

GNIT

**GURU NANAK
INSTITUTE OF
TECHNOLOGY**



**2021
- 22**

ANNUAL REPORT

Accreditations, Affiliations & Approvals



ज्ञान-विज्ञान विभूषणे
UGC



NAAC



AICTE



NBA



MAKAUT
(formerly WBUT)

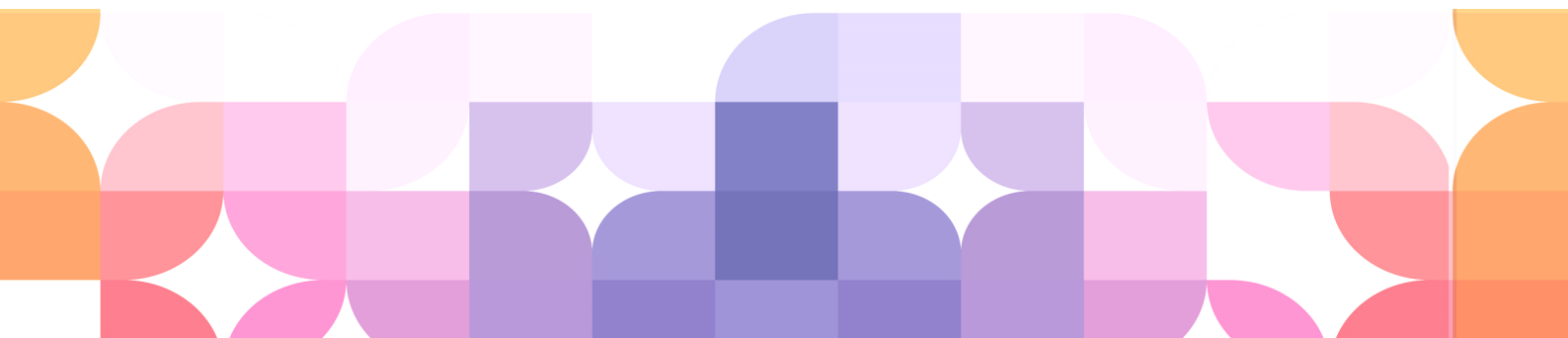


WBSCT&VE&SD
(formerly WBSCTE)

“ Vision looks inward and becomes duty. Vision looks outward and becomes aspiration. Vision looks upward and becomes faith.

”

- Sardar Jodh Singh



Founder



Sardar Jodh Singh



JIS GROUP
Educational Initiatives

Message from Managing Director



This gives me immense pleasure to induct the Annual Report of Guru Nanak Institute of Technology, Kolkata, West-Bengal. GNIT was established in the year 2003 by the Guru Nanak Educational Trust. GNIT is a unit of JIS Group Educational Initiatives. The institute is making progress in multidisciplinary dimension, consolidating the endeavour to consistently attain excellence. This annual report is the comprehensive report of the progress for the academic year 2017-18. The number of students' and faculties' achievements and recognitions multiplied during 2017-18. In the field of research, faculties and students published many noteworthy papers in different national and international forums. The institute has organized multifaceted events in national and international echelon.

GNIT have been going through a major transformation over the past years and it is not easy to assess the transformation impact from one year's results, but when looking back, it becomes clear just how much has changed. I want to thank our students, parents and others associated with GNIT, for their sustained trust. I want to thank our employees for their commitment, energy and irrepressible drive, which helped to establish GNIT as an institute of national repute.

Sardar Taranjit Singh
Managing Director, JIS

Message from Principal



Guru Nanak Institute of Technology (GNIT) was established in the year 2003 by the Guru Nanak Educational Trust. GNIT is a unit of JIS Group Educational Initiatives, a premier education service provider in West Bengal, having 30 Institutions, 25,000 students offering 72 academic programmes. Instituted with a vision to empower aspiring professionals with technological knowledge and professional expertise. This technical campus offering undergraduate and post graduate courses under MaulanaAbulKalam Azad University of Technology (MAKAUT formerly WBUT), approved by NAAC, UGC, NBA, AICTE is located in one of the prime locations in North Kolkata. The Institute offers global standard education in latest technology, fosters research initiatives and innovations undertaken by both the faculty members and the students to enrich and enhance the teaching learning process. This approach equips the students to keep pace with the dynamic evolution of science and technology both in academics and industry. The trend-setting academic endeavors of GNIT have produced some of the finest scholars and ace industry professionals amongst our alumni who have brought fame and laurels for both the institute and themselves.

The Institute is located at the industrial hub of Sodepur, well connected by road and railway and in near proximity to Kolkata International Airport and to Howrah, Sealdah and Kolkata railway stations, which are the gateways' to the city of joy. The serene and aesthetically developed campus is highly conducive for quality academic endeavors. The entire campus is smoking free & plastic free to ensure an eco-friendly and pollution free environment. The college has an enrollment of around 2000 students pursuing various degree engineering courses.

Sincerely

Prof (Dr) Santanu Kr. Sen
Principal, GNIT

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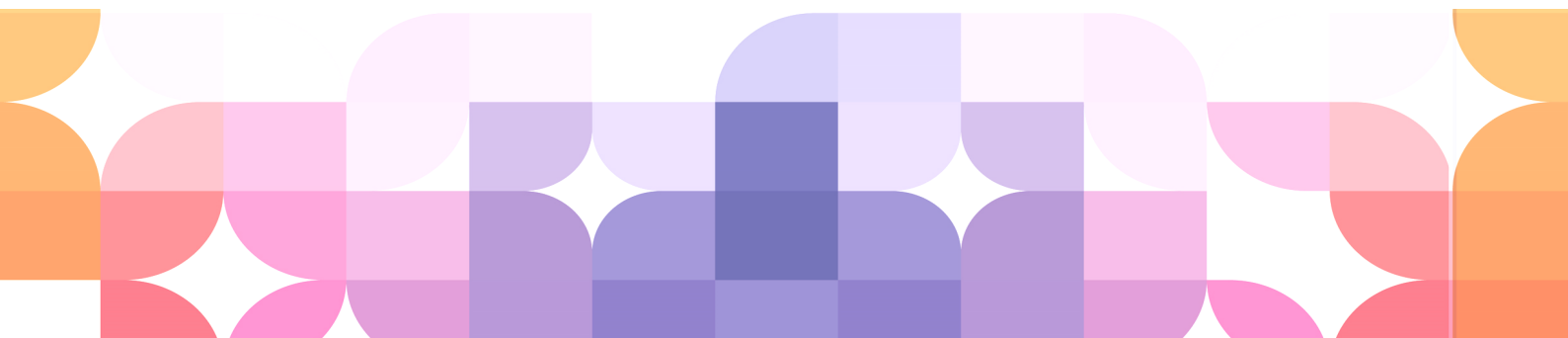
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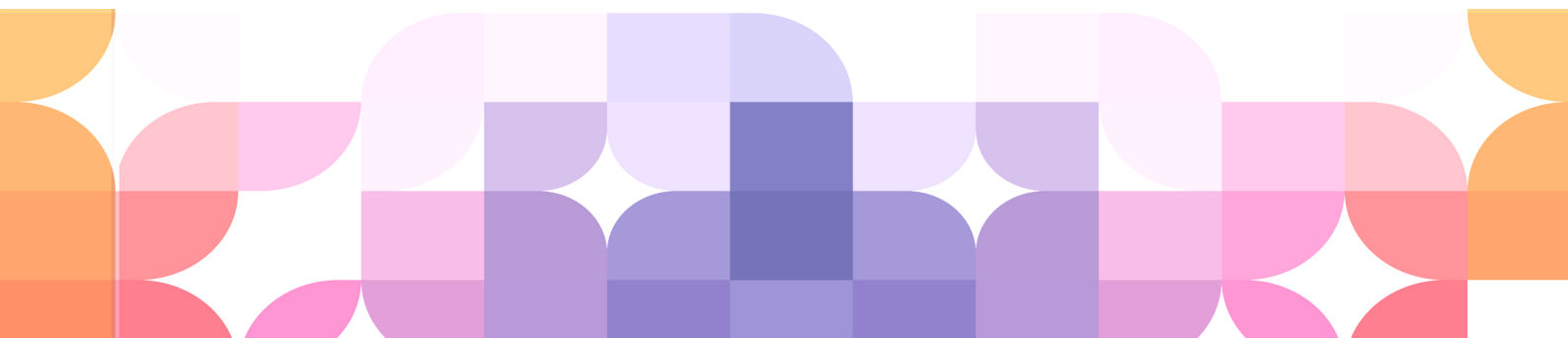
3.7 DEPARTMENT OF COMPUTER APPLICATION

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Vision and Mission of the Institute

Vision of the Institute



Vision of the Institute

To ignite young minds with creativity and empowering lives and educate them to produce a galaxy of young professionals of outstanding ability who can become leaders in their profession and responsible citizens who can meet the challenges faced by the society.



