Annual Quality Assurance Report – 2020-2021

Criterion-1 Curricular Aspects

1.1 Curriculum Design and Development: Not happened in the A.Y:2020-21

1.1.1 Programmes for which syllabus revision was carried out during the academic year		
Name of Programme	Programme Code	Dates of Revision
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

1.1.2 Programmes/ courses focused on employability/ entrepreneurship/ skill development during the academic year		
Programme with code	Courses With Code	Date of introduction
B.Tech-All	B.Tech-PCP7H013-Entrepreneurship Development	2020-21 Odd Sem
B.Tech-All	B.Tech-PCI7J003-Environmental Impact Assessment	2020-21 Odd Sem
B.Tech-All	B.Tech-PCP7H009-Intellectual Property Rights	2020-21 Odd Sem
M.Tech- All	M.Tech-CSM106-English for Research Paper Writing	2020-21 Odd Sem
M.Tech- All	M.Tech-ECM105-Research Methodology and IPR	2020-21 Odd Sem
M.Tech- All	M.Tech-ECM232-Internet of things	2020-21 Odd Sem

1.2 Academic Flexibility

1.2.1 New Programmes/ courses introduced during the academic year		
Sl. No	Programme/ course	Date of introduction
1	B.Tech-NREC5D004-Advance Electronic Circuits	2020-21 Even Sem.
2	B.Tech-NRCI5D002-Advance Mechanics of Material	2020-21 Even Sem.
3	B.Tech-NRCS5D001-Advanced Computer Architecture	2020-21 Even Sem.
4	B.Tech-NRIT5D001-Advanced Java Programming	2020-21 Even Sem.

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5	B.Tech-NREC5C002-Analog and Digital Communication	2020-21 Even Sem.
6	B.Tech-NRCS5D002-Artificial Intelligence & Machine Learning	2020-21 Even Sem.
7	B.Tech-NRME5D001-Automobile Engineering	2020-21 Even Sem.
8	B.Tech-NRME5C001-Basic Manufacturing Processes	2020-21 Even Sem.
9	B.Tech-NREI5D002-Biomedical Instrumentation	2020-21 Even Sem.
10	B.Tech-NRME5D002-CAD/CAM	2020-21 Even Sem.
11	B.Tech-NRCS5D006-Computer Graphics	2020-21 Even Sem.
12	B.Tech-NREL5C002-Control System	2020-21 Even Sem.
13	B.Tech-NRIT5D004-Data Mining	2020-21 Even Sem.
14	B.Tech-NRCS5C002-Database Management Systems	2020-21 Even Sem.
15	B.Tech-NRCI5C001-Design of Concrete Structures	2020-21 Even Sem.
16	B.Tech-NREL5D004-Electric Drives	2020-21 Even Sem.
17	B.Tech-NREL5C001-Electric Power Transmission and Distribution	2020-21 Even Sem.
18	B.Tech-NREL5D001-Electrical Machine Design	2020-21 Even Sem.
19	B.Tech-NREL5C003-Electrical Machines-II	2020-21 Even Sem.
20	B.Tech-NREC5D005-Electronics Instrumentation and Measurement	2020-21 Even Sem.
21	B.Tech-NREC5D001-Fiber Optics & Opto Electronics Devices	2020-21 Even Sem.
22	B.Tech-NRCS5C001-Formal Language & Automata Theory	2020-21 Even Sem.
23	B.Tech-NREE5D002-Fundamentals of Communication	2020-21 Even Sem.
24	B.Tech-NRCI5C003-Geotechnical Engineering- I	2020-21 Even Sem.
25	B.Tech-NRME5C003-Heat Transfer	2020-21 Even Sem.
26	B.Tech-NREL5D003-Industrial Process Control and Dynamics	2020-21 Even Sem.
27	B.Tech-NMCA507C-MARKETING MANAGEMENT	2020-21 Even Sem.
28	B.Tech-NRCI5D003-Masonry Structures	2020-21 Even Sem.
29	B.Tech-NRME5C002-Mechanisms and Machines	2020-21 Even Sem.
30	B.Tech-NRCS5D003-Mobile Computing	2020-21 Even Sem.
31	B.Tech-NRME5D004-Non-Conventional Energy Sources	2020-21 Even Sem.
32	B.Tech-NRCS5D005-Object-Oriented Analysis & Design	2020-21 Even Sem.
33	B.Tech-NRCS5C003-Operating Systems	2020-21 Even Sem.
34	B.Tech-NRCS5D004-Parallel & Distributed Systems	2020-21 Even Sem.

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35	B.Tech-NRCI5D005-Pavement Design	2020-21 Even Sem.
36	B.Tech-NRCI5D004-Railway and Airport Engineering	2020-21 Even Sem.
37	B.Tech-NRME5D005-Rapid Manufacturing Processes	2020-21 Even Sem.
38	B.Tech-NRCI5D001-Structural Analysis-II	2020-21 Even Sem.
39	B.Tech-NRCI5D006-Traffic Engineering	2020-21 Even Sem.
40	B.Tech-NRME5D003-Tribology	2020-21 Even Sem.
41	B.Tech-NRCI5C002-Water and Waste Water Engineering	2020-21 Even Sem.
42	B.Tech-NRCS6D003-Cloud Computing	2020-21 Odd Sem.
43	B.Tech-NRCS6C002-Compiler Design	2020-21 Odd Sem.
44	B.Tech-NRME6D002-Compressible Flow and Gas Dynamics	2020-21 Odd Sem.
45	B.Tech-NRPR6D001-Computer Integrated Manufacturing and Flexible Manufacturing System	2020-21 Odd Sem.
46	B.Tech-NRME6C001-Design of Machine Elements	2020-21 Odd Sem.
47	B.Tech-NRCI6C001-Design of Steel Structures	2020-21 Odd Sem.
48	B.Tech-NREL6D002-Electric and Hybrid Vehicles	2020-21 Odd Sem.
49	B.Tech-NREL6D001-Electric Power System Protection	2020-21 Odd Sem.
50	B.Tech-NRCI6D003-Environmental Geo-techniques	2020-21 Odd Sem.
51	B.Tech-RIK6F001-Essence of Indian Knowledge Tradition - I	2020-21 Odd Sem.
52	B.Tech-NRAE6G001-Finite Element Methods	2020-21 Odd Sem.
53	B.Tech-NRCI6D001-Foundation Engineering	2020-21 Odd Sem.
54	B.Tech-NRCI6D002-Ground Improvement Techniques.	2020-21 Odd Sem.
55	B.Tech-NRCI6C002-Hydrology and irrigation Engineering	2020-21 Odd Sem.
56	B.Tech-NRIT6C002-Internet & Web Technology	2020-21 Odd Sem.
57	B.Tech-NRME6C002-Machining Science and Technology	2020-21 Odd Sem.
58	B.Tech-NREE6C002-Microprocessor and Micro controllers	2020-21 Odd Sem.
59	B.Tech-RCS6C001-Microwave Engineering	2020-21 Odd Sem.
60	B.Tech-NREL6C001-Power System operation and Control	2020-21 Odd Sem.
61	B.Tech-NRCS6D001-Real-Time System	2020-21 Odd Sem.
62	B.Tech-NRME6D001-Smart and Composite Materials	2020-21 Odd Sem.
63	B.Tech-NRCS6C001-Software Engineering	2020-21 Odd Sem.

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64	B.Tech-NRCS6C002E-Wireless Communication	2020-21 Odd Sem.
65	B.Tech-NRCS6D002-Wireless Sensor Networks	2020-21 Odd Sem.
66	B.Tech-NREC5C201-Analog and Digital Communication Lab	2020-21 Even Sem.
67	B.Tech-NRME5C201-Basic Manufacturing Processes Lab	2020-21 Even Sem.
68	B.Tech-NREL5C202-Control and Instrumentation Lab	2020-21 Even Sem.
69	B.Tech-NRCS5C202-Database Management Systems Lab	2020-21 Even Sem.
70	B.Tech-NRCI5C201-Design of Concrete Structures Lab	2020-21 Even Sem.
71	B.Tech-NREC5C202-Digital Signal Processing Lab	2020-21 Even Sem.
72	B.Tech-NREL5C203-Electrical Machines-II Laboratory	2020-21 Even Sem.
73	B.Tech-NRIP5H201-Evaluation of Summer Internship-II	2020-21 Even Sem.
74	B.Tech-NRCS5C201-Formal Languages and Automata Theory Lab	2020-21 Even Sem.
75	B.Tech-NRCI5C203-Geotechnical Engineering Lab	2020-21 Even Sem.
76	B.Tech-NRME5C203-Heat Transfer Lab	2020-21 Even Sem.
77	B.Tech-NRME5C202-Mechanisms and Machines Lab	2020-21 Even Sem.
78	B.Tech-NRCS5C203-Operating Systems Lab	2020-21 Even Sem.
79	B.Tech-NRCI5C202-Water and Waste Water Engineering Laboratory	2020-21 Even Sem.
80	B.Tech-NREE6C201-COMMUNICATION ENGINEERING LAB	2020-21 Odd Sem.
81	B.Tech-NRCS6C00L-Compiler Design Lab	2020-21 Odd Sem.
82	B.Tech-NRME6C201-Design of Machine Elements Lab	2020-21 Odd Sem.
83	B.Tech-NRCS6C202-Internet & Web Technology Lab	2020-21 Odd Sem.
84	B.Tech-NRCI6C202-Irrigation Engineering Lab	2020-21 Odd Sem.
85	B.Tech-NRME6C202-Machining Science and Technology Lab	2020-21 Odd Sem.
86	B.Tech-NREL6C202-Microprocessor and Microcontroller Lab	2020-21 Odd Sem.
87	B.Tech-NREC6C201-Microwave Engineering Laboratory	2020-21 Odd Sem.
88	B.Tech-NREL6C201-Power System Operation and Control Lab	2020-21 Odd Sem.
89	B.Tech-NRIT6C201-Software Engineering Lab	2020-21 Odd Sem.
90	B.Tech-NRCI6C201-Steel Structures Lab	2020-21 Odd Sem.
91	B.Tech-NREC6C202-Wireless Communication Lab	2020-21 Odd Sem.
92	B.Tech-19FY2MC01L-Professional Ethics	2020-21 Odd Sem.
93	M.Tech-ECM114-Adaptive Techniques in Signal Processing	2020-2021 Even Sem.

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94	M.Tech-CSM201-Advanced Algorithms	2020-2021 Odd Sem.
95	M.Tech-ECM241-Advanced Embedded system Design	2020-2021 Odd Sem.
96	M.Tech-EEM122-Analysis of Power Electronic Converters	2020-2021 Even Sem.
97	M.Tech-CSM113-Data Preparation and Analysis	2020-2021 Even Sem.
98	M.Tech-CSM241-Data Security and Access Control	2020-2021 Odd Sem.
99	M.Tech-CSM123-Data Storage Technologies and Networks	2020-2021 Even Sem.
100	M.Tech-CSM112-Distributed Systems	2020-2021 Even Sem.
101	M.Tech-EEM233-Distribution System Planning and Automation	2020-2021 Odd Sem.
102	M.Tech-EEM123-EHVAC	2020-2021 Even Sem.
103	M.Tech-EEM121-Electrical Power System Transient	2020-2021 Even Sem.
104	M.Tech-EEM231-Energy Storage System	2020-2021 Odd Sem.
105	M.Tech-EEM106-English for Research Paper Writing Audit Course	2020-2021 Even Sem.
106	M.Tech-EEM241-Forecasting Techniques for Power System	2020-2021 Odd Sem.
107	M.Tech-EEM111-Grid Integration of Renewable Energy Resources	2020-2021 Even Sem.
108	M.Tech-EEM201-HVDC and FACTS	2020-2021 Odd Sem.
109	M.Tech-VLM233-Low Power Design	2020-2021 Odd Sem.
110	M.Tech-EEM242-Machine Learning and Artificial Intelligence	2020-2021 Odd Sem.
111	M.Tech-ECM113-Optical Networks (5G Technology)	2020-2021 Even Sem.
112	M.Tech-VLM121-Parallel Processing	2020-2021 Even Sem.
113	M.Tech-EEM113-Power Quality Improvement Techniques	2020-2021 Even Sem.
114	M.Tech-EEM101-Power System Analysis	2020-2021 Even Sem.
115	M.Tech-EEM232-Power System Deregulation	2020-2021 Odd Sem.
116	M.Tech-EEM102-Power System Dynamics and Control	2020-2021 Even Sem.
117	M.Tech-EEM202-Power System Protection	2020-2021 Odd Sem.
118	M.Tech-EEM243-Power System Reliability	2020-2021 Odd Sem.
119	M.Tech-VLM112-Programming Languages for Embedded Software	2020-2021 Even Sem.
120	M.Tech-CSM121-Recommender System	2020-2021 Even Sem.
121	M.Tech-EEM112-Renewable Energy Systems and Micro-grid	2020-2021 Even Sem.
122	M.Tech-ECM122-RF and Microwave Circuit Design	2020-2021 Even Sem.
123	M.Tech-ECM123-Sem.iconductor Device Modeling & Simulation	2020-2021 Even Sem.

