and innovation-driven enterprises and promote employment opportunities lies primarily amongst students and for the society at large. 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 and Resources Required: While a few years back, the conversion of idea to product might have sounded a distant dream, with both technology and market being uncertain, things certainly have changed now. 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. Anticipating this movement and to empower the students to acclimatize themselves to innovation and entrepreneurship culture, IIC-EDC at NSEC has initiated start-up and entrepreneurship with the mission to promote knowledge based and technology-driven start-ups by harnessing young minds and their innovation potential in academic environment.

Upload details of two best practices successfully implemented by the institution as per NAAC format in your institution website, provide the link

<https://www.nsec.ac.in/page.php?id=612>

7.3 – Institutional Distinctiveness

7.3.1 – Provide the details of the performance of the institution in one area distinctive to its vision, priority and thrust in not more than 500 words

"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 and skills 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. Popularity of the programmes, as evident from student admission scenario, high placement and feedbacks received from stakeholders, prove the excellent quality education system in the institute. 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, recreation rooms, etc. are designed for high standard education both quantitatively and qualitatively. Libraries (central and departmental) have 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. Two state-of-the-art language laboratories for enhancing soft skills and one dedicated computer center for imparting value added training programs. Faculty: Adequate young as well as senior, dedicated and experienced faculty of which 60 are PhD degree holders. 'Emeritus Forum', a conglomerate of retired faculty from reputed institutions guides and mentors the less experienced faculty. Faculty have been trained and motivated to design programme to obtain desired outcomes through curriculum, instructional delivery and evaluation internationally acceptable. Modern web based teaching learning methods are made available to faculty for up gradation of the quality of pedagogy as well as learning process. Research and Entrepreneurship Established vibrant research culture, majority of faculty members is pursuing PhD and guiding research work. EDC runs programmes to grow awareness of research and development, organizes competitions, and encourages student participation in different competitions. CII-NSEC innovation club involved students in innovative projects and prototype development activities. CDC and TPO arranged career enhancing on-line programmes, regular industry visit, industry orientation through internship, Industry edge programmes and value added certification on emerging technologies. Performance of the Institution One of the leading self-financed technological Institute in Eastern India, is accredited by NAAC, NBA-four premier programmes, ranked by NIRF (Band: 251-300) and ARIIA (Band B : 26 -50), .TCS, Wipro, and Capgemini. Above 90 top-notch companies recruited large number of students. Institute has strong alumni network comprising of 10,000 alumni members with bright careers around the globe. More than 30 students obtained Ph.D. from reputed foreign universities. NSEC-NPTEL Local Chapter continued position in Top 100 Colleges in India. IIC-NSEC secured 5 Star Rating from Ministry of Education's Innovation Cell and NSEC Business Incubator Centre (HI/BI) is approved by MSME-DI. NSEC-Rotaract Club significantly contributes to the society through outreach programmes and students won several awards and prizes in national and international competitions and Hackathons.

Provide the weblink of the institution

<https://www.nsec.ac.in/page.php?id=565>

8.Future Plans of Actions for Next Academic Year

The Plans of Action for the Academic Year 2020-2021 as follows: A. Institution

1. Enhance the existing technological competencies to meet the requirements of a rapidly changing and challenging environment.
2. Augmentation of existing facilities in the computer center and technological enhancements in the space of e-learning.
3. More stress to be imparted to seek RD projects by faculty fraternity form DST and other funding agencies
4. An International Conference for Convergence in Engineering to be organized in the month of September 2020 in association with IEEE Kolkata Section.
5. More MOUs to be signed with industry to offer students' internship and with Universities for collaborative RD projects, papers, faculty/ student exchange etc.
6. Improvement of NIRF ranks and NPTEL college rating.
7. More stress to be imparted for innovative projects by students mentored by faculty members and in turn NSEC will become Innovation Hub
8. Admission process to be strengthened by ? Selected School Visit by Marketing Team including faculty fraternity ? Organizing Inter-School events (On-line Off-line) and Networking with Schools ? Digital Marketing round the year
9. Accreditation from QS Ranking and E-LEAD certification from QS I.GAUGE
10. International Invited Talk Sessions round the year.
11. Revision of existing of college policies and adaptation of new policies.
12. Synergies the IIC-EDC activities for innovation, start-up and entrepreneurship.

B. Departments

1. NBA accreditation for rest of the undergraduate engineering programmes.
2. Initiative to take classes on specific module of the curriculum by faculty from foreign universities
3. International Invited Talk Sessions by Alumni at regular interval.
- 4.

Continuation and strengthening of value added programmes by inclusion of expert faculty members along with external vendors / industry experts. 5. Emphasis on domain knowledge training and special initiatives for software related training for enhancing employability skills of the students. 6. Organizing webinars by Industry Professionals during pandemic for inculcating the industry flavour among students. C. Faculty 1. More participation in faculty development programs, seminars, conferences and workshops. 2. Submit research proposals for funding from government and non-government agencies. 3. Increase publication of research papers in reputed national and international journals patent and seek for patent. 4. Assign problem and design based projects to students for active learning. 5. Strengthening mentoring and monitoring activities especially for Massive Open Online Courses including Mandatory Additional Requirements, Honours Degree and Credit Transfer as equivalent to theory courses. 6. Preparation of technical question bank and module-wise discussion in the respective classes. D. Students 1. Pursuing certificate courses from Coursera, Swayam-NPTEL, IIT Spoken tutorial, etc. 2. Active participation in industry readiness program and value added training. 3. Prepared for competitive examination, GATE/GRE, CAT, PSU, etc 4. Enhanced activities of IEEE students branch chapter and club activities. 5. Participation in Hackathons, entrepreneurship programs, innovative competitions, start-up, prototype exhibitions. 6. Undertake and pursue real-life projects, field visit and internship.