Mission of the Institute



Mission of the Institute










- IM-1: To meet the demands for skilled manpower on a global basis in the field of engineering, technology and management
- IM-2: To encourage and inspire students to take up higher studies and research
- IM-3: To impart high quality education by providing the ambience needed for developing requisite skill for excellence in education and industry



Awards and Association



Associated With

 AIT Asian Institute of Technology AIT, Bangkok	 BCCI THE BENGAL CHAMBER	 IE (I)	 CII Confederation of Indian Industry	 ISTE
 ECAM GRADUATE SCHOOL OF ENGINEERING ECAM LYON, School of Engineering, France	 MSME Ministry of MSME, Govt. of India	 INFOSYS	 NASSCOM	

Achievements & Recognition

GNIT achieved most prestigious NIRF ranking in 2021

জাতীয় র‍্যাঙ্কিংয়ে জেআইএস শিক্ষাগোষ্ঠী

কেন্দ্রীয় শিক্ষামন্ত্রী ধর্মেন্দ্র প্রধান 'ইন্ডিয়া র‍্যাঙ্কিংস ২০২১' ঘোষণা করেছেন। এই তালিকায় চারটি এনআইআরএফ র‍্যাঙ্কিং দখল করেছে বাংলার জেআইএস গ্রুপ। অবশ্য, ২০১৭ সাল থেকেই জেআইএস গোষ্ঠীভুক্ত শিক্ষা প্রতিষ্ঠানগুলি ধারাবাহিকভাবে এনআইআরএফ র‍্যাঙ্ক ছিনিয়ে নিচ্ছে। জেআইএসের গুরু নানক ইনস্টিটিউট অফ টেকনোলজি এবছর প্রথম এই র‍্যাঙ্কিং পেলে। বিগত বছরগুলির মতো এবছরও নারুলা ইনস্টিটিউট অফ টেকনোলজি, গুরু নানক ইনস্টিটিউট অফ ফার্মাসিউটিক্যাল সায়েন্স অ্যান্ড টেকনোলজি এবং জেআইএস কলেজ অফ ইঞ্জিনিয়ারিং এই তালিকাভুক্ত হয়েছে। জেআইএস গোষ্ঠীর ম্যানেজিং ডিরেক্টর তরণজিৎ সিং এই সাফল্যের জন্য প্রতিষ্ঠানের শিক্ষকবৃন্দের প্রতি আন্তরিক শুভেচ্ছা জানিয়েছেন। প্রশিক্ষণের গুণমান, গবেষণায় উৎসাহদান, প্লেসমেন্ট এবং সংশ্লিষ্ট শিল্প ও শিক্ষাক্ষেত্রের বিভিন্ন নামী প্রতিষ্ঠানের সাহচর্যেই জেআইএস ধারাবাহিকভাবে এই সাফল্য পাচ্ছে বলেও জানান তরণজিৎবাবু।

এনআইআরএফে জেআইএস

■ **স্টাফ রিপোর্টার :** কেন্দ্রীয় সরকারের চলতি বছরের এনআইআরএফ তালিকায় জায়গা করে নিল জেআইএস গ্রুপ। বৃহস্পতিবার এই তালিকা প্রকাশ হয়। ফার্মেসি বিভাগে ৬৯ তম স্থানে আছে গুরুনানক ইনস্টিটিউট অফ ফার্মাসিউটিক্যাল সায়েন্স অ্যান্ড টেকনোলজি। জেআইএস গ্রুপ প্রেস বিজ্ঞপ্তি দিয়ে জানিয়েছে, তাদের গুরুনানক ইনস্টিটিউট অফ টেকনোলজি, নারুলা ইনস্টিটিউট অফ টেকনোলজি এবং জেআইএস কলেজ অফ ইঞ্জিনিয়ারিংয়ের নামও এনআইআরএফ তালিকায় আছে। সংস্থার ম্যানেজিং ডিরেক্টর তরণজিৎ সিং সমস্ত কর্মীকে শুভেচ্ছা জানিয়েছেন।



GNIT got selected as a Mentor Institution @Eastern India by AICTE and MHRD -IIC, Govt. of India in 2021

Guru Nanak Institute of Technology under the aegis of **JIS Group** has been selected as Mentor Institution @Eastern India by **AICTE and MHRD -IIC ,Govt. of India. (27-10-2021)**

AICTE and MHTD has selected **11 Institutions from Eastern India out of which 7 Institutions are from West Bengal** and out of these **7 Institutions, 3 Institutions belong to our JIS Group**, and they are #NIT, #JISCE and #GNIT.



Publication	Date	Link
Khabar 365 Din	27.10.21	-
The Economic Times	27.10.21	https://bit.ly/3EtZnXj
The Financial Express	27.10.21	https://bit.ly/2ZvjvIT
Millennium Post	27.10.21	https://bit.ly/3nF1L6N
IBC 24	27.10.21	https://bit.ly/3biATDS
Latest LY	27.10.21	https://bit.ly/3CpbriH
koppr	27.10.21	https://bit.ly/3CmVr9n
NBT (Nav Bharat Times)	27.10.21	https://bit.ly/3biKN8n
Indian Nation	27.10.21	https://bit.ly/3vTqQDI
Nyooz	27.10.21	https://bit.ly/3jFY9nJ
Mohalla Media	27.10.21	https://bit.ly/3bhXvjF
Daily Hunt	28.10.21	https://bit.ly/3jQwZm
East Mojo	28.10.21	https://bit.ly/3vVAC3c