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124	M.Tech-VLM122-System Design with Embedded Linux (3-0-0)	2020-2021 Even Sem.
125	M.Tech-ECM111-Wireless Sensor Networks	2020-2021 Even Sem.
126	M.Tech-EEM207-Artificial Intelligence Lab	2020-2021 Odd Sem.
127	M.Tech-EEM107-Power System Lab-I	2020-2021 Even Sem.
128	M.Tech-EEM206-Power System Lab-II	2020-2021 Odd Sem.
129	M.Tech-EEM108-Renewable Energy Systems and Microgrid Laboratory	2020-2021 Even Sem.
130	M.Tech-ECM353-Advance Optical Communication	2019-20 Even Sem.
131	M.Tech-VLM361-Business Analytics	2019-20 Even Sem.
132	M.Tech-CSM352-Cloud Computing	2019-20 Even Sem.
133	M.Tech-VLM351-Communication Networks	2019-20 Even Sem.
134	M.Tech-VLM365-Composite Materials	2019-20 Even Sem.
135	M.Tech-ECM364-Cost Management Of Engineering Projects	2019-20 Even Sem.
136	M.Tech-CSM353-Distributed Databases	2019-20 Even Sem.
137	M.Tech-CSM351-GPU Computing	2019-20 Even Sem.
138	M.Tech-ECM351-High Performance Networks	2019-20 Even Sem.
139	M.Tech-ECM301-Industrial Project	2019-20 Even Sem.
140	M.Tech-VLM362-Industrial Safety	2019-20 Even Sem.
141	M.Tech-VLM363-Operations Research	2019-20 Even Sem.
142	M.Tech-CSM364-Project Management	2019-20 Even Sem.
143	M.Tech-VLM352-Selected Topics in Mathematics	2019-20 Even Sem.
144	M.Tech-CSM365-Smart Grid	2019-20 Even Sem.
145	M.Tech-ECM352-VLSI Signal Processing	2019-20 Even Sem.
146	M.Tech-ECM366-Waste To Energy	2019-20 Even Sem.
147	MBA-19MBH04-COMPENSATION MANAGEMENT	2019-20 Even Sem.
148	MBA-19MB301-COST AND MANAGEMENT ACCOUNTING	2019-20 Even Sem.
149	MBA-19MBM03-Digital and Social Media Marketing	2019-20 Even Sem.
150	MBA-19MBF04-Direct Taxation	2019-20 Even Sem.
151	MBA-19MBF01-Financial Market and Services	2019-20 Even Sem.
152	MBA-19MBH01-HR METRICS AND ANALYTICS	2019-20 Even Sem.
153	MBA-19MBH03-Human Resource Development	2019-20 Even Sem.

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154	MBA-19MBH02-Industrial Relations	2019-20 Even Sem.
155	MBA-19MBF05-Project Appraisal	2019-20 Odd Sem.
156	MBA-19MBP02-Project Management	2019-20 Even Sem.
157	MBA-19MBP03-Quality Toolkit for Managers	2019-20 Even Sem.
158	MBA-19MBM04-Retail Management	2019-20 Even Sem.
159	MBA-19MBP04-Supply Chain Analytics	2019-20 Even Sem.
160	MBA-19MBP01-Supply Chain and Logistics Management	2019-20 Even Sem.
161	MBA-NMGMT109-Personality Development Lab-1	2020-21 Even Sem.
162	MBA-19MB210-Personality Development Lab-2	2020-21 Odd Sem.
163	MCA-20MC206-Object Oriented Programming using JAVA Lab	2020-21 Even Sem.

1.2.2 Programmes in which Choice Based Credit System (CBCS)/Elective Course System implemented at the College level during the Academic year.

Names of programmes adopting CBCS	UG	PG	Date of implementation of CBCS / Elective Course System
B.Tech	✔		01 July 2020
M.Tech		✔	01 July 2020
MBA		✔	01 July 2020
MCA		✔	01 July 2020

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
English for Research Paper Writing	21/2/2021	9
Disaster Management	31/5/2021	2
Sanskrit for Technical Knowledge	31/5/2021	2
Value Education	-----	-----
Pedagogy Studies	31/5/2021	1
Personality Development through Life Enlightenment Skills	31/5/2021	2

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1.3.2 Field projects / internships undertaken during the year	
Project/ Programme title	No. of students enrolled for Field Projects/ internships
Summer Internship Program (MBA)	60
Pre Placement Internship	72
IIT/NIT/IIIT/CSIR research internship	12
On-site internships at various companies	50
Online internship at companies	52
Summer course at NIST	57

1.4 Feedback system

1.4.1 Whether structured feedback received from all the stakeholders.				
1. Students	2. Teachers	3. Employers	4. Alumni	5. Parents
Yes	Yes	Yes	Yes	Yes

1.4.2 How the feedback obtained is being analyzed and utilized for overall development of the institution?

(maximum 500 words)

Feedback is analyzed at different administrative levels and corrective action is taken.

Student feedback: Abstract information is made available to the corresponding BCs, HoDs and subject teachers. The first feedback collected during mid-term examination provides a glimpse into the class conduction and understanding level. Teachers adjust their content delivery methods at this stage. The final feedback is collected after the end-Sem.ester examination. It helps assess the course coverage, quality of content, student satisfaction, any major challenges in classrooms or in study.

Teacher feedback: Teacher feedback is collected with the (i) course completion report, (ii) self-assessment report and (iii) response to student feedback report submitted by the teachers at different stages. It helps the administration/management understand the reasons and challenges in effective conduction of classes.

Employer feedback: At the end of each placement drive, the interviewers are requested to provide feedback on the student performance. This feedback is mostly technical in nature. Also, the HR/ admin persons in the companies where the students have been recruited provide feedback on outstanding performance or deficiency in the competence of the students. Employers, who hire students on PPO mode and offer internships prior to joining, provide feedback on performance of the students. The feedback collected is on technical knowledge, professional and interpersonal behavior and growth potential of the student. The placement cell consolidates the information and shares these in Semester-wise/ annual review meetings in presence of the Principal and Chairman. Appropriate action items are suggested for the next academic session.

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Alumni feedback: Alumni are involved in the Department BoS where they take part in the syllabus formulation, course content selection activities. They provide feedback on the actual industry needs faced by them or their peers (mostly at entry level positions) and suggest aligning courses that will benefit the fresh graduates over time. Alumni feedback on academic environment, transport, hostel, food, extracurricular activities etc. is also collected by the alumni cell coordinator. Every visiting alumni is presented with an alumni response form where they provide open ended (unstructured) suggestions for improvement of the campus and academics. Senior alumni provide feedback on the course content which will help the students take up future career positions.

Parent feedback: Parents feedback is collected over telephone calls, email, whatsapp messages etc. Visiting parents are also interviewed to take feedback on student performance, academic expectations, hostel facilities, transport facilities, teacher engagement etc. The nodal points of receiving parent feedback are batch coordinator, HoD, hostel superintendent, admission office and official telephone numbers.

Feedback review and recommendation:
The student feedback received on the internal ERP is consolidated and shared with the subject teachers for self-review and appraisal. The Periodic review of feedback is conducted by the Principal during HoD/BC meetings every month. The top management also conducts review meetings on major feedback received.

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CRITERIA - II

CRITERION II – TEACHING- LEARNING AND EVALUATION

2.1 Student Enrolment and Profile

2.1. 1 Demand Ratio during the year

Name of the Programme	Number of seats available	Number of applications received	Students Enrolled
B.Tech. - Computer Science and Engineering	240		225
B.Tech. - Electronics and Communication Engineering	120		31
B.Tech. - Electrical and Electronics Engineering	120		2
B.Tech. - Information Technology	90		38
B.Tech. - Mechanical Engineering	120		3
B.Tech. - Electrical Engineering	60		9
B.Tech. - Civil Engineering	60		8
M.Tech. - Computer Science and Engineering	18		7
M.Tech. - Electronics and Communication Engineering	9		1
M. Tech. - VLSI Embedded System's Design	9		2
M. Tech. - Electrical Engineering	9		1
M.Tech - Wireless Communication Technology	18		-
Master of Business Administration	60		60
Master of Computer Applications	60		57

As all the admissions were done through Odisha JEE (OJEE) centralized counseling, the information pertaining to the number of applications received is not available.

2.2 Catering to Student Diversity

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

Year	Number of students enrolled in the institution (UG)	Number of students enrolled in the institution (PG)	Number of full-time teachers available in the institution teaching only UG courses	Number of full-time teachers available in the institution teaching only PG courses	Number of teachers teaching both UG and PG courses
2020-2021	2001	214	80	16	20

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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
116	89	LCD Projector, Laptop, Audio visual system	34	1	NPTEL, SWAYAM, e-book, pdf, Animations, Text, Graphics, e-notes, Acadly, NIS, & Quizzee

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

Number of students enrolled in the institution	Number of fulltime teachers	Mentor: Mentee Ratio
2215	116	1:19.09

As part of the program, the institution provides a student mentorship system. Students are divided into groups from the moment they are admitted and are mentored or supervised by instructors. The needs of the pupils are attended to by the appropriate faculty members. There are **2215** students and **116** faculty members available in the B.Tech, M.Tech, MBA, and MCA programs. A total of **111** groups of students are formed. A faculty member in charge mentors each group. The faculty's responsibility is to care after each student's academic needs, motivation, and wellbeing. The mentor is in charge of all activities, both scholastic and extracurricular.

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
25	10	15	10	5

2.4.2 Honors and recognitions received by teachers

Received awards, recognition, fellowships at State, National, International level from Government, recognized 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
May-21	Dr. Pradyumna Kumar Patra	Associate	INSE Young Research Award, INSE

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2.5 Evaluation Process and Reforms

2.5.1 Number of days from the date of End-semester examination till the declaration of results during the year

Programme Name	Programme Code	Semester/ year	Last date of the last End-Semester examination	Date of declaration of results of End-Semester examination
B.Tech. - Computer Science and	CSE	8th/2021	6/7/2021	6/7/2021
B.Tech. - Electronics and Communication Engineering	ECE	8th/2021	6/7/2021	6/7/2021
B.Tech. - Electrical and Electronics Engineering	EEE	8th/2021	6/7/2021	6/7/2021
B.Tech. - Information Technology	IT	8th/2021	6/7/2021	6/7/2021
B.Tech. - Mechanical Engineering	ME	8th/2021	6/7/2021	6/7/2021
B.Tech. - Electrical Engineering	EE	8th/2021	6/7/2021	6/7/2021
B.Tech. - Civil Engineering	CE	8th/2021	6/7/2021	6/7/2021
M.Tech. - Computer Science and Engineering	M.Tech CSE	4th/2021	17/10/2021	17/10/2021
M.Tech. - Electronics and Communication Engineering	M.Tech ECE	4th/2021	17/10/2021	17/10/2021
M. Tech. - VLSI Embedded System's Design	M.Tech VLSI	4th/2021	17/10/2021	17/10/2021
M. Tech. - Electrical Engineering	M.Tech EE	4th/2021	17/10/2021	17/10/2021
Master of Business Administration	MBA	4th/2021	27/08/2021	11/12/2021
Master of Computer Applications	MCA	6th/2021	17/10/2021	17/10/2021