Achievements & Recognition

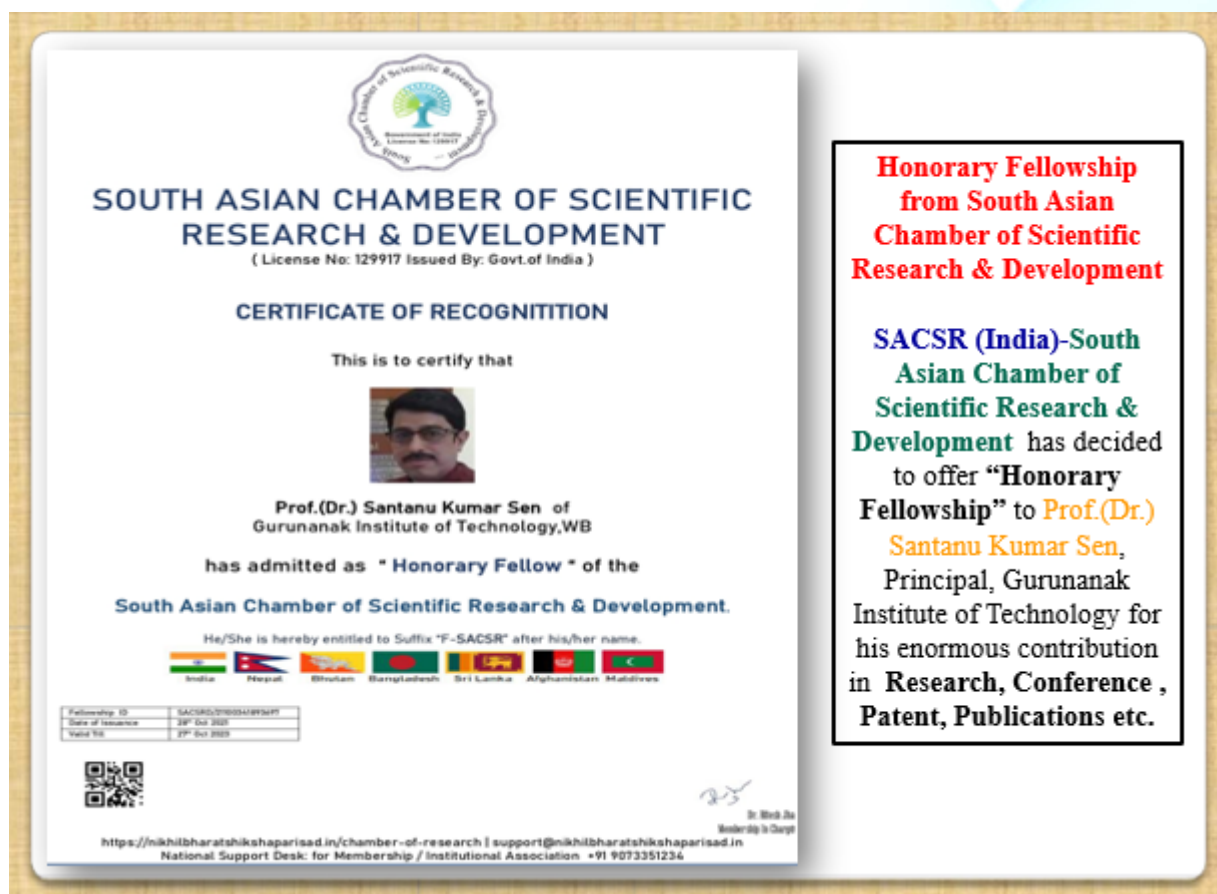


Guru Nanak Institute of Technology is chosen as the **only Nodal Centre in Eastern India** to organize **First Eastern Regional Conclave of Student's Chapters of the Institutions of Engineers(India)**, 2021-2022 on **"Role of Budding Engineers in Smart and Sustainable Technologies"** under the aegis of **All India Student's Committee**. It was followed by felicitation of the dignitaries -**Dr S.M. Ali, Director , Member of Institutions of Engineers(India);** and **Chief Guest, Dr. Enti Ranga Reddy, Chairman, All India Students' Committee, Council Member, Institution of Engineers (India).**



Faculty, JTAs and Students of GNIT that GNIT has been approved by **NDLI CLUB (National Digital Library of India)** of **IIT Kharagpur** where any registered member can get access of millions of **Textbooks/ Articles/ Journals/ Videos/ Audio Books/ Fictions and many more** learning materials in different Indian Languages and English.

Achievements & Recognition



Institutional achievements

1. GNIT Secured "**FIRST 50 BAND PERFORMER**" by the prestigious **Atal Ranking of Institutions on Innovation Achievement (ARIIA)**.
2. Dr. Barnali Kundu, HOD EE is nominated as an advisor of Institute of Engineers (India).
3. GNIT got selected as Nodal Center to host ACM ICPC as Kolkata Chapter.
4. Springer Nature Book Publication from Singapore by Principal, GNIT with Price Tag 48.0 EURO.
5. SATHI Project proposal submitted successfully for Rs 22.72 Crores.
6. Proposal submitted for Idea Lab set up to AICTE for Rs. 6.28 crores.
7. Prof. (Dr.) Santanu Kr. Sen, Principal of GNIT, became the 1st Indian to be awarded the title "**International Professional Engineer**".
8. GNIT procured e-vehicle as part of green campus policy.
9. GNIT signed MOU with CESC for feeding the excess solar electricity to the power grid.
10. Prof.(Dr.) Santanu Kr. Sen was appointed as a roving observer by WBJEE Board.
11. The Institution signed MOU with Ruby General Hospital for all employees and students of the college. BHM HOD took the lead role to do this MOU. Under this MOU, the employees and students of GNIT will get discount in treatment at Ruby Hospital.
12. GNIT got again selected to host FOSET National Conference in September 2022. The last FOSET Conf was done at GNIT in 2016.
13. 32 students team submitted projects in Smart India Hackathon.

Achievements & Recognition

GNIT selected as Mentor Institute by IIC, MOE, GOI.

Topic: Orientation cum Mentoring Session-1
Under the Mentor-Mentee Program of MIC for mentee Institution

Inspiria Knowledge Campus,
West Bengal
Ilas School Of Management,
West Bengal

Members:

DR SUNIPA ROY
SRABONI KUNDU
DR. (MRS.) KAKALI BANDYOPADHYAY
TRIDIB CHAKRABORTY
SHANTANU CHAKRABORTY
CHIRANJIB DUTTA
SUMAN GHOSH
MR SAIKAT MAZUMDER
MS. PALASRI DHAR
SANTANA DAS
DR SANGEETA BHATTACHARYA
DR MOUMITA DAS
SAUGATA BANERJEE
DR AMRUT RANJAN JENA

Event Coordinator:
Mr. Saikat Mazumder, Assistant Professor,
FT Dept. & Member IIC

Organized by:
Institution Innovation Council, GNIT

Speakers:

Mr. Atanu Roy Chowdhury
Founder Capsule Labs



Mr. Indranil De Sarkar
HR- Director,
ARDENT Computech Pvt Ltd



23rd and 24th February 2022
3 PM Onwards

www.gnit.ac.in | www.jisgroup.org

JIS Samman 2022 for GNIT

- Dr. Amrut Ranjan Jena (CSE) Received “JIS Samman 2022” on category “Best Video Lecture”
- Mr. Sourish Mitra (CSE) Received “JIS Samman 2022” on category “Maximum no of Patent published”
- Dr. Sangeeta Bhattacharya (CSE) received Runner’s Up Trophy in Women’s Singles badminton in JIS Samman



Faculty with Best Research Credentials,
Dr. Sunipa Roy (ECE)

Faculty with Highest no. of Student’s
publications, Ms. Palasri Dhar (ECE)

Mr. Avijit Deb TA (ECE) awarded JIS
Samman for Best Practical
Demonstration Video

ECE was Awarded JIS Samman for Best
Department

Dr. Kakali Bandyopadhyay (FT)
received **JIS Samman** for highest
amount of Grants received

Mr. Amit Barman (FT) received
JIS Samman as Best Technical
Assistant

Chandrima Banerjee (2nd yr., ECE)
awarded for Students with highest
no of publication



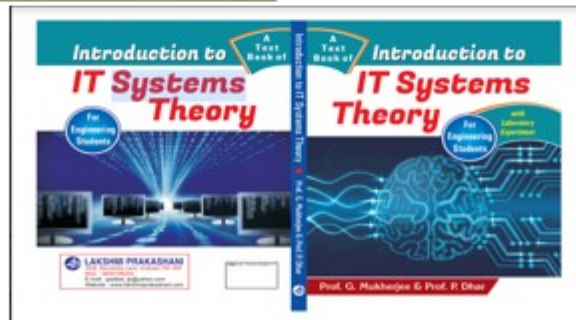
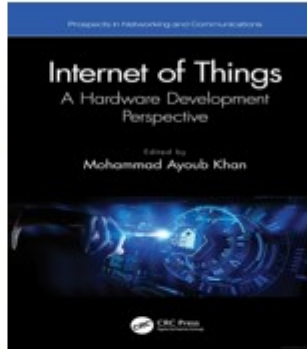
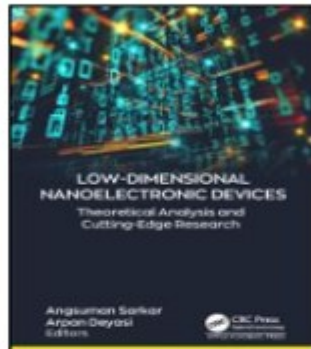
Mr. Suman Ghosh (EE) Received “JIS
Samman 2022” on the category of
“Highest no. of publication”

Achievements & Recognition



Faculty Members and Technical Assistants receiving JIS Innovation Award (cash prize) in categories of Book Publication, Articles / Chapters & Journal Publication, Patent Publication, GRANT Received, Research Guidance, Sponsored Research Project, Paper Publication with Students - Faculty, Research Paper Publication – Students

Book Chapters : Swagata Bhattacharya, Dr. Sunipa Roy, Dr. Avali Banerjee, Anurima Majumdar
Book : PALASRI DHAR
 from **ECE, GNIT**