2.5.2 Average percentage of Student complaints/grievances about evaluation against total number appeared in the examinations during the year

**Do not include re-evaluation/ re-totaling*

S. No.	Number of complaints or grievances about evaluation	Total number of students appeared in the examination	Percentage
1	-	-	-

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 web link)

B.Tech Program	MTech Program
CSE: https://nist.edu/academics/BTech_CSE.html#SYLLABUS	CSE: https://nist.edu/academics/MTech_CSE.html
ECE : https://nist.edu/academics/BTech_ECE.html	ECE: https://nist.edu/academics/MTech_ECE.html
EEE: https://nist.edu/academics/BTech_EEE.html	VLSI: https://nist.edu/academics/MTech_VLSI.html

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IT: https://nist.edu/academics/BTech_CSE.html	EE: https://nist.edu/academics/MTech_EE.html
ME : https://nist.edu/academics/BTech_ME.html	MBA: https://nist.edu/academics/MBA.html
EE: https://nist.edu/academics/BTech_EE.html	MCA: https://nist.edu/academics/MCA.html
CE: https://nist.edu/academics/BTech_CE.html	

2.6.2 Pass percentage of students

Programme name	Programme Code	Number of students appeared in the final year examination	No of students passed in final Semester / final year examination	Pass Percentage
B.Tech. - Computer Science and	CSE	185	183	98.92
B.Tech. - Electronics and Communication Engineering	ECE	115	112	97.39
B.Tech. - Electrical and Electronics Engineering	EEE	77	76	98.70
B.Tech. - Electronics and Instrumentation Engineering	EIE	43	40	93.02
B.Tech. - Information Technology	IT	67	65	97.01
B.Tech. - Mechanical Engineering	ME	22	22	100.00
B.Tech. - Electrical Engineering	EE	34	34	100.00
B.Tech. - Civil Engineering	CE	2	2	100.00
M.Tech. - Computer Science and Engineering	M.Tech CSE	1	1	100.00
M.Tech. - Electronics and Communication Engineering	M.Tech ECE	2	2	100.00
M. Tech. - VLSI Embedded System's Design	M.Tech VLSI	-	-	-
M. Tech. - Electrical Engineering	M.Tech EE	52	48	92.31
Master of Business Administration	MBA	31	25	80.65
Master of Computer Applications	MCA	185	183	98.92

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 web link)

Link to student satisfaction survey portal: https://nis.nist.edu/

Student can log-in and navigate to feedback module to provide structured feedback.

Results of satisfaction survey: https://nist.edu/IQAC/SSS/student-satisfaction.html

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CRITERIA – III

Criterion III – Research, Innovations and Extension (2020-2021)			
3.1 Promotion of Research and Facilities			
3.1.1 The institution provides seed money to its teachers for research: YES			
Yes (No teacher availed the provision in this academic year due to lockdown)			
Name of the teacher getting seed money	The amount of seed money	Year of receiving grant	Duration of the grant
-	-	-	-

3.1.2 Teachers awarded National/International fellowship for advanced studies/ research during the year

	Name of the teacher awarded the fellowship	Name of the Award	Date of Award	Awarding Agency
National	-	-	-	-
International	-	-	-	-

3.2 Resource Mobilization for Research

3.2.1 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	1 year	DST SERB DST WOSA DST WOSA BPUT BPUT DST SERB	3502400 2079200 2673200 150000 280000 3700000	467470 696400 1364400 150000 280000 148518
Minor Projects	-	-	-	-
Interdisciplinary Projects	-	-	-	-
Industry sponsored Projects	-	-	-	-
Projects sponsored by the University/ College	1 year	NIST Autonomous Berhampur	5900	5900
Students Research Projects *(other than compulsory by the College)*	-	-	-	-
International Projects	-	-	-	-

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Any other (Specify)	-	-	-	-
Total	-	-	-	-

3.2.2 Number of ongoing research projects per teacher funded by government and non-government agencies during the years: 04

1. Dr. Sandipan Mallik: Structural Modification of Flexible Solar Cell by Incorporating Graphene tapered ZnO Anti-reflector in Wearable Electronics Power Solutions
2. Dr. Rankanidhi Sahu: New Applications of Deformed Shell Model
3. Dr. A. K. Panda/Dr. Sandipan Mallik: Structural asymmetric induced nonlinear electron mobility of double quantum well pseudomorphic HEMT for low power application
4. Dr. A. K. Panda/Dr. Sandipan Mallik: Multichannel low power incremental sigma delta ADC for IoT application

3.3 Innovation Ecosystem

3.3.1 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(s)
NIST Virtual Engineering Project Contest (NVEPC-2021)	All	06/06/2021 to 21/07/2021

3.3.2 Awards for Innovation won by Institution/Teachers/Research scholars/Students during the year

Title of the innovation	Name of the Awardee	Awarding Agency	Date of Award	Category
Smart India hackathon 2020	Debasish Panda	Government of India	Sep-20	Hardware
Smart India hackathon 2020	Prakash Panigrahi	Government of India	Sep-20	Hardware
Smart India hackathon 2020	Swosti Choudhry	Government of India	Sep-20	Hardware
Smart India hackathon 2020	Sree Pattnaik	Government of India	Sep-20	Hardware
Smart India hackathon 2020	Krishna Pujari	Government of India	Sep-20	Hardware
National Level Poster Competition 021 SILICON I	Debasish Panda	SILICON Institute of Technology	Feb-21	Poster Presentation
National Level Poster Competition 1 SILICON	Prakash Panigrahi	SILICON Institute of Technology	Feb-21	Poster Presentation
National Level Poster Competition DIUM 2021	Ajit Dash	SILICON Institute of Technology	Feb-21	Poster Presentation
SRM HACKATHON 5.0	Debasish Panda	SRM University	Feb-21	Hardware
SRM HACKATHON 5.0	Prakash Panigrahi	SRM University	Feb-21	Hardware

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3.3.3 No. of Incubation center created, start-ups incubated on campus during the year		
Incubation Centre	Name	Sponsored by
-	-	-
Name of the Start-up	Nature of Start-up	Date of commencement
-	-	-

3.4 Research Publications and Awards	
3.4.1 Ph. Ds awarded during the year	
Name of the Department	No. of PhDs Awarded
-	-

3.4.2 Research Publications in the Journals notified on UGC website during the year			
	Department	No. of Publication	Average Impact Factor, if any
National	NA	NA	NA
International	CHEM	03	1.84
	CSE	12	5.03
	ECE	13	2.06
	EE	06	1.94
	MATH	04	0.36
	MBA	00	NA
	ME	02	2.72
	PHYS	11	2.91

3.4.3 Books and Chapters in edited Volumes / Books published, and papers in National/International Conference Proceedings per Teacher during the year	
Department	No. of publication
CHEM	1
CSE	4
ECE	7
EE	1
MATH	0
MBA	0
ME	0
PHYS	0

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3.4.4 Patents published/awarded during the year

Patent Details	Patent status Published/Filed	Patent Number	Date of Award
System and Method for Charging Built-in Rechargeable Battery of User Equipment	Published	202131031727	20-08-2020
An Automated Probing System for Measuring Electrical Characteristics of On-Wafer Devices and a method thereof	Published	202031041107	16-10-2020
A system and a method for quarantine epidemic models	Published	2020103841A4	02-12-2020
A Single Microstrip Antenna as Radiator and Reflector	Published	202131002987	19-02-2021

3.4.5 Bibliometrics of the publications during the last Academic year based on average citation index in Scopus/ Web of Science or Pub Med/ Indian Citation Index

Title of the paper	Name of the author	Title of the journal	Year of publication	Citation Index	Institutional affiliation as mentioned in the publication	Number of citations excluding self-citations
Surfactant catalyzed oxidation of ethanolamines by cerium(IV)	Kumar Padhy R., Bhattamisra S.D.A.S.	Asian Journal of Chemistry	2021	9	yes	8
Synthesis and characterization of oleic acid stabilized CdTe quantum dots and their properties as luminescence quencher of a pyridine pendented rod-coil homopolymer	Kaur M., Sahu D.	Materials Science- Poland	2020	-	yes	-
An Indirect Controller-Legacy Switch Forwarding Scheme for Link Discovery in Hybrid SDN	Hussain M.W., Reddy K.H.K., Rodrigues J.J.P.C., Roy D.S.	IEEE Systems Journal	2021	15	yes	14
Machine learning based soft sensor model for BOD estimation using intelligence at edge	Pattnaik B.S., Pattanayak A.S., Udgata S.K., Panda A.K.	Complex and Intelligent Systems	2021	18	yes	17
An SDN empowered location aware routing for energy efficient next generation vehicular networks	Renuka K., Roy D.S., Reddy K.H.K.	IET Intelligent Transport Systems	2021	8	yes	8
A new algorithm for reconstruction of a computer-generated	Tripathy A.K., Tripathy S.K., Pattanaik S.R., Das	Computer Journal	2021	1	yes	1

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hologram (cgh)	S.K.					
A genetic algorithm based energy efficient group paging approach for IoT over 5G	Pradhan B., Vijayakumar V., Pratihar S., Kumar D., Reddy K.H.K., Roy D.S.	Journal of Systems Architecture	2021	18	yes	17
Fire Controlling Under Uncertainty in Urban Region Using Smart Vehicular Ad hoc Network	Senapati B.R., Khilar P.M., Swain R.R.	Wireless Personal Communications	2021	11	yes	10
A counter-based approach for reducer placement with augmented Hadoop rack awareness	Mir W.H., Hemant Kumar Reddy K., Roy D.S.	Turkish Journal of Electrical Engineering and Computer Sciences	2021	10	yes	10
Development of Chemical Oxygen on Demand (COD) Soft Sensor Using Edge Intelligence	Pattanayak A.S., Pattnaik B.S., Udgata S.K., Panda A.K.	IEEE Sensors Journal	2020	22	yes	20
A genetic algorithm for energy efficient fog layer resource management in context-aware smart cities	Reddy K.H.K., Luhach A.K., Pradhan B., Dash J.K., Roy D.S.	Sustainable Cities and Society	2020	55	yes	53
Clonal selection algorithm for energy minimization in software defined networks	Hussain M.W., Pradhan B., Gao X.Z., Reddy K.H.K., Roy D.S.	Applied Soft Computing Journal	2020	17	yes	16
A Service Delay Minimization Scheme for QoS-Constrained, Context-Aware Unified IoT Applications	Reddy K.H.K., Behera R.K., Chakrabarty A., Roy D.S.	IEEE Internet of Things Journal	2020	25	yes	23
Deterministic linear-hexagonal path traversal scheme for localization in wireless sensor networks	Das T., Swain R.R., Khilar P.M., Senapati B.R.	Wireless Networks	2020	6	yes	6
Electron mobility in asymmetric coupled AlxGa1-xAs parabolic quantum well structure – Impact of external electric field	Sahoo N., Sahu A.K., Palo S.K.	Physica B: Condensed Matter	2021	14	yes	13
Polymer matrix composite engineering for PDMS based capacitive sensors to achieve high-performance and broad-range pressure sensing	Tripathy A.R., Choudhury A., Dash A., Panigrahi P., Kumar S.S., Pancham P.P., Sahu S.K., Mallik S.	Applied Surface Science Advances	2021	16	yes	15
An instantaneous symmetrical component	Sahu G., Patjoshi R.K.,	International Journal of	2021		yes	2