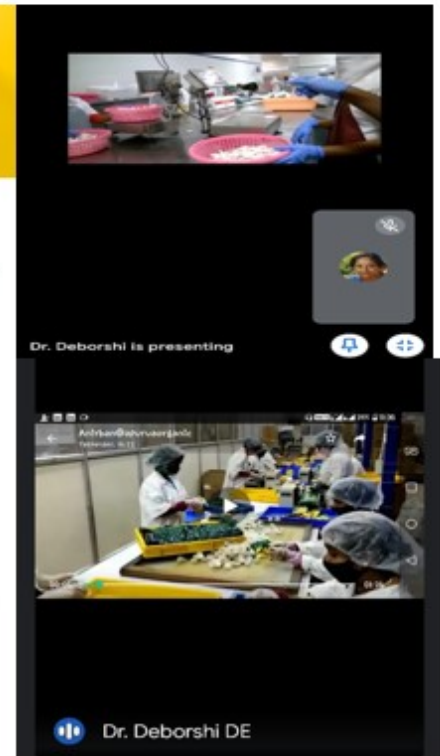
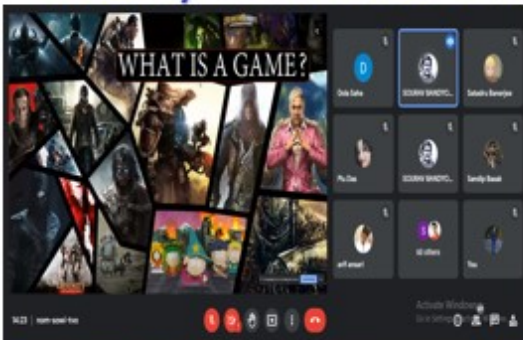


Events Organized

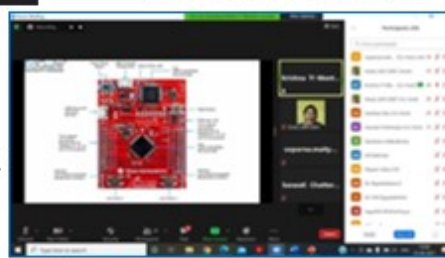
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Industry Visit/Mentor Meet



Mr. Subhashi s Dutta, Director, Mohendra Dutt & Sons, to encourage entrepreneurship



Events Organized

MOU signed (FT)

Department of AEIE & CSE signed the MOU with Sikharthy Infotech Private Limited on 5th October 2021



Post-pandemic special activity 2021 : Admission Drive

GNIT | JIS
WEBINAR
IoT for School Students
Class 10 - 12

Scan here to register for free:

11 JUNE 2021 | 4 PM-5 PM

Organized By : Electronics & Computer Engineering Department

SCHOOL ENGAGEMENT PROGRAMS

DAY	EVENT	Resource Person	Date	Coordinators
14.06.20 21 - 18.06.20 21	1) Workshop on "Open your own YouTube Channel- Run your start up"	Sayan Ghosh Shibas Sen Tusar Patra	23.06.2021	Ramkrishna Mondal and Avrit Deb
	2) Learn Video Editing Software	Sandip Saha Arnab Biswas (Diploma 3rd year)	18.06.21	Soma Borral and Dyuti Nandi
	3) How To Make Your Own Film	Ankan Das	19.06.21	Avrit Banerjee and Koushik Pal
	4) Home Made Robot- Learn online	Sayan Roy Chaudhuri, Faculty	21.06.21 from 4pm to 5 pm	Sayan Roychoudhury and Dr. Soumik Pal
	5) Know the Universe - Space Book	Anarghya Bose (CSE 1st yr and Founder of Space Club), Sayantan Bhattacharya (M.tech-1st yr.)	21.6.2021 from 5pm to 6 pm	Swagata Bhattacharya and Dr. Suparna Biswas

Webinar on
How to prepare WHO recommended Hand Sanitizer and Sanitizing Products at your Place to Combat against Envelope Viruses
for School Students: 10 to 12
26th June 2021
Time: 3:00 PM onward

Facilitators:
Dr. Sriyashree Basu, Asst. Professor @ Chemistry
Dr. Mainak Debnath, Asst. Professor @ Chemistry
Dr. Indrajit Bhattacharyya, Asst. Professor @ Chemistry
Mr. Chandan Kumar Bhattacharyya, Technical Assistant @ Chemistry

Organized By: Chemistry Section
Applied Science & Humanities Department

GNIT | JIS
GURU NANAK INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRICAL ENGINEERING
PRESENTS
YOUTH PHOTOGRAPHY 2K21
Interschool online Photography competition
Eligible Students - IX, X, XI, XII
DATE- 14TH AND 15TH MAY 2021
Registration link- <https://cutt.ly/mx7url>

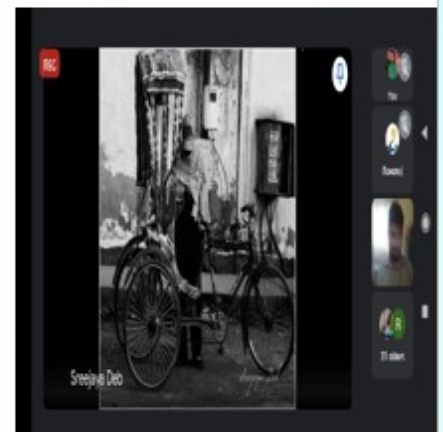
THEMES -
MONUMENTAL PHOTOGRAPHY
STREET PHOTOGRAPHY
NATURE PHOTOGRAPHY

Program Chair- Dr. Binod Kanda
Faculty convener- Ms. Madhumita Chakraborty
Dr. Debasis Saha

Student Convener-
Mr. Apur Bandi
Mr. Achint Das
Mr. Anshu Kanda

FREE REGISTRATION

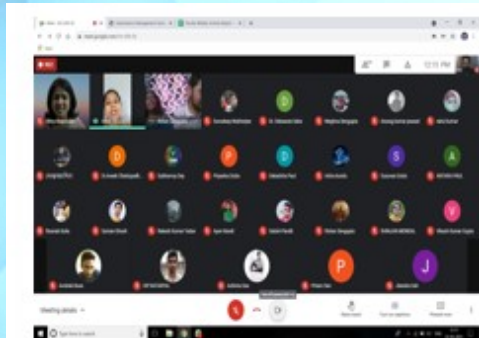
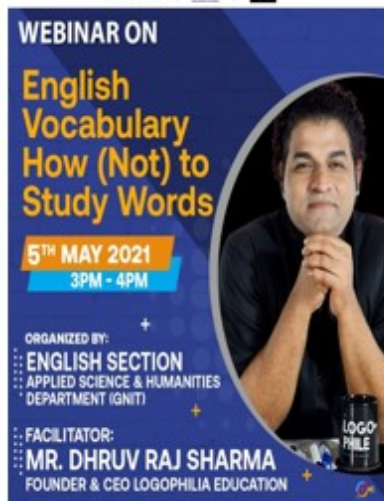
Contact- 8777534098/7686862735



Events Organized

Different activities organized in Post-pandemics including FDP

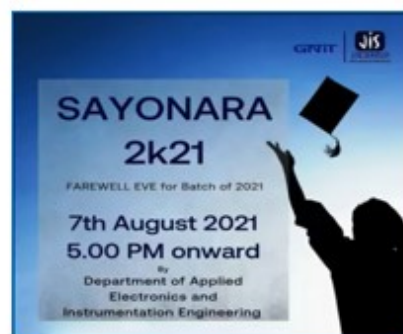
- **Peers Learning Activities:**
- 3rd year students of AEIE Department organized the Hands-On Training On Circuit Simulation for the 2nd year students from 21st to 22nd May 2021
- **Online Technical Workshop on PLC & SCADA** on 1st October 2021 by PLC Expert, Ntronics Technology Pvt. Ltd



Digital Parent-Teacher Meeting



Annual Farewell Ceremony



Tech Fest organization



Events Organized

SAMATVA 2K21

Hacktivist [Event Head – Subharshi Roy]

Winner :- 1 :- The Invincible Code Masters

Shreyashree Sarkar CSE Soumyadipta Basu-IT Deepak Pandey ECE Memata Singh ECE Sayani Dutta-IT

Winner 2 : The Quadruples

Srishti Mandal FT Joyita Khan FT Purnasha Paul FT Arka Chakraborty FT

Runners up :- Unbeatables

Memata Singh ECE Atrajeo Gayen ECE Deepak Pandey ECE Prafulla Kumar Sahoo ECE Kashish Rani ECE

SAMATVA 2K21, the Online Tech Fest was organized by Electrical Engineering @ GNIT during 24th-25th September 2021 in Association with ABP to imply the state of psycho-stability and composure. This was done by Diploma students primarily

Jointly Organized by: **MNIT Jaipur, PDPM IITDM Jabalpur, NIT Patna** Online Two Weeks Certificate Faculty Development Program on "Advanced Optimization Techniques and Hands-on with MATLAB/SCILAB".

Joint Online Two Weeks Certificate Faculty Development Program Advanced Optimization Techniques and Hands-on with MATLAB/SCILAB September 06-17, 2021 Joint Principal Coordinator: E&ICTA, NIT Patna		Jointly Organized by: MNIT Jaipur, PDPM IITDM Jabalpur, NIT Patna.
<p>Objective & Scope</p> <p>The course gives the insight about the importance of digital tools and how it will be useful in writing and reviewing manuscripts.</p> <p>Speakers (Tentative)</p> <ul style="list-style-type: none"> > 1) Prof. Ganapati Panda, Former Dy. Director & Prof. Emeritus, IIT Bhubaneswar, > 2) Dr. Nithin V. George, Associate Professor, IIT Gandhinagar, > 3) Dr. Pyari M. Pradhan, Assistant Professor, IIT Roorkee, > 4) Dr. Sitanshu Sekhar Sahu, Assistant Professor, BIT Mesra, > 5) Dr. Jagdish Chand Bansal, Associate Professor, South Asian University, New Delhi, > 6) Dr. Sriparna Saha, Associate Professor, IIT Patna, > 7) Dr. Prashant K. Jain, IITDMJ Jabalpur, > 8) Prof. Rajesh Kumar, MNIT Jaipur, > 9) Dr. S. J. Nanda, MNIT Jaipur. <p>Key Features</p> <ul style="list-style-type: none"> ■ Online / Live lectures sessions by subject experts. ■ Comprehensive tutorials and practice notes. ■ Online lab and training sessions. ■ Follow up sessions and discussion forums on research problems and internships. <p>Last Date for registration: August 31, 2021</p>	<p>Proctor Coordinator</p> <p>Dr. Barnali Kundu (Head) Dept. of Electrical Engineering Guru Nanak Institute of Technology N. +91-70444-92867 Email: head_ec.gnit@jisgroup.org</p> <p>Course Contents</p> <ul style="list-style-type: none"> - Fundamental of Optimization, Unconstrained and Constrained Optimization, Symmetric Dual Problems, Derivative based Optimization, etc. - Nature Inspired Optimization, Multi-modal function Optimization, Evolutionary Computation (Genetic algorithm, Differential Evolution, etc.) - Swarm Intelligence (Particle Swarm Optimization, Ant Colony Optimization, etc.), Bio-Inspired Optimization, Physical Algorithms, etc. - Multi-objective Optimization, Non-dominated Solutions, Non-dominated Sorted Genetic Algorithm (NSGA-II), Multi objective Particle Swarm Optimization, etc. - Applications - Benchmark mathematical function optimization, Linear and Nonlinear System Identification, Dynamic System Identification, Communication Channel Equalization, Device Modeling, Data Classification and Clustering, Hybridization of optimization techniques with Neural Networks and Deep Neural Networks, etc. <p>Course Fee Details</p> <p>Academic (student/faculty): 500 INR Industry People/Others: 1000 INR Foreign Participants: 4000 INR</p> <p>Online payment details: Bank Name: Indian Bank (Earlier Allahabad Bank) Account Name: NIT Patna Account No.: 50380476798 IFSC Code: IDIB000IB810</p>	
<p>Link for registration: https://forms.gle/uykaR2sd383dXJrkZ</p>		
<p>For more details and application form visit: http://www.nitp.ac.in/iet/index.php Email: head_ec.gnit@jisgroup.org Contact No.: +91-70444-92867, +91-94344-21693</p>		

Events Organized

GNIT

Inauguration of GNIT Space Club



- On 12th May, **Dr Debiprasad Duari, Director of the Birla Planetarium, Kolkata**, inaugurated the GNIT Space Club.
- Students were held spellbound by **Dr Duari's** illuminating talk on cosmology.
- The students' initiative in organizing the club has been mentored by the Dept. teachers of Physics.



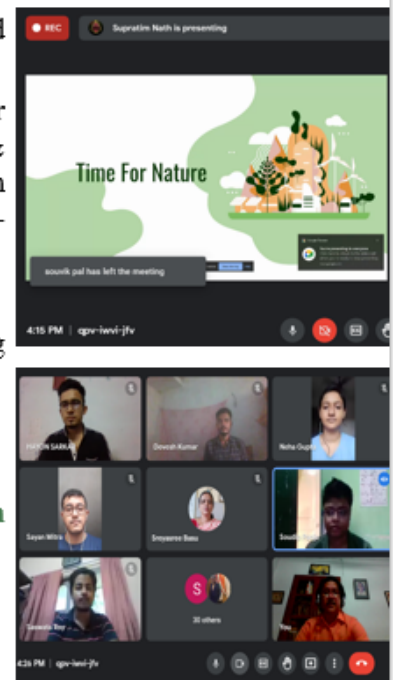
GNIT

Program on World Environment Day



- A program "Nurturing the Nature" to commemorate World Environment Day was held on 5th June.
- **In Phase I**, **Dr Sreyasree Basu, Dr Mainak Debnath, Dr Indrajit Bhattacharyya, Dr. Sucharita Bhattachryya & Dipanjan Bhattacharya** acted as Resource Persons speaking on environment, ecology & the need for conservation with audio-visual presentations in "Looking Deep into the Nature".
- **In Phase II**, there were a host of student awareness-raising activities:
- **Creating Best out of Waste**
- **A Nature Photography Competition**
- **Nurturing the Nature—audio-visual student presentations on the environment.**

328 students participated & each planted a sapling.



Events Organized

GNIT

Orientation & Student Induction Program



- 2nd -15th November-week-long Student Induction Program (SIP), commencing with the Orientation Program of First Year B.Tech students.
- Day 1—Talk by Padmashree Prof Ajoy Ray.
- Diagnostic Test—Maths, Physics, English, Chemistry
- Session on Stress Management by Ms Sristi Saha
- “Not Me, but You”—introduction to activities of NSS Unit.
- Know Your College--Virtual Tour of Dept. & Labs
- Debate & GD/Creative Writing
- Talent Hunt - dance, singing & drawing, anchoring.
- Photography & poster-making

Physical activities started overcoming pandemics.....



**Industry Visit at
Bhagwati Foods
Pvt. Ltd. (FT)**

GNIT | JIS GROUP COVID AWARENESS WORKSHOP

For
CSE Students (B.Tech. 2nd, 3rd, 4th Year) and
(M.Tech. 1st and 2nd Year)

**13th November, 2021
(Saturday)
02:30 pm onwards**

With
Mentors and Covid Cell Monitors

Organized By:
Computer Science & Engineering Department

We have started Physical classes for the students maintaining COVID protocol as per Government’s instruction.

Events Organized

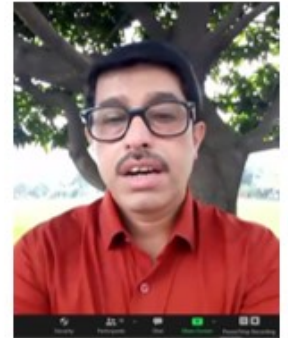
GNIT

Social Awareness Programs

7th International Day of Yoga (IDY, 2021) was celebrated on 21st June 2021 in the virtual platform by GNIT NSS Unit (SFU). The theme of this celebration was **'Be with Yoga, Be at Home!'**

- Prof. (Dr.) Santanu Kr. Sen, Principal, GNIT emphasized the importance of Yoga in this Pandemic situation
- A brief introduction about Yoga, was presented by Dr. Sucharita Bhattacharyya, Convener, GNIT NSS Unit and Dr. Mainak Debnath, Program Officer, GNIT NSS Unit.
- The Yoga Session was facilitated by Mr. Bijoy Singha Roy, Yoga Instructor & District judge of West Bengal Yoga Association followed by spectacular demonstration by the students of GNIT. The entire program went live on Facebook.