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active power theory with finite control state based model predictive control strategy for distribution STATCOM	Panigrahi R.	Numerical Modelling: Electronic Networks, Devices and Fields		2		
Variable nonlinear gain fuzzy with improved synchronous reference frame control strategy for performance enhancement of unified power quality conditioner	Kumar Patjoshi R., Panigrahi R., Ratnam Kolluru V.	Ain Shams Engineering Journal	2021	5	yes	4
A High Isolation Co-Existing Dual 4 × 4 MIMO LTE-A and 4 × 4 Wi-Fi Modified Patch Antenna Structure for Multi-Radio Low Power Indoor Wireless Base Stations	Patro S.K., Mishra R.K., Panda A.K.	Journal of Electrical Engineering and Technology	2021	-	yes	-
An efficient method to compute simplified noise parameters of analog amplifiers using symbolic and evolutionary approach	Panda M., Patnaik S.K., Mal A.K.	International Journal of Numerical Modelling: Electronic Networks, Devices and Fields	2021	3	yes	3
A hybrid fuzzy with feedback integral phase locked loop-based control strategy for unified power quality conditioner	Patjoshi R.K., Panigrahi R., Rout S.S.	Transactions of the Institute of Measurement and Control	2021	5	yes	5
A high-efficiency Doherty Power Amplifier for wireless base stations	Panda A.K., Patro S.K.	International Journal of Electronics Letters	2021	-	yes	-
An evolutionary-based design methodology for performance enhancement of a folded-cascode OTA using symbiotic organisms search algorithm and gm/ID technique	Panda M., Patnaik S.K., Mal A.K., Ghosh S.	Analog Integrated Circuits and Signal Processing	2020	2	yes	2
A novel adaptive S-transform based electrocardiogram signal analysis of QRS-peak detection	Anuhya A.V., Kolluru V.R., Patjoshi R.K.	Journal of Green Engineering	2020	1	yes	1
An FPGA based novel digital controller for dstatcom to enhance power quality in distribution system	Sahu G., Patjoshi R.K., Panigrahi R.	ECTI Transactions on Electrical Engineering, Electronics, and Communications	2020	-	yes	-

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A Numerical and Experimental Study of a Low-Loss Wideband E-Shaped Meta-Atom for LHM Characteristics	Panda A.K.	Journal of Electronic Materials	2020	-	yes	-
Doping-Dependent Nonlinear Electron Mobility in GaAs|InxGa1 –xAs Coupled Quantum-Well Pseudo-Morphic MODFET Structure	Panda S.R., Sahu A., Das S., Panda A.K., Sahu T.	Semiconductors	2020	4	yes	3
Intelligent fault analysis of transmission line using phasor measurement unit incorporating auto-reclosure protection scheme	Swain K., Cherukuri M.	SN Applied Sciences	2021	4	yes	4
Quantile regression averaging-based probabilistic forecasting of daily ambient temperature	Tripathy D.S., Prusty B.R.	International Journal of Numerical Modelling: Electronic Networks, Devices and Fields	2021	11	yes	10
Adaptive Price Estimation in Cognitive Radio Enabled Smart Grid Networks	Das D., Khadanga R.K.	Arabian Journal for Science and Engineering	2021	1	yes	1
Coordinated Design of FACTS Controller with PSS for Stability Enhancement Using a Novel Hybrid Whale Optimization Algorithm–Nelder Mead Approach	Sahu P.R., Hota P.K., Panda S., Lenka R.K., Padmanaban S., Blaabjerg F.	Electric Power Components and Systems	2021	7	yes	6
An improved sliding window prediction-based outlier detection and correction for volatile time-series	Ranjan K.G., Tripathy D.S., Prusty B.R., Jena D.	International Journal of Numerical Modelling: Electronic Networks, Devices and Fields	2021	38	yes	37
Review of preprocessing methods for univariate volatile time-series in power system applications	Ranjan K.G., Prusty B.R., Jena D.	Electric Power Systems Research	2021	30	yes	29
AN EXTENSION THEOREM ON DEGREE OF APPROXIMATION OF FOURIER SERIES BY (E, q)B–MEAN	Padhy B.P., Tripathy P., Misra U.K.	Turkish World Mathematical Society Journal of Applied and Engineering Mathematics	2021	4	yes	4
On degree of approximation of Fourier series of functions in	Padhy B.P., Mishra A., Misra U.K.	Proyecciones	2021	-	yes	-

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Besov Space using Norlund mean						
An EOQ model of selling-price-dependent demand for non-instantaneous deteriorating items during the pandemic COVID-19	Indrajitsingha S.K., Raula P., Samanta P., Misra U., Raju L.K.	Walailak Journal of Science and Technology	2021	9	yes	6
On approximation of signals in the generalized zygmund class using (E,r)(N,qn) mean of conjugate derived fourier series	Mishra A., Padhy B.P., Misra U.	European Journal of Pure and Applied Mathematics	2021	19	yes	8
UHMWPE / nanodiamond nanocomposites for orthopaedic applications: A novel sandwich configuration based approach	Dalai N., Sreekanth P.S.R.	Journal of the Mechanical Behavior of Biomedical Materials	2021	21	yes	18
Event Rates for the Scattering of Weakly Interacting Massive Particles from 23Na and 40Ar	Sahu R., Kota V.K.B., Kosmas T.S.	Particles	2021	3	yes	3
Negative effect of cations out-diffusion and auto-doping on switching mechanisms of transparent memristor devices employing ZnO/ITO heterostructure	Simanjuntak F.M, Chandrasekaran S., Panda D., Rajasekaran S., Rullyani C., Madhaiyan G., Prodromakis T., Tseng T.-Y.	Applied Physics Letters	2021	7	yes	7
Synaptic behaviour of TiO x/HfO2RRAM enhanced by inserting ultrathin Al2O3layer for neuromorphic computing	Panda D., Chu C.A., Pradhan A., Chandrasekharan S, Pattanayak B., Sze S.M., Tseng T.Y.	Semiconductor Science and Technology	2021	13	yes	12
Evaluating gallium-doped ZnO top electrode thickness for achieving a good switch-ability in ZnO2/ZnO bilayer transparent valence change memory	Simanjuntak F.M., Panda D., Chandrasekaran S., Aluguri R., Lin C.-C., Tseng T.-Y.	Journal of Electro-ceramics	2021	2	yes	1
Ultrasensitive and light-activated NO2 gas sensor based on networked MoS2/ZnO nanohybrid with adsorption/desorption kinetics study	Kumar R.R., Murugesan T., Dash A., Hsu C.-H., Gupta S., Manikandan A., Anbalagan A.K., Lee C.-H., Tai N.-H., Chueh Y.-L.,	Applied Surface Science	2021	68	yes	65

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	Lin H.-N.					
Nonlinearly chirped self-similar waves on a cw background in inhomogeneous long optical waveguide	Triki H., Raju T.S.	Journal of Modern Optics	2021	3	yes	3
Dielectric effects on graphene field effect transistors studied with an iterative simulation approach	Behera S., Pattanaik S.R., Dash G.	International Journal of Nanoelectronics and Materials	2020	3	yes	3
Array of NiMn2O4 nanosheets for glucose sensing application	Naik K.K., Bhuyan R.K., Mohapatra A.K.	Journal of Materials Science: Materials in Electronics	2020	1	yes	1
Fast, highly flexible, and transparent taox-based environmentally robust memristors for wearable and aerospace applications	Tseng T.-Y., Rajasekaran S., Simanjuntak F.M., Panda D., Chandrasekaran S., Aluguri R., Saleem A.	ACS Applied Electronic Materials	2020	35	yes	33
Quadrupole properties of the eight SU(3) algebras in (sdgi) space	Sahu R., Kota V.K.B., Srivastava P.C.	European Physical Journal: Special Topics	2020	6	yes	4
A new configuration of fiber optic sensor based on evanescent field absorption utilizing the emission properties of Fe3O4 @BaMoO4: Eu nanocomposite probe	Swain S.K., Phaomei G., Swain S.K., Sahoo N.K., Tripathy S.K.	Optics Communications	2020	8	yes	6
Elastic and inelastic scattering of neutrinos and weakly interacting massive particles on nuclei	Sahu R., Papoulias D.K., Kota V.K.B., Kosmas T.S.	Physical Review C	2020	13	yes	12
Synthesis of a novel β-cyclodextrin-functionalized Fe3O4/BaMoO4:Dy3+magnetic luminescent hybrid nanomaterial and its application as a drug carrier	Swain S.K., Sahoo A., Swain S.K., Tripathy S.K., Phaomei G.	Dalton Transactions	2020	5	yes	4

3.4.6 h-index of the Institutional Publications during the year. (based on Scopus/ Web of science)

Title of the paper	Name of the Author	Title ofthe journal	Year of publication	h-index	Number of citations excluding self citations	Institutional affiliation as mentioned in the publication

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Surfactant catalyzed oxidation of ethanolamines by cerium(IV)	Kumar Padhy R., Bhattamisra S.D.A.S.	Asian Journal of Chemistry	2021	39	8	yes
Synthesis and characterization of oleic acid stabilized CdTe quantum dots and their properties as luminescence quencher of a pyridine pendented rod-coil homopolymer	Kaur M., Sahu D.	Materials Science-Poland	2020	38	-	yes
An Indirect Controller-Legacy Switch Forwarding Scheme for Link Discovery in Hybrid SDN	Hussain M.W., Reddy K.H.K., Rodrigues J.J.P.C., Roy D.S.	IEEE Systems Journal	2021	76	14	yes
Machine learning based soft sensor model for BOD estimation using intelligence at edge	Pattnaik B.S., Pattanayak A.S., Udgata S.K., Panda A.K.	Complex and Intelligent Systems	2021	32	17	yes
An SDN empowered location aware routing for energy efficient next generation vehicular networks	Renuka K., Roy D.S., Reddy K.H.K.	IET Intelligent Transport Systems	2021	58	8	yes
A new algorithm for reconstruction of a computer-generated hologram (cgh)	Tripathy A.K., Tripathy S.K., Pattanaik S.R., Das S.K.	Computer Journal	2021	70	1	yes
A genetic algorithm based energy efficient group paging approach for IoT over 5G	Pradhan B., Vijayakumar V., Pratihar S., Kumar D., Reddy K.H.K., Roy D.S.	Journal of Systems Architecture	2021	59	17	yes
Fire Controlling Under Uncertainty in Urban Region Using Smart Vehicular Ad hoc Network	Senapati B.R., Khilar P.M., Swain R.R.	Wireless Personal Communications	2021	75	10	yes
A counter based approach for reducer placement with augmented Hadoop rack awareness	Mir W.H., Hemant Kumar Reddy K., Roy D.S.	Turkish Journal of Electrical Engineering and Computer Sciences	2021	38	10	yes
Development of Chemical Oxygen on Demand (COD) Soft Sensor Using Edge Intelligence	Pattanayak A.S., Pattnaik B.S., Udgata S.K., Panda A.K.	IEEE Sensors Journal	2020	145	20	yes
A genetic algorithm for energy efficient fog layer resource management in context-aware smart cities	Reddy K.H.K., Luhach A.K., Pradhan B., Dash J.K., Roy D.S.	Sustainable Cities and Society	2020	136	53	yes
Clonal selection algorithm for energy	Hussain M.W., Pradhan B.,	Applied Soft Computing	2020	171	16	yes

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minimization in software defined networks	Gao X.Z., Reddy K.H.K., Roy D.S.	Journal				
A Service Delay Minimization Scheme for QoS-Constrained, Context-Aware Unified IoT Applications	Reddy K.H.K., Behera R.K., Chakrabarty A., Roy D.S.	IEEE Internet of Things Journal	2020	149	23	yes
Deterministic linear-hexagonal path traversal scheme for localization in wireless sensor networks	Das T., Swain R.R., Khilar P.M., Senapati B.R.	Wireless Networks	2020	98	6	yes
Electron mobility in asymmetric coupled AlxGa1-xAs parabolic quantum well structure – Impact of external electric field	Sahoo N., Sahu A.K., Palo S.K.	Physica B: Condensed Matter	2021	124	13	yes
Polymer matrix composite engineering for PDMS based capacitive sensors to achieve high-performance and broad-range pressure sensing	Tripathy A.R., Choudhury A., Dash A., Panigrahi P., Kumar S.S., Pancham P.P., Sahu S.K., Mallik S.	Applied Surface Science Advances	2021	16	15	yes
An instantaneous symmetrical component active power theory with finite control state based model predictive control strategy for distribution STATCOM	Sahu G., Patjoshi R.K., Panigrahi R.	International Journal of Numerical Modelling: Electronic Networks, Devices and Fields	2021	33	2	yes
Variable nonlinear gain fuzzy with improved synchronous reference frame control strategy for performance enhancement of unified power quality conditioner	Kumar Patjoshi R., Panigrahi R., Ratnam Kolluru V.	Ain Shams Engineering Journal	2021	64	4	yes
A High Isolation Co-Existing Dual 4 × 4 MIMO LTE-A and 4 × 4 Wi-Fi Modified Patch Antenna Structure for Multi-Radio Low Power Indoor Wireless Base Stations	Patro S.K., Mishra R.K., Panda A.K.	Journal of Electrical Engineering and Technology	2021	34	-	yes
An efficient method to compute simplified noise parameters of analog amplifiers using symbolic and evolutionary approach	Panda M., Patnaik S.K., Mal A.K.	International Journal of Numerical Modelling: Electronic Networks, Devices and Fields	2021	33	3	yes