JIS
JIS GROUP
Educational Initiatives



GNIT

Anti-plastic Campaign by NSS SFU, GNIT

JIS
JIS GROUP
Educational Initiatives



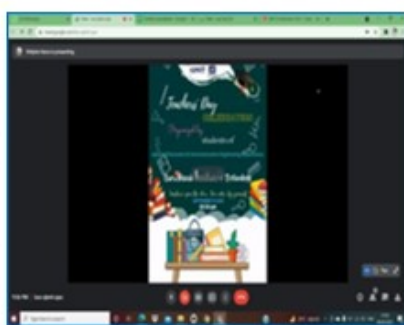
Events Organized

GNIT

Allocation of Computer Systems to the Office of Commissioner of Police, Barrackpore Commissionerate

JIS
JIS GROUP
Educational Initiatives

On behalf of the GNIT NSS Unit (SFU), our Principal Sir, Prof.(Dr.) Santanu Kr. Sen donated 8 Computer Systems to the Office of Commissioner of Police, Barrackpore Commissionerate for Community Outreach Program. Dr. Indrajit Bose, attended the felicitation program at the Office of the Commissioner of Police, Barrackpore Commissionerate, on 15.08.2021 & met the Commissioner of Police, Shri Manoj Kumar Verma, IPS, in person.

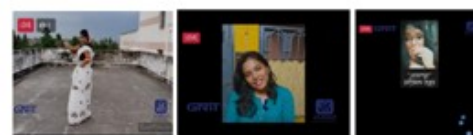


- Students of the department of AEIE organized the Teacher's Day celebration "Tributo 2k21" on 7th Sept 2021, this type of program strengthened the bonding of Teachers and students more

Co curricular Activities: Commencement of the semester to till date:



RABI BANDANA-2021



S25/2021

ECE GNIT

10

Events Organized



Department of Electrical Engineering took an initiative to distribute food packets to the underprivileged people nearby on 5th October 2021, "ULLAS - 2K21"

Departmental Newsletter publication



AEIE published Online Newsletters: "AEIE Shines" April to September 2021, 5th edition

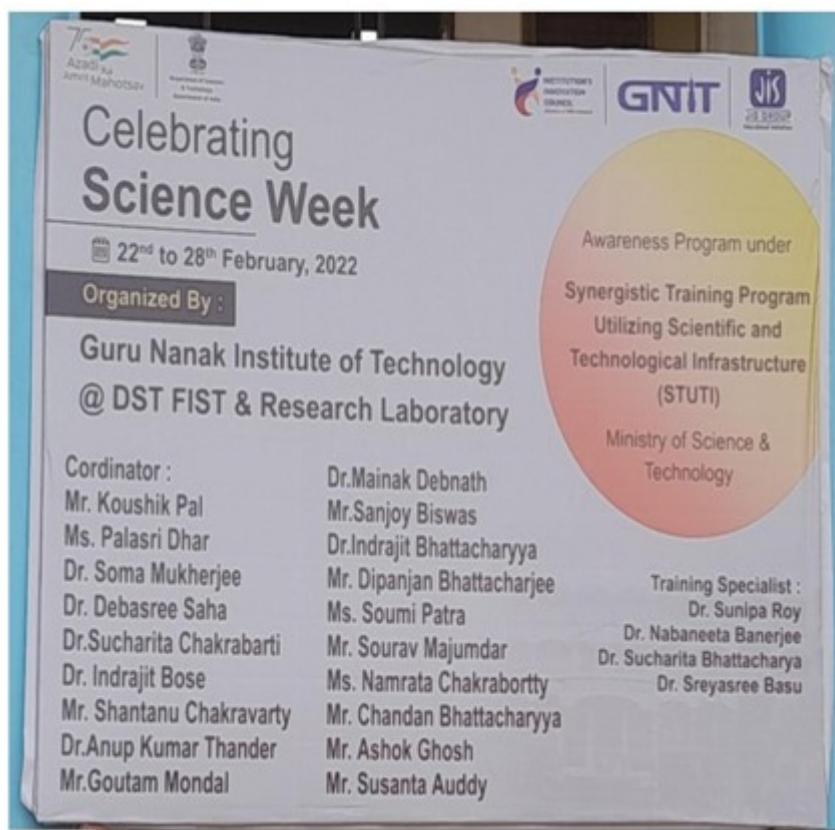
● Version 3.0 from CA

https://drive.google.com/file/d/1kBY2_jC6EyyyU7NYHmL7JcirmSSWk7QD_/view?usp=sharing



https://drive.google.com/file/d/1MAFfr_e-W3QTSvUEp5j0mJIGSqOmpobk/view?usp=sharing
FT Newsletter version-4.pdf

Events Organized



Department of Electronics and Communication Engineering and Department of Electrical Engineering @ GNIT in association with the Department of Applied Science and Humanities@ GNIT organized an **Awareness Program** during 22nd to 28th February 2022) and **year-round Training programs** under the STUTI 2021 program as a part of the 'Azadi ka Amrit Mahotsav' celebrations.

Objectives: To propagate scientific curiosity and understanding among school students and to explore and realize practical, economically viable, scalable and sustainable energy access models.

Photo Gallery (FT, ECE)



Events Organized

Photo Gallery (CSE, CA)



PTM for 2nd and 3rd Yr. Students on 10, June CSE



Workshop on : Entrepreneurship Skill, Attitude and Behaviour Development Date : 10.03.2022 (CA)



Dept. of CSE organized the farewell "LAMHE 2k22" for the exit batch 2018-22 on 30, May '22



Workshop on : Internships through Internshala Date : 24.12.2022 (CA)



Seminar on : Python Web Applications Date : 08.04.2022

Photo Gallery (AEIE, IT)



Webinar on Recycling of Plastic Waste to Plastic Composite Products



Technical Seminar on JAVA (AEIE)



Parent-Teacher Meeting on 31st May 2022 (AEIE)



Seminar On "Tips and Tricks to crack GATE 2023" (28.04.22)



PTM on 25th May 2022 (IT)



Farewell Ceremony (Aloha), 1st June 2022 (IT)

Events Organized

Brochures of conferences (1. CSE 2. ECE & FT)

Second International Conference on INNOVATIONS IN SOFTWARE ARCHITECTURE AND COMPUTATION (ISACS)
21st - 22nd July, 2022
WEB OF SCIENCE & SCOPUS INDEXED PROCEEDINGS

Chief Patron:
Sardar Tejraj Singh,
Managing Director, JIS Group

General Chair:
Dr. Ajay Kumar Ray, IIST, Shillong,
India, Director, JISG2022

Organizing Chair:
Dr. Anand Ranjan Jena, GNIT, Kolkata
Dr. Bangadesu Bhattacharya, GNIT, Kolkata
Mr. Brajraj Kuroda, GNIT, Kolkata

Program Chair:
Dr. Anand Ranjan Jena, GNIT, JIS Group,
Kolkata, India

Finance Chair:
Finance Officer / Accountant GNIT,
Kolkata, India

Keynote Speakers:
Prof. (Dr.) Wang-Liang Peng, NTUS, Taiwan
Prof. (Dr.) Anand Chakraborty, Director, A. S. Choudhury School of Information Technology, University of Calicut, India
Prof. (Dr.) Sushil Mishra, IIT Kharagpur, India
Prof. (Dr.) S. R. Ashwin, School of Computer Science Bangor Engineering, WU, Vienna, India

Important Dates:
Paper Submission Deadline: 15th May 2022
Notification to Authors: 30th May 2022
Final Camera-Ready submission and Registration: 23rd June 2022

Tracks of the Conference:
Intelligent and Hybrid Systems
Intelligent Software Architecture
Machine Learning and Analytics
Intelligent Computing in Physics
Sensors and Smart Applications

ISACS 2022 Conference proceeding is SCOPUS Indexed.

Submission Guidelines:
Full papers up to 12 pages on the one-column page format without author information submitted through Easy Chair portal given below.

Submission Links: <https://easychair.org/conferences/704111>

Category	Regular	Student	Student (Early Bird)	Student (Late Bird)
Registration Fee	75K	50K	25K	10K
Student Discount	-	-	-	5K

Conference Sponsorship:
Website & E-Mail: <https://isacs.in/>, isacs2022@iist.ac.in

Registration Fees (18% GST Applicable with the Below)

Category	On or before 05-07-2022	After 05-07-2022	Category	On or before 05-07-2022	After 05-07-2022
Foreign Delegates	Rs. 9500	Rs. 10000	Academi	Rs. 9000	Rs. 9500
Industry Delegates	Rs. 9500	Rs. 10000	Academi	Rs. 9000	Rs. 9500

AICTE Sponsored INTERNATIONAL CONFERENCE
On
Communication, Computing and Nano-Microwave Technology (CCNMT-2022)

Organized by
Department of Electronics and Communication Engineering
and
Department of Food Technology

Venue
Guru Nanak Institute of Technology
KOLKATA, INDIA
10-11th May, 2022
08-09th July, 2022

Organized by
Department of Electronics and Communication Engineering
and
Department of Food Technology

Venue
Guru Nanak Institute of Technology
KOLKATA, INDIA
10-11th May, 2022
08-09th July, 2022

SCAN ME

Industry Institute Interaction Activity : CSE

Seminar

DATA MINING USING MACHINE LEARNING & INTEGRATION WITH AWS CLOUD

SPEAKER
Mr. Mahendra Dutta
Trainer
ARDENT Computech Pvt Ltd

For 2nd Year CSE students

31st March, 2022
2.00pm to 4.00pm

organized by
computer science and engineering
GNIT

www.gnit.ac.in
www.jisgroup.org



Industry Visit/Mentor Meet (pictures), Organized by FT



Events Organized

Physical activities started overcoming pandemics, we have started Physical classes maintaining COVID protocol as per Government's instruction



Industry Visit to Euphoria Genx in May 2022, ECE

Industry Visit at Allied Blenders and distillers Pvt. Ltd. (FT), 10th June 2022

Department of ASHU @ GNIT, organized a one-day Industrial Visit to Central Glass & Ceramic Research Institute (CGCRI) Kolkata, a premier R & D unit of CSIR, Govt of India, on 2nd June 2022.



Industrial Visit at Geetanjali Solar Enterprise, May 2022.

Department of Electrical Engineering@ GNIT in association with Institution Innovation Council @GNIT and Agni Power And Electronics Pvt. Ltd. arranged an **Industry Visit** to IMWp Canal top Solar Power Plant in Newtown, Kolkata on 27th May 2022, for 3rd year students of Diploma in Electrical Engineering.

The expert speaker was Mr. Saswata Ghosh, Project Manager, Agni Power And Electronics Pvt. Ltd. The main objective of the visit was to explore and understand practical, economically feasible, scalable and sustainable energy access models.

The participants had first-hand experience of the technology, business model, end application, operations and maintenance and the ground issues of the plant along with the concept of building structure over the Canal, especially meant for Solar Plant.



Industry Visit to IMWp Canal top Solar Power Plant

Chemical Sensors: Devices and Interfacing Electronics

Speaker: Dr. Sayan Dey, Scientist, Columbia University, New York, USA,

by ECE Dept., on 08.03.2022

Events Organized

Virtual Industry Visit : An Exposure to Recent Trends in IT Industry & Industry-Mentor Meet (CA)

GNIT | **JIS**
VIRTUAL INDUSTRY VISIT : AN EXPOSURE TO RECENT TRENDS IN IT INDUSTRY
 Participants - BCA and MCA Students
10 January 2022
2:00 PM to 3:30 PM
 Organized By:
 Department of Computer Applications



WEBINAR BY **CAPCO** | **GNIT** | **JIS**
Capco Technologies Pvt. Ltd
 Consulting Trends & Careers – An Awareness Session
 Preeti Verma | Kashmira Aggarwal | Atul Shrivastava
 Ankurita Ghosh | Ashish Vyas
 Date and Time: 11th March, 2022
 11:00 am - 12:30 pm
 Organized By:
 Computer Applications Department
 Guru Nanak Institute of Technology



Session taken by Technable Education on Scope of Solar on 30.05.2022 (EE)

Special Activity : Organization/Participation in webinars/workshops/FDPs etc. by the depts.

NIPAM
 NATIONAL INTELLECTUAL PROPERTY AWARENESS MISSION
 as March 01, 2022
 Organized by Intellectual Property Office, India

One Week Online AICTE-QIP Sponsored Short Term Course
 ON "ISSUES AND CHALLENGES OF GRID-CONNECTED RENEWABLE ENERGY SOURCES (GCRRE-2)"
 Organized by Department of Electrical Engineering, Jamia Millia Islamia, New Delhi
Certificate of Award
 This is to certify that Dr./Ms./Mr. Suman Ghosh from Guru Nanak Institute of Technology has participated and successfully completed the AICTE-QIP sponsored Short Term Course (STC) on "Issues and Challenges of Grid Connected Renewable Energy Sources (GCRRE-2)" held during 21st to 27th February, 2022 through online mode.

ATAL
 ALL INDIA COUNCIL FOR TECHNICAL EDUCATION
 AICTE Training and Learning (ATAL) Academy
Certificate
 This is to certify that Dr. Suman Ghosh, Assistant Professor of Guru Nanak Institute of Technology participated & completed successfully AICTE Training and Learning (ATAL) Academy (Online Elementary FDP on "Science & Emerging Systems for Future") from 15/02/2022 to 20/02/2022 at Gurukulam Engineering College, Chennai.



GNIT
 Workshop on **Electronic Circuit Design**
 From 16th March to 23rd March
 Organized by Department of Applied Electronics & Instrumentation Engineering
 Guru Nanak Institute of Technology

GNIT | **JIS**
SEMINAR on M.Tech ADMISSION DRIVE
 Contact Person **Dr. Suparna Biswas**
 +91 87775 13336
31st MAY, 2022 | 2 P.M. - 4 P.M.
 Organized By : ELECTRONICS & COMMUNICATION ENGINEERING DEPARTMENT

Events Organized

MOU between Faculty of Health Sciences, Puntland State University, Somalia and Guru Nanak Institute of Technology (by FT Dept.)



MOU signed (ECE) with Capsule Lab



Department of AEIE & ECSE signed the MOU with MSME TOOL ROOM Kolkata on 13.06.2022



ECE signed the MOU with Sikharthy Infotech Private Limited on 9th December 2021



MOU signed on 30/01/2022 between the SKECT, WWW Jalsanjeevani, PVSD & GNIT for collaborative work on :

Water & river literacy, Plastic waste management, Ganga river and other water bodies rejuvenation and Ghat restoration projects, Spiritual and mental wellness program, Establishment of Miyawaki forest on garbage dumping place, Bioenzyme solutions and joint publications, Rural development and health sanitation programs with NSS Unit

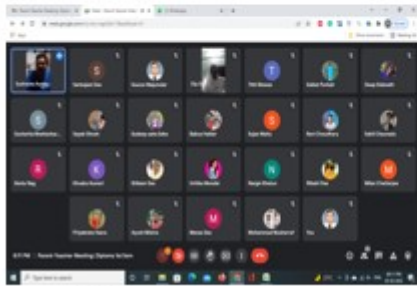


Events Organized

Special activities organized



Celebration of National Science Day 2022



PTM of Diploma 1st Year



International day of Light 2022 celebrated in association with IEEE Photonics Society

GNIT

Inauguration of GNIT ECO Club



- Environmental consciousness got a new platform in GNIT through the inauguration of the GNIT ECO Club (GEC) on 29th March 2022, in association with ASHU Dept, GNIT.
- A program on “**Management of Residential Solid Waste for a Sustainable Future**” marked the club opening.
- Dr Sudipto Bhattacharjee, noted environmental activist, gave an interactive lecture - a Plastic Segregation Unit (PSU) was also inaugurated.