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A hybrid fuzzy with feedback integral phase locked loop-based control strategy for unified power quality conditioner	Patjoshi R.K., Panigrahi R., Rout S.S.	Transactions of the Institute of Measurement and Control	2021	48	5	yes
A high-efficiency Doherty Power Amplifier for wireless base stations	Panda A.K., Patro S.K.	International Journal of Electronics Letters	2021	13	-	yes
An evolutionary-based design methodology for performance enhancement of a folded-cascode OTA using symbiotic organisms search algorithm and gm/ID technique	Panda M., Patnaik S.K., Mal A.K., Ghosh S.	Analog Integrated Circuits and Signal Processing	2020	54	2	yes
A novel adaptive S-transform based electrocardiogram signal analysis of QRS-peak detection	Anuhya A.V., Kolluru V.R., Patjoshi R.K.	Journal of Green Engineering	2020	16	1	yes
An fpga based novel digital controller for dstatcom to enhance power quality in distribution system	Sahu G., Patjoshi R.K., Panigrahi R.	ECTI Transactions on Electrical Engineering, Electronics, and Communications	2020	11	0	yes
A Numerical and Experimental Study of a Low-Loss Wideband E-Shaped Meta-Atom for LHM Characteristics	Panda A.K.	Journal of Electronic Materials	2020	107	0	yes
Doping-Dependent Nonlinear Electron Mobility in GaAs|InxGa1−xAs Coupled Quantum-Well Pseudo-Morphic MODFET Structure	Panda S.R., Sahu A., Das S., Panda A.K., Sahu T.	Semiconductors	2020	45	3	yes
Intelligent fault analysis of transmission line using phasor measurement unit incorporating auto-reclosure protection scheme	Swain K., Cherukuri M.	SN Applied Sciences	2021	43	4	yes
Quantile regression averaging-based probabilistic forecasting of daily ambient temperature	Tripathy D.S., Prusty B.R.	International Journal of Numerical Modelling: Electronic Networks, Devices and Fields	2021	33	10	yes
Adaptive Price Estimation in Cognitive Radio Enabled Smart	Das D., Khadanga R.K.	Arabian Journal for Science and Engineering	2021	60	1	yes

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Grid Networks						
Coordinated Design of FACTS Controller with PSS for Stability Enhancement Using a Novel Hybrid Whale Optimization Algorithm–Nelder Mead Approach	Sahu P.R., Hota P.K., Panda S., Lenka R.K., Padmanaban S., Blaabjerg F.	Electric Power Components and Systems	2021	58	6	yes
An improved sliding window prediction-based outlier detection and correction for volatile time-series	Ranjan K.G., Tripathy D.S., Prusty B.R., Jena D.	International Journal of Numerical Modelling: Electronic Networks, Devices and Fields	2021	33	37	yes
Review of preprocessing methods for univariate volatile time-series in power system applications	Ranjan K.G., Prusty B.R., Jena D.	Electric Power Systems Research	2021	138	29	yes
AN EXTENSION THEOREM ON DEGREE OF APPROXIMATION OF FOURIER SERIES BY (E, q)B–MEAN	Padhy B.P., Tripathy P., Misra U.K.	Turkish World Mathematical Society Journal of Applied and Engineering Mathematics	2021			
On degree of approximation of Fourier series of functions in Besov Space using Norlund mean	Padhy B.P., Mishra A., Misra U.K.	Proyecciones	2021	15	-	yes
An EOQ model of selling-price-dependent demand for non-instantaneous deteriorating items during the pandemic COVID-19	Indrajitsingha S.K, Raula P., Samanta P., Misra U., Raju L.K.	Walailak Journal of Science and Technology	2021	18	6	yes
On approximation of signals in the generalized zygmund class using (E,r)(N,qn) mean of conjugate derived fourier series	Mishra A., Padhy B.P., Misra U.	European Journal of Pure and Applied Mathematics	2021	9	18	yes
UHMWPE / nanodiamond nanocomposites for orthopaedic applications: A novel sandwich configuration based approach	Dalai N., Sreekanth P.S.R.	Journal of the Mechanical Behavior of Biomedical Materials	2021	110	18	yes
Event Rates for the Scattering of Weakly Interacting Massive Particles from 23Na and 40Ar	Sahu R., Kota V.K.B., Kosmas T.S.	Particles	2021	65	3	yes

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Negative effect of cations out-diffusion and auto-doping on switching mechanisms of transparent memristor devices employing ZnO/ITO heterostructure	Simanjuntak F.M., Chandrasekaran S., Panda D., Rajasekaran S., Rullyani C., Madhaiyan G., Prodromakis T., Tseng T.-Y.	Applied Physics Letters	2021	466	7	yes
Synaptic behaviour of TiO x/HfO2RRAM enhanced by inserting ultrathin Al2O3layer for neuromorphic computing	Panda D., Chu C.-A., Pradhan A., Chandrasekharan S., Pattanayak B., Sze S.M., Tseng T.-Y.	Sem.iconductor Science and Technology	2021	122	12	yes
Evaluating gallium-doped ZnO top electrode thickness for achieving a good switch-ability in ZnO2/ZnO bilayer transparent valence change memory	Simanjuntak F.M., Panda D., Chandrasekaran S., Aluguri R., Lin C.-C., Tseng T.-Y.	Journal of Electroceramics	2021	78	1	yes
Ultrasensitive and light-activated NO2 gas sensor based on networked MoS2/ZnO nanohybrid with adsorption/desorption kinetics study	Kumar R.R., Murugesan T., Dash A., Hsu C.-H., Gupta S., Manikandan A., Anbalagan A.K., Lee C.-H., Tai N.-H., Chueh Y.-L., Lin H.-N.	Applied Surface Science	2021	219	65	yes
Nonlinearly chirped self-similar waves on a cw background in inhomogeneous long optical waveguide	Triki H., Raju T.S.	Journal of Modern Optics	2021	97	3	yes
Dielectric effects on graphene field effect transistors studied with an iterative simulation approach	Behera S., Pattanaik S.R., Dash G.	International Journal of Nanoelectronics and Materials	2020	19	3	yes
Array of NiMn2O4 nanosheets for glucose sensing application	Naik K.K., Bhuyan R.K., Mohapatra A.K.	Journal of Materials Science: Materials in Electronics	2020	88	1	yes
Fast, highly flexible, and transparent taox-based environmentally robust memristors for wearable and aerospace applications	Tseng T.-Y., Rajasekaran S., Simanjuntak F.M., Panda D., Chandrasekaran S., Aluguri R., Saleem A.	ACS Applied Electronic Materials	2020	36	33	yes
Quadrupole properties of the eight SU(3) algebras in (sdgi) space	Sahu R., Kota V.K.B., Srivastava P.C.	European Physical Journal: Special Topics	2020	84	4	yes
A new configuration of fiber optic sensor based	Swain S.K., Phaomei G., Swain	Optics Communicatio	2020	147	6	yes

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on evanescent field absorption utilizing the emission properties of Fe3O4 @BaMoO4: Eu nanocomposite probe	S.K., Sahoo N.K., Tripathy S.K.	ns				
Elastic and inelastic scattering of neutrinos and weakly interacting massive particles on nuclei	Sahu R., Papoulias D.K., Kota V.K.B., Kosmas T.S.	Physical Review C	2020	229	12	yes
Synthesis of a novel β-cyclodextrin-functionalized Fe3O4/BaMoO4:Dy3+magnetic luminescent hybrid nanomaterial and its application as a drug carrier	Swain S.K., Sahoo A., Swain S.K., Tripathy S.K., Phaomei G.	Dalton Transactions	2020	203	4	yes

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3.4.7 Faculty participation in Seminars/Conferences and Symposia during the year:

No. of Faculty	International level	National level	State level	Local level
Attended Seminars/ Workshops	6	12	0	0
Presented papers	5	0	0	0
Resource Persons	0	1	0	0

3.5 Consultancy

3.5.1 Revenue generated from Consultancy during the year

Name of the Consultant(s) department	Name of Consultancy project	Consulting/SponsoringAgency	Revenue generated (amount inrupees)
-	-	-	-

3.5.2 Revenue generated from Corporate Training by the institution during the year

Name of the Consultant(s) & Department	Title of the Programme	Agency seeking training	Revenue generated (amount in Rs.)	Number of trainees
-	-	-	-	-

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3.6 Extension Activities

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

Title of the Activities	Organizing unit/ agency/ collaborating agency	Number of teachers coordinated in such activities	Number of students participated in such activities
Awareness on Corona Strain 7 Apr 2021	NSS	3	21
Mission Trishaham 8 Apr 2021	NSS	2	12

3.6.2 Awards and recognition received for extension activities from Government and other recognized bodies during the year

Name of the Activity	Award/recognition	Awarding bodies	No. of Students benefited
-	-	-	-

3.6.3 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 co-ordinated suchactivities	Number of students participated in suchactivities
-	-	-	-	-

3.7 Collaborations

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

Nature of Activity	Participant	Source of financial support	Duration
Summer research internship	2 students	CSIR Jorhat (Online	60 days
Summer research internship	1	Sakura Student Exchange Program, Japan	15 days
Summer research internship	1	IAAM Sweden (Online)	30 days
Summer research internship	1	IIT Kanpur (online)	30 days

3.7.2 Linkages with institutions/industries for internship, on-the-job training, project work, sharing of research facilities etc. during the year

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Nature of linkage	Title of thelinkage	Name of the partnering institution/ industry /research lab with contact details	Duration **2020-2021**	participant
on-the-job training	Graduate Trainee	Admere Selvyn Pvt. Ltd, Dhanbad	Dt. 01.Februry. 2021 to Dt. 17.May. 2021.	1 student
on-the-job training	Graduate Trainee	ApMosys Technologies, Mumbai	23.March. 2021 onwards.	2
on-the-job training	Graduate Trainee	AVASANT Advisory India Private Limited, New Delhi	18. January. 2021 to Dt. 16. July. 2021.	1
on-the-job training	Graduate Trainee	CSM Technology, Bhubaneswar	Dt. 10.Februry. 2021 onwords.	1
on-the-job training	Graduate Trainee	Infosys Limited, Bangalaore	15.Feburary. 2021 to Dt. 10. June. 2021.	7
on-the-job training	Graduate Trainee	J Spiders & Q Spiders, Banglore	04. March. 2021 to Dt. 04. June. 2021.	1
on-the-job training	Graduate Trainee	Knowledge Lens Pvt. Ltd., Bangalore	08/02/2021 to 31/05/2021	1
on-the-job training	Graduate Trainee	Marquee Sem.iconductor, Bhubaneswar	19/10/2020 to 15/05/2021.	1
on-the-job training	Graduate Trainee	Mindfire Solution, Bhubaneswar	18/01/2021 to 31/07/2021	3
on-the-job training	Graduate Trainee	Nucifera Entertainment Pvt. Ltd., Bhubaneswar	Dt. 20.January. 2021 to Dt. 20.June. 2021.	2
on-the-job training	Graduate Trainee	Qspiders Campus Connect, Bangalore	15.March. 2021 to Dt. 15. June. 2021.	2
on-the-job training	Graduate Trainee	SakRobotix Private Limited, Bhubaneswar	20. Feb. 2021 to Dt. 30. July. 2021.	1
on-the-job training	Graduate Trainee	Spikewell India Private Limited,	11 jan 2021 to 30 june 2021	1
on-the-job training	Graduate Trainee	Strix, Bangalore	Dt. 02.March. 2021 to Dt. 03.June. 2021.	1
on-the-job training	Graduate Trainee	Tata Consultancy Services, Kolkata	Dt. 27.January. 2021 to Dt. 15.April. 2021.	5

3.7.3 MoUs signed with institutions of national, international importance, other institutions, industries, corporate houses etc. during the year