ECO Club inaugural program at GNIT

Events Organized

GNIT

World Earth Day & Wildlife Awareness Program



- GEC in association with the Dept of Applied Science & Humanities@ GNIT and NSS Unit@ GNIT, organized a Plastic Collection Drive and Awareness Rally by students on the occasion of World Earth Day, 22nd April 2022.
- “Paw Tales: Wildlife Conservation Initiatives”, a webinar was organized by ECO Club on 7th May 2022, with Ms Anisha Iyer, Conservation & Education Officer, Wildlife SOS, Bangalore as chief resource person.



Snapshots from World Earth Day program at GNIT



Paw Tales webinar

GNIT

Save Soil, Nature Study Camp & World Environment Day



- A program on “Save Soil” was held on 27th May in association with Conscious Planet and Isha Foundation.
- A Nature Study Camp & cleanliness drive was held at Mahotsobtola and ISKCON ghats at Sodepur on 28th May, in association with NSS Unit, GNIT and courtesy of ISKCON Foundation.
- The camp led by environmental activist Dr Sudipto Bhattacharjee was part of World Environment Day programs.



Nature Study Camp & Tree Plantation to mark World Environment Day by ECO Club

Events Organized

Special activity 2022 : Blood Donation Camp

Department of Electrical Engineering@ GNIT organized a voluntary Blood Donation Camp on college campus, in association with College of Medicine and Sagore Dutta Hospital, Kamarhati on 31st March 2022.

A total of **53 units of blood** were collected from the camp.



Special activity 2022 : Rabindra Jayanti Celebration

Department of Electrical Engineering @ GNIT celebrated Rabindra Jayanti on 9th May 2022, online.

The celebration began with the Welcome Address by Dr Barnali Kundu, HOD, EE, GNIT, followed by a speech by Ms Priyanka Dutta, Assistant Professor, EE, GNIT.

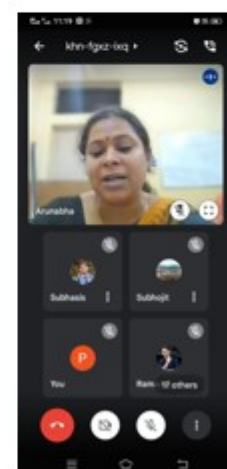
Faculties, JTAs and students alike, actively participated in the online event and performed music, choreography and played musical instrument.

20 participants participated from all the years of B.Tech. in Electrical Engineering.

More than 75 attendees, including students, Faculty members and staff, attended the program.

The program was anchored by Arunabha Paul, a student of 2nd Year of Electrical Engineering.

The event was coordinated by Ms Priyanka Dutta, Assistant Professor, EE and by Ms Subhra Sen, JTA, EE.



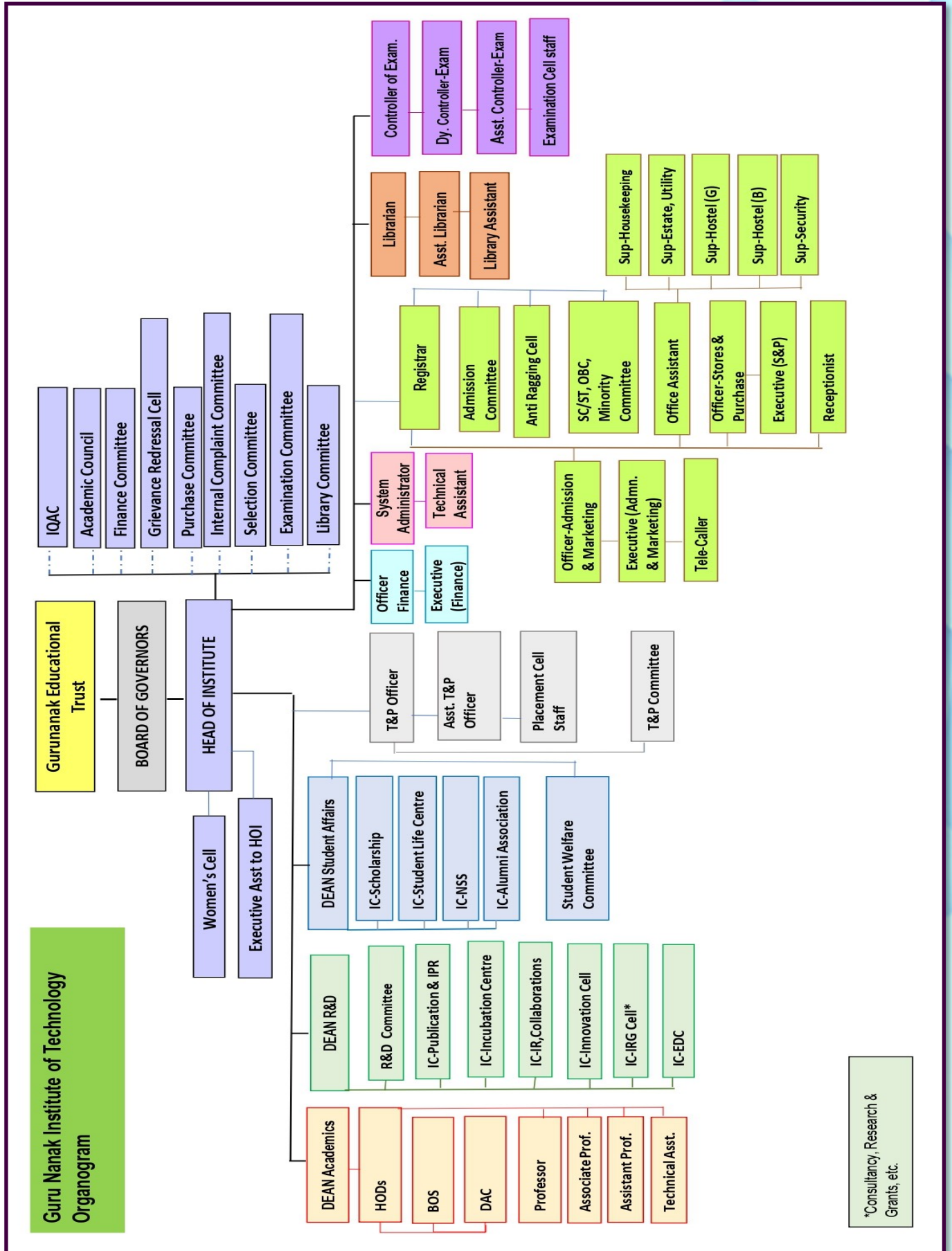
Events Organized

GNIT

SAYONARA 2k22: Farewell Program By AEIE



Institutional Organogram



Administrative Heads



Dr. Santanu Kr. Sen
Principal
GNIT



Dr. Adish Chakroborty
Registrar
GNIT



Dr. Arun Kr. Mondal
Controller of examination
GNIT



Dr. Paramita Banerjee
Coordinator
IQAC, GNIT

Departmental Heads



Dr. Sucharita Chakraborti
HOD
Applied Science & Humanities



Dr. Sangeeta Bhattacharya
HOD
Computer Science &
Engineering



Dr. Sunipa Roy
HOD
Electronics & Communication
Engineering



Dr. Kakali Bandhopadhyay
HOD
Food Technology



Dr. Barnali Kundu
HOD
Electrical engineering



Mr. Sudeep Ghosh
HOD
Information Technology



Mr. Chiranjeeb Dutta
HOD
Computer Application



Mrs. Bapita Roy
HOD
Applied Electronics and
Instrumentation Engineering

Admission Report



GURU NANAK INSTITUTE OF TECHNOLOGY

Address: 157/F, Nilgunj Road, Panihati, Sodepur, Kolkata - 700114



Accreditation, Affiliation & Approvals



Awards & Ranks



First Engineering College in India with prestigious



Contact Details

Phone: 91-33-2523-3900
Tel Fax: +91-33-2563-7957
Visit at www.gnit.ac.in
Email: admission.gnit@jisgroup.org

Career Counselling & Admission Helpline

Call us at +91 94320 12681 / +91 90736 83911
Whatsapp: + 91 94320 12681

Associated With



Undergraduate (Full Time): 4 Years

B.Tech

Computer Science and Engineering (