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Organisation	Date of MoUsigned	Purpose and Activities	Number of students/teachers participated under MoUs
NHAI, RO, Vijaywada, AP	July 2020	Research/ Internship	
RI Instruments & Innovation India	02nd Oct 2020	Research	One
AEP Certification, Level-7, Hyderabad	16th March 2021	Training for students	Ten
Parkland Solar	Mar-2021	Research/ Internship	

CRITERIA – IV

CRITERIONIV–INFRASTRUCTUREANDLEARNINGRESOURCES (2020-2021)	
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 (in INR)
30,00,000	25,79,572

4.1.2 Details of augmentation in infrastructure facilities during the year		
Facilities	Existing	Newly added
Campus area	37.805 Acre	0
Classrooms	86	0
Laboratories	75	0
Seminar Halls	16	0
Classrooms with LCD facilities	14	0
Classrooms with Wi-Fi/LAN	24	0
Seminar halls with ICT facilities	3	0
Video Centre	1	0

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No. of important equipment purchased (≥1-0lakh) during the Current year.	0	0
Value of the equipment purchased during the year (Rs. In Lakhs)	0	0
Others	0	0

4.2Library 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
Online Library Information System	Fully	NIST Developed	1998

4.2.1 Library Services:

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	60,376	2,28,00,813	-	-	60,376	2,28,00,813
Reference Books	708	35,27,405	-	-	708	35,27,405
e-Books	-	-	-	-	-	-
Journals	-	-	-	-	-	-
e-Journals	-	-	-	-	-	-
Digital Database	-	-	-	-	-	-
CD & Video	253	-	-	-	253	-
Library automation	1	-	-	-	1	
Weeding(Hard & Soft)	-	-	-	-		
Others(specify)						

4.2.2 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
Dr. B. Sambi Reddy	**Engineering Mechanics**	**YouTube**	**19/08/2020**

4.3 IT Infrastructure

4.3.1 Technology Upgradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centers	Computer Centers	Office	Departments	Available bandwidth (M/GBPS)	Others

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Existing									
2020-21	1000	14	1000	1	1	3	1	1 GBPS	
Added									
2020-21	-	-	-	-	-	-	-	-	
Total	1000	14	1000	1	1	0	0	1 GBPS	

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

1 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
SONY XDCAM	https://nist.edu/IQAC/econtent.html

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
50,00,000	35,66,309	18,00,000	15,41,674

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)

Link to the policy: https://nist.edu/about/resource-usage-policy.html

At NIST-Autonomous, we understand the importance of maintaining and effectively utilizing our physical and academic support facilities to create a conducive learning and research environment. To achieve this, we have implemented comprehensive systems and procedures to ensure the smooth operation and optimal utilization of facilities such as laboratories, libraries, sports complexes, computer labs, and classrooms.

Maintenance Policy:

Regular Inspection and Maintenance: Our maintenance team conducts regular inspections of all facilities to identify any maintenance or repair needs. This includes checking for issues with infrastructure, equipment functionality, safety features, and cleanliness. *Planned Preventive Maintenance:* We follow a planned preventive maintenance schedule to ensure that all facilities are routinely serviced and maintained, reducing the likelihood of breakdowns and ensuring their longevity. *Prompt Issue Resolution:* Upon noticing any maintenance issues, our team promptly addresses them to minimize disruptions. This includes timely repairs, replacement of faulty

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equipment, and ensuring the availability of necessary supplies and materials.

Utilization Policy:

Facility Booking and Scheduling: We have a centralized system for booking and scheduling facilities to ensure efficient utilization. Faculty, students, and staff can reserve specific spaces, such as classrooms, laboratories, and meeting rooms, for their academic, research, or administrative needs. *Fair Utilization Guidelines:* We have established fair utilization guidelines to ensure equitable access to facilities. These guidelines prioritize academic and research needs, allowing classrooms and laboratories to be readily available for teaching, practical sessions, and research activities. *Efficient Space Allocation:* Facilities are allocated based on the specific requirements, such as the number of participants, equipment needs, accessibility, and specialized requirements. This ensures the optimal utilization of available space. *Time Management:* Users are expected to manage their time effectively to avoid scheduling conflicts and ensure smooth transitions between activities. Allotted time slots should be adhered to, and users are expected to vacate the facilities promptly after their scheduled time.

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CRITERIA - V

CRITERION V - STUDENT SUPPORT AND PROGRESSION (2020-2021)			
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			
Financial support from other sources			
a) National	PMS for OBC/ SEBC	87	17,40,000
	PMS for SC/ ST	19	13,30,000
	e-Medhabruti B Tech	28	11,20,000
	e-Medhabruti MBA	15	3,00,000
	e-Medhabruti MCA	14	2,80,000
	e-Medhabruti M Sc	14	1,96,000
	NS to Minorities	10	4,00,000
	NS to General Stdnts	11	2,20,000
	AICTE Scholarship	12	6,00,000
	NS to Other Categories	6	1,20,000
b) International	--	--	--

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 implementation**	**Number of students enrolled**	**Agencies involved**
Soft skill development & English communication	Feb. 21	600	Focus 4-D Career Education Pvt Ltd. (FACE), Smart Square Complex, S-02, 2nd, Shri Krishna Temple Rd, Indiranagar, Bengaluru, Karnataka 560038 Mr.Akshya
Counselling	31-05-2021	357 (2020 Batch 1st Year)	NIST, Berhampur
Mentorship	11-05-2021	529 (2019 Batch 2nd Year)	NIST, Berhampur
Language Lab	31-05-2021	357	NIST, Berhampur
Yoga	31-05-2021	357	NIST, Berhampur
International Yoga Day	21-06-2021	50	NIST, Berhampur
Team Building	19-07-2020	132	Dept. of English, NIST
Out of Box Thinking	01-08-2020	79	Dept. of English, NIST

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Mock Event Management	17-08-2020	365	Dept. of English, NIST
Facing Job Interview	29-09-2020	201	Dept. of English, NIST
Business Game for Non-Business Students	11-10-2020	166	Dept. of English, NIST
How to Write a Good Resume	27-11-2020	300	Dept. of English, NIST
Workshop on Critical Thinking	04-12-2020	188	Dept. of English, NIST
Creative Writing	17-12-2020	146	Dept. of English, NIST

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

Year	Name of thescheme	Number of benefited students by Guidance for Competitive examination	Number of benefited students by Career Counselling activities	Number of students who have passed in thecompetitive exam	Number of students placed
2020	GATE Classes for Civil Engineering	43			
2020	GATE Classes for ECE	25			
2020	GATE Classes for Mechanical Engineering	33		1	
2020	GATE Classes for EE and EEE	73			
2020	Facing a job interview		266		0 CE 109 (173) CSE 42 (58) ECE 3 (5) EE 19 (22) EEE 15 (21) ME 20 (33) IT 3 (4) MCA 26 (44) MBA 1 M.Tech **Total 239 (362)**
	How to write a research report		100		
	Career Guidance		170		
	Writing a Resume for Career 5.0		387		
	Facing job interview		201		

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	No. of grievances redressed	Average number of days for grievance redressal
0	0 (Ragging cases)	3
0	0 (Sexual harassment)	Same day
0	0 (Indiscipline cases)	5 days

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5.2 Student Progression

5.2.1Detailsofcampusplacementduringtheyear2020 - 2021

Name of Organizations Visited	Number of Students Participated	ON Campus (Virtually For COVID)	OFF Campus
		Number of Students Placed	Number of Students Placed
Wipro TalentNext (Milestone1)	180	4	-
Spikewell	102	1	-
Capgemini Ltd	160	10	-
TCS NINJA	160	44	-
TCS CODEVITA / DIGITAL	116	2	-
InfyTQ	182	6	-
HackwithInfy	103	5	-
Cognizant	156	49	-
BYJUS	135	1	-
Surya International	43	2	-
Knowledge Lens	130	6	-
Evince Development	121	2	-
Infosys	180	47	-
Wipro	168	2	-
Wipro NTH	76	4	-
Texas Instruments	111	1	-
Deloitte	60	1	-
Qspiders	92	6	-
Marque Sem.i Conducters	84	2	-
SakRobotix	35	3	-
Apmosys Technologies	40	4	-
DURIAN Industries (ME)	67	5	-
Edufic Digital	142	3	-
Gemini Consulting & Services	43	2	-
iServeU Technology	74	5	-
Nucifera	90	11	-
CSM Technologies	49	1	-
BIRLA Open Minds	113	5	-
Tech Mahindra	79	5	-
APTUS Data Lab	88	5	-
AVASANT Advisory India	80	1	-
Alepo Technologies	92	1	-
JSPL	111	8	-
Tata Power	53	5	-

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Cambium Networks	114	1	-
Perfect VIP	95	11	-
Infogain	88	2	-
Accenture	133	37	-
AMDOCS	60	1	-
Incture Technologies	131	4	-
PlanetSpark	71	1	-
SchwingStetter	135	1	-
SixRedMarbles	60	1	-
Flipkart	60	1	-
FinePe	60	6	-
ICICI Bank	60	15	-
GRIFEO	60	15	-
DURIAN Industries	60	5	-
BIRLA Open Minds	60	1	-
PeopleStrong (Wipro)	98	1	-
TOTAL		**362**	-

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
2020	4	B.Tech	EE, ME	Annexure_2020-21	MS M.Tech

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	No. of Students selected/ qualifying	Registration no/roll no for the exam
NET	-	Annexure_2020-21
SET	-	
SLET	-	
GATE	5	
GMAT	1	
CAT	3	
GRE	7	
IELTS	9	
TOFEL	3	
Civil Services	-	

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State Government Services	-	
Any Other	-	

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

Activity	Level	Participants
SANKALP 2K20	National	2000

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	Sports	Cultural	Student ID number	Name of the student
2021	Berhampur Mahotsav Best Performers	State	Na	Cultural	202044069 202041019 202012264 202144160 202145090 202141405 202111157 202140197	Dibya Ranjan Sahoo K. Saloni Aryan Choudhary Gulsan Kumar Jani Tulasi Pradhan Souripilli Kavya Asmita Acharjya B. Siva Ganesh
2020	Berhampur Mahotsav Best Performers	State	Na	Cultural	202044069 202041019 202012264 202144160 202145090 202141405 202111157 202140197	Dibya Ranjan Sahoo K. Saloni Aryan Choudhary Gulsan Kumar Jani Tulasi Pradhan Souripilli kavya Asmita Acharjya B. Siva Ganesh

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

Students actively participate in various academic and administrative bodies and committees within the Institute, playing a crucial role in coordinating events related to academics, as well as co-curricular and extra-curricular activities. Their involvement extends to key decision-making forums such as the Curriculum Review Committee and Board of Studies (BOS), where they contribute suggestions for updating syllabi.

Within department associations, students assume roles such as President, Secretary, and Treasurer, taking charge of organizing Intercollegiate Meets, Conferences, and Seminars. In matters related to hostel life, student nominees on the Hostel Welfare and Mess Committee advocate for the concerns of residents to the Warden, actively contributing to the effective functioning of the hostels. Additionally, students represented in the Anti-Ragging Committee, alongside administrators, work diligently to maintain a ragging-free environment on campus.

Class Representatives are tasked with monitoring disciplinary activities within each class and serving as liaisons between students and Heads of Departments (HODs) to address grievances. Students involved in Extension Activities such as National Cadet Corps (NCC), and National Service Scheme (NSS) Units participate in outreach programs aimed at contributing to the welfare of the local community and fostering a sense of social responsibility among students.

Furthermore, students actively engage in various clubs and committees, including the Cloud Computing, Club Excel, Multimedia club, Data Science club, Renewable Energy club, Robotics club, NIST Musical Society, NIST

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Astronomy club, CAT club, Electronics Hobby club, CIVENG's club, NIST Counselling services, Sports Committee, Alumni Association, Sexual Harassment Cell, Library Committee, showcasing their proactive involvement in diverse aspects of campus life.
5.3.3 Number of sports and cultural events / competitions organized by the institution:
1. Sports Competition: NA 2. Cultural Competitions: NA 3. Technical Fest/ Academic Fest: SANKALP-202 4. Any other events through active clubs and forums:

5.4 Alumni Engagement
5.4.1 Whether the institution has registered Alumni Association? Yes/No, if yes give details (maximum 500 words):
Yes, Institution has registered Alumni Association named as National Institute of Science & Technology Alumni Association (NISTAA) registered under society Act 1860 on date- 3rd February 2020, having its office inside the campus of National Institute of Science & Technology. Every year it is conducting its regular General Body & Governing Body meeting as per its Bye- Law. The aims and objectives of the society are 1. To promote an active Alumni Association of National Institute of Science & Technology, Berhampur 2. To promote fraternization amongst alumni of the Institute. 3. To promote the Socio-Cultural interaction between the alumni and their family. 4. To build active network of alumni across India 5. To help the institute collaborate with the industry for better student placements and faculty upgrade. 6. To create an awareness about the achievements, contribution, and the rich of heritage of the institute with in the media as well as the industry. 7. To institute and organize scholarship funds to help the needy and deserving students of the institute. 8. To institute prizes and awards for outstanding project work, research papers and other professional activities by the faculty, alumni, and the students of the institute, and to suitably recognize outstanding social and community services rendered by them. 9. To create CHAIRS in the institute for promoting Research and Development. 10. To establish closer interaction amongst members of the society and the industries. 11. To work with like-minded organizations to foster better community building. 12. To mobilize resources for supporting the objectives of the society. 13. To undertake all such activities as are conducive or incidental to the attainment of the above objectives and are beneficial to the interests of the institute of technology and/or its alumni.
5.4.2 No. of registered Alumni: 12
5.4.3 Alumni contribution during the year (in Rupees) : 0
5.4.4 Meetings/activities organized by Alumni Association: 6

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CRITERIA – VI

CRITERION VI: GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 Institutional Vision and Leadership

Vision

Focused on high-quality teaching, creative innovation, entrepreneurship, and universal partnership.

Mission

A research institute committed to academic excellence, fundamental research and innovation, nurturing global citizens, and collaborative engagement.

Core values

Belief: In respect, integrity, compassion, diversity, and teamwork

Excellence: In academics and research

Encouragement: For freedom of thought, expression, and viewpoint

Spirit: of community, nation-building, inclusive growth, and recognition of individual uniqueness.

Truth: In the pursuit, dissemination, and application of knowledge

Leadership

It is guided by the Founder Chairman of the institute, Dr. Sukant K Mohapatra, the leadership team represents diverse functions, and are committed to collaboratively serving significant organizational purposes for which they hold themselves mutually accountable. They bring together and lead staff and faculty and ensure aligned action. The figure.1 indicates the leadership team.

6.1.1 Mention two practices of decentralization and participative management during the last year

The institute has decentralized and participative management practices. The below-mentioned organizational structure provides concrete information on various levels of decentralization. The institution follows

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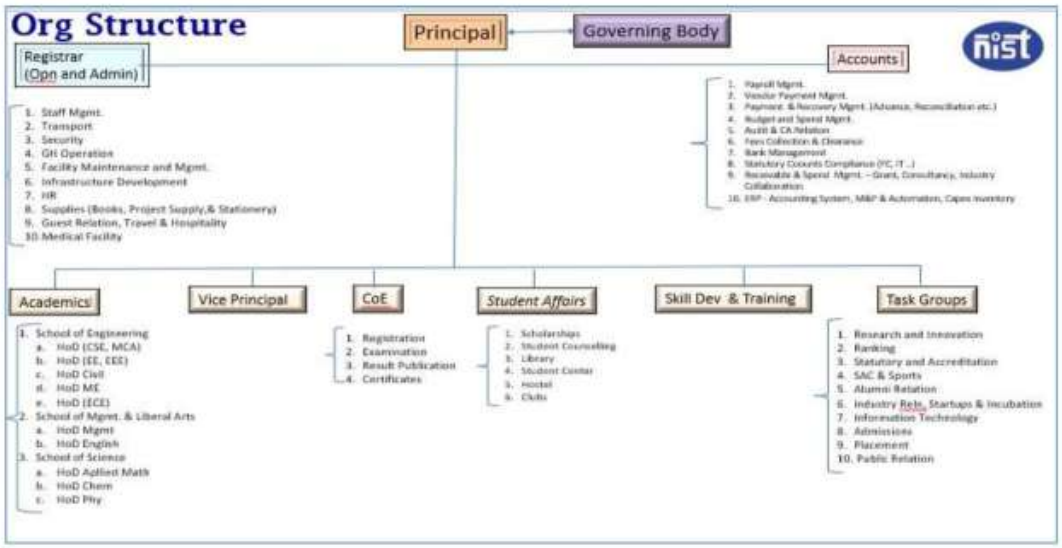
participative management in every functional area of operation such as various academic affairs are taken care of by the head of the department, and controller of examination with the support of deputy controllers. Various groups are formed to modulate the decisions taken for effective implementation.



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

YES- The link for accessing is given below

https://www.nist.edu/nis/index.php

6.2 Strategy development and deployment:

The institute formulates a strategic plan to visualize and accomplish its vision and mission, through the formulation of curriculum development, development of teaching and learning strategies, formulation of examination and evaluation policies, policies for library, ICT and physical structure/Instrumentation, emphasis on human resource management practices and policies, industry collaboration and procedure for admission of students.

6.2.1 Quality Improvement Strategies adopted by the Institution for each of the following

- **Curriculum Development**:

  Teachers are the key stakeholders who are involved in the process of developing and structuring the curriculum for various subjects. The teachers develop, analyze, and evaluate the course structure and finalize it after proper discussion with the head of the department for further processing. The institute through the conduction of the Board of Studies (Bos) develops the curriculum of the subjects, the board of studies consists of subject experts from the department, with active involvement of alumni in the process. The passed course structure is further submitted to various internal bodies to be implemented.

- **Teaching and learning:** Each subject teacher is required to develop their course file based on the allotted subject. The institute follows a checklist that every teacher needs to maintain, and the departmental head verifies it at the end of each Semester.

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Sl No	Item	Remark
1	Syllabus	Subject syllabus page
2	Teaching Plan	As per the format given
3	Time table	Concerned subject timetable only
4	Study Materials	ppts, e-book, Q&A booklet, etc whatever you give to students
5	Case Discussed	As per the lesson plan, One case per module
6	Guest Lecture	One guest lecture per subject. Invitation email, Confirmation email from guest, GI tagged photo of session, thank you letter from the host
7	Mid-Sem.ester question paper	With CO-PO
8	Scanned copy of answer scripts	Best 3 and worst 3 full script scans
9	Result analysis	Result of Mid Sem. in Excel sheet, analysis of results highlighting the slow learners, Action taken report for slow learners
10	University result analysis	if available in NIS, take a copy
11	Assignment, Quiz, Surprise Test question copies, etc	As per the internal marks composition of the institute
12	Seminar details	Scanned copy of your markings
13	Mentoring details	As submitted to the mentoring coordinator
14	Final mark sheet submitted to CoE	in excel sheet
15	Course completion report	from NIS duly signed by HoD

- **Examination and Evaluation:** The institute has a separate centralized examination cell for the conduction of examination and it is controlled by the controller of examination (CoE), deputy controller, and exam superintendents. For each batch, an exam superintendent is designated to conduct the exam. The central examination cell has a separate process for evaluating the answer scripts. The CoE is responsible for the smooth conduction of exams as per the academic calendar and the evaluation of answer scripts in a proper manner. The CoE adheres to the provided list of paper setters, moderators and examiners duly passed and approved by the Bos.
- **Research and development:** The institute has a research and development cell, headed by a Rand D coordinator. Each department nominates a departmental member to the research and development cell for the smooth conduction and passing of various research activities. The Institute has various research groups such as the Novel Material Research Laboratory, VLSI Embedded System and IOT Group, Nano Science and Technology Group, Microwave and Antenna Group, Embedded System Design, Materials Research & Characterization Group, and various centers of excellence in Industrial Automation, the center of excellence in network vision and network security, the center of excellence in renewable energy, and the center of excellence in mechatronics. The total number of SCOPUS publications in various national /international journals are 52, 4 patents.

- **Library, ICT, and Physical Infrastructure/Instrumentation:** The institute has a central library with a self-developed Online Library Information System. The library has four different units for different streams such as central, MBA, MCA, and competitive sections. The library has an internal regulation system for transactions and a

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library circulation system. The library opens for students from 9 A.M. to 8 P.M. Our library has clear guidelines for borrowing materials, accessing electronic resources, using study areas, and maintaining a conducive environment for studying. The library has a facility of drop box for books to be dropped so that students can have a time-saving approach. The institute has various academic and administrative buildings like the Lecture Hall complex, Galleria, OCTAGON, and ATRIUM.

- **Human Resource Management:** NIST has implemented an ERP system (NIST Information System/ NIS) developed in-house. The same is accessible on the intranet as well as from outside. For effective HR management, the ERP has modules for Leave approval which provide information on leave count, class adjustment, and multi-level leave recommendation/ approval. The attendance is captured with a biometric attendance system (facial and fingerprint). There is an HRD module that gives detailed information about each of the staff and faculty members.

- **Industry Interaction/Collaboration:** NIST has standing MoUs with 5 numbers of Companies/ Industry houses. The scope of the MoUs includes training, collaborative product development, consultancy work, pre-placement offers, etc. Resource persons from the industries have been invited to deliver motivational talks to the newly inducted and outgoing students. They have been actively involved in the syllabus revision/updating activities through the BoS. Some of the industry experts are BoS members and some are invited to provide crucial feedback on market-driven syllabus framing. Students have been availing internships at the partner industries.
- **Admission of students:** NIST intimates the eligibility criteria, fees, and admission process for each course to whoever calls us for an inquiry. NIST receives admissions through OJEE counseling only. A student needs to participate in the OJEE counselling process. Whoever gets the final allotment reports to the institute within the given period. They need to submit the final allotment letter, the original leaving or transfer certificate from the previous institute, and a set of photocopies of the documents uploaded for OJEE counselling. After that, they pay the institute fee and receive the identity card. Students with ID cards are only allowed to attend the classes. The institute intimates their registration numbers after receiving them from the university. For anyone who cancels their admission before the UGC-set deadline, NIST strictly adheres to the UGC refund policy.

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6.2.2 Implementation of e-governance in areas of operations:

NIST has developed its Enterprise Resource Planning (ERP) system which is called as NIST information system. It has various modules such as academic, financial, administrative, facility, employee desk, HRD, and student desk.

- **Planning and Development:**

The NIS took a proactive approach and directed its attention towards a wide range of planning and development endeavors, employing diverse methodologies such as the creation and enhancement of multiple modules, including but not limited to procurement and the National Institutional Ranking Framework (NIRF). To ensure comprehensive exploration and examination of the diverse elements entailed in the growth and progress of these modules, a specialized committee was established, with the primary purpose of engaging in extensive discussions and deliberations on various aspects pertaining to their development.

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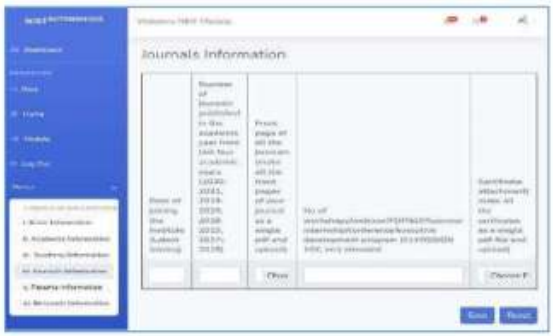

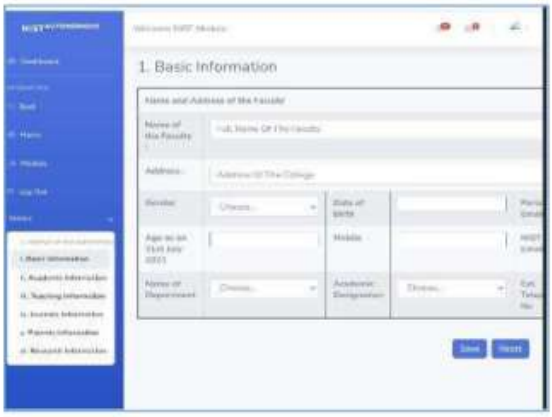

- **Administration**: The institute under the administrative head maintains information on a bulletin board, which provides information on various notices given by the faculty members and staff members of the institute, it also has various other modules such as a procurement management system. The procurement management system modulates all the requisitions for the procurement of accessories. The project management system maintains information regarding project details, uploading reports, uploading PPTs, maintaining marks, and project clearance. The grievance cell maintains the grievances raised by the students, and faculties and forms various teams the grievances are addressed for timely solutions and appropriate results.

- **Finance and Accounts:** The ERP system of the institute has a module that covers various aspects relating to financial aspects with employee concerns. It has two sub-sections as advanced management system and the personal advance system. The advanced management system provides advances to the faculties for attending various conferences, FDP, and workshops. The employees who avail advance for attending various conferences, FDP, and workshops need to go for a presentation after coming to the institute which provides a scope for others to have a knowledge-sharing session.

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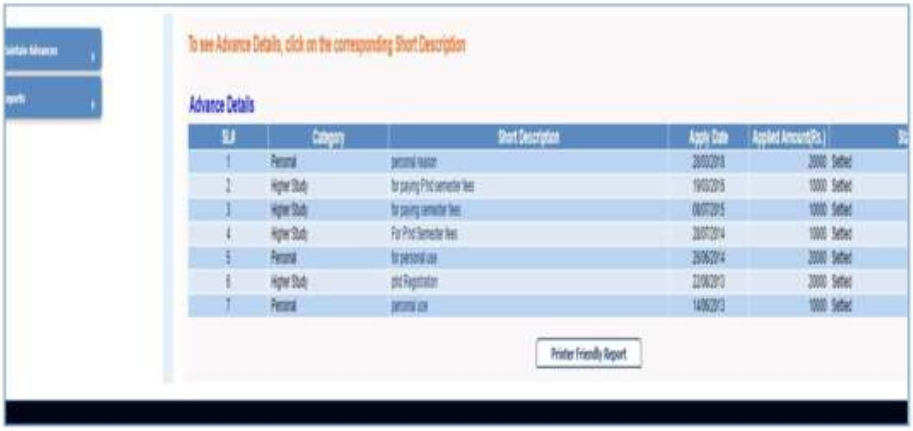
The personal advance management system provides loans to employees on various grounds like higher education, purchase of vehicles, and personal loans. It is done through proper verification by the approval authority.



- **Student Admission and Support:** The Institute proactively uses the NIS for various purposes relating to student admission and support such as entering newly enrolled student data, maintaining information on a candidate's background, details with registration of the student, and fees payment. It acts as a comprehensive platform for dealing with various data for students enrolling in a program and also verifying certificates (such as 10th, and 12th examinations) of the enrolled students for smooth functioning of further processes.

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- **Examination:** The institute effectively utilizes the National Institute science and Technology (NIST) information system for a multitude of examination-related endeavors. These endeavors include, but are not limited to, the extraction of diverse reports pertaining to the attendance of students, the uploading of question papers by faculty members, the uploading of marks, as well as the extraction of reports for both internal and external result publication. By harnessing the power of the NIST information system, the examination department is able to streamline and enhance the examination processes, ensuring efficient and accurate record-keeping and reporting.

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6.3 Faculty Empowerment Strategies

6.3.1 Teachers provided with financial support to attend conferences / workshops and towards membershipfee of professional bodies during the year.

Teachers provided with financial support to attend conferences / workshops and towards membershipfee 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
-	-	-	-	-

6.3.2 ***Number of professional development / administrative training programmes organized by the Colleges for teaching and non- teaching staff during the year***

Number of professional development / administrative training programmes organized by the Colleges 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	Dates (from-to)	No. of participants (Teaching staff)	No. of participants (Non-teaching staff)
2020-2021	Deep Learning using Python	Management Capacity Building	15-12-2020 to 24-12-2020	18	11

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

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	Date and Duration (from – to)
Recent Advancement of Materials and its Application (RAMA-2020), VSSUT Burla	01	15-19 Sep 2020
Harnessing the Power of Augmentetd Reality for Science Education, EDU360 Knowledge Solutions	01	10 Aug 2020
Online workshop on Accelerated Data Science, NSM Nodal Center, IIT Kharagpur	01	20-21 Feb 2021
FDP on Recent Developments in Materials, Manufacturing and Thermal Applications, Karpagam Academy of Higher Education	01	07-12 June 2021

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

Faculty and Staff recruitment (no. for permanent recruitment):			
Teaching		Non-teaching	
Permanent	Fulltime	Permanent	Fulltime
10	10	2	2

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6.3.5 Welfare schemes

Welfare scheme	
Teaching	ESI , provident fund
Non-teaching	ESI, Provident fund
Students	Student Insurance

6.4 Financial Management and Resource Mobilization

6.4.1 Institution conducts internal and external financial audits regularly

The institute has established an internal and external audit committee. The internal audit committee is composed of four individuals: the principal, who also serves as the chairman of the finance committee, a representative chosen by the governing body, the finance officer of BPUT, and the ex-office member. On the other hand, the external audit is carried out by a chartered accounting firm known as MDC & associate.

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

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/ Grants received in Rs.	Purpose

6.5 Internal Quality Assurance System

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

6.5.1 Whether Academic and Administrative Audit (AAA) has been done?				
Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	NIRF	Yes	IQAC team
Administrative	Yes	BPUT	Yes	

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

- Foundation day Program
- Orientation program for students
- NCS student Counseling program

6.5.3 Development programs for support staff (at least three)

- Staff Orientation Program
- Thursday Seminar
- All Hands Call (Every month)

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

- The meeting of IQAC has taken up the issue and problems of faculty members while maintaining the files
- Employee feedback was taken online but upon verification a sense of job dissatisfaction was surfaced.
- Departmental board of studies took place online and no syllabus were modified or updated and a unanimous decision was taken against opening up of any new programs.

6.5.5 Other accreditation agency

a.	Submission of Data for AISHE portal	: (Yes /No)	Yes
b.	Participation in NIRF	: (Yes /No)	Yes
c.	ISO Certification	: (Yes /No)	Yes
d.	NBA or any other quality audit	: (Yes /No)	Yes

6.5.6 Number of Quality Initiatives undertaken during the year

Year	Name of quality initiative by IQAC	Date of conducting activity	Duration (2020-2021)	Number of participants
2021	Faculty orientation program for new faculty	1st Feb 2021	1st Feb 2021 to 6th Feb 2021	13
2021	Staff orientation program for new staff	8th Feb 2021	8th Feb 2021 to 13th Feb 2021	6

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CRITERIA – VII

CRITERION VII–INSTITUTIONAL VALUES AND BEST PRACTICES (2020-21)			
7.1-Institutional Values and Social Responsibilities			
7.1.1 Gender Equity (Number of gender equity promotion programs organized by the institution during the year July 2020 to June 2021			
Title of the program	**Period 2020-21**	**Participants**	
		Female	Male
International Women's Day Program	Not conducted due to Covid-19	NA	NA

7.1.2 Environmental Consciousness and Sustainability/Alternate Energy initiatives such as the percentage of the power requirement of the College met by the renewable energy sources:

1. NIST organized its first technical webinar on "Automatic Solar PV Cleaning System" on 15th February, 2021
2. On 7th April 2021, the NSS NIST unit conducted an awareness program on the new Corona strain. The NSS club members appealed to NISTians and locals to use masks and maintain social distancing.
3. NIST consumes an average of 54,468 KWh from the grid per month & 11501 KWh is collected from renewable resources (Solar, Wind, Biogas etc). Hence the total 17.43 % of power requirement was met by renewable resources.

7.1.3 Differently-abled (Divyangjan) friendliness

Items Facilities	Yes / No	No of Beneficiaries
Physical facilities	Yes	0
Provision for lift	Yes	0
Ramp/Rails	Yes	0
Braille Software/facilities	No	0
Rest Rooms	Yes	0
Scribes for examination	Yes	0
Special skill development for differently abled students	No	0
Any other similar facility (Wheel Chair facilities are available)	Yes	0

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7.1.4 Inclusion and Situatedness

Enlist the most important initiatives taken to address locational advantages and disadvantages during the year

Year	Number of initiatives to address location advantages and disadvantages					
2020-21	**Advantage**	**Disadvantage**	**Date and duration of the initiative**	**Name of the initiative**	**Issues addressed**	**Number of participating students and staff**
-	-	Disadvantage: Due to Covid outbreak, other state students could not return back to their home	30/07/2020	Institute provided single room with all amenities & supplied food to their room	Covid Outbreak	100 (Approx.)

7.1.5 Human Values and Professional Ethics

Code of conduct (handbooks) for various stakeholders

Title	Date of Publication	Follow-up (Maximum 100 words)
EMPLOYEE HANDBOOK (Rules and Regulations Version 2.0)	July, 2019	The effective implementation and adherence to the "Employee Handbook" at NIST entail collaboration among diverse stakeholders, with responsibilities distributed across various roles. Designated individuals and groups are tasked with ensuring the proper execution. The principal holds overall responsibility for institute affairs, overseeing day-to-day management. Furthermore, the HR Department, the Staff Welfare Committee, the Performance Evaluation and Appraisal Committee, and the Ethics Committee actively contribute to the successful implementation of the Employee Handbook. This collective effort fosters a comprehensive approach to employee guidelines and welfare within the organization.
STUDENT HANDBOOK Rules and Regulations B.Tech | M.Tech | MBA| MCA| PhD Version 2.0 rev 1.3	June 2019	NIST maintains a Disciplinary Committee (DC) led by a chairperson appointed by the Institute, comprising faculty members. This committee addresses complaints, scrutinizes evidence, and proposes appropriate sanctions. Recommendations, including suggested punishments for proven guilt, are submitted to the principal for implementation. Unlike a court of law, the standard of proof may vary. Additionally, the institute establishes various committees/cells, such as the

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		Women Grievance Cell, Anti-ragging Cell, and NIST Counselling Service etc. to uphold human values and professional ethics. These entities collectively contribute to fostering a secure and ethical environment within the institution and proper implementation of the policies mentioned in the handbook

7.1.6 Activities conducted for the promotion of universal Values and Ethics

Activity	Duration 2020-2021	
-	-	-

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

1. Monthly Cleaning by NSS students
2. Awareness campaign for Clean & Green Campus
3. Cleaning the pond
5. Recycling the wastewater for plantation
6. Making a decomposition pit for converting organic waste to manure
7. Segregation of waste for proper disposal

7.2 Best Practices

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

Best Practice-1: Complaint Resolution System

https://nist.edu/IQAC/best-practices.html #2020-21-1

A complaint escalation matrix was created where the chain of command in complaint resolution was mentioned along with their contact numbers, availability and standard response time. If a complaint does not get resolved at the designated level within the designated time duration, then the student can escalate it to the next level till it gets resolved. The benefit was most complaints got resolved at the lowest possible levels. Complaints which were left unresolved could get attention at higher level and would make the resource utilization effective.

The number of complaints received via email to higher authority significantly decreased. The response time for complaints i.e MTTR reduced from one day to few minutes.

Best Practice-2 Single Desk Clearance System

https://nist.edu/IQAC/best-practices.html #2020-21-2

Students and alumni require various services such as issuance of certificates, receipts, transcripts etc. In order to complete the processes, they had to make several to and fro trips between departments, service offices etc. Each such service request should follow a due sequence. However, to make things convenient, they approached offices as per geographical

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convenience, thereby defeating the purpose of introducing a sequence.

A single desk clearance system was introduced to reduce inconvenience caused to the users while keeping the process effective. A dedicated person was manned at LHC-210 to accept service requests from students and alumni. The required clearances and updates would be done by the staff commissioned there. After laspe of a designated duration, the office would provide the requested document to the applicant.

The complaints being escalated for delay in processing of documents from applicants, and that of procedural lapses by departments were reduced at once. As the process was streamlined and a person knowing it was dealing with all the backend work, the single desk clearance process was observed to be a success.

7.3 Institutional Distinctiveness

Provide the details of the performance of the institution in one area distinctive to its vision, priority and Thrust. Provide the web link of the institution in not more than 500 words

https://nist.edu/IQAC/distinctiveness.html#2020-21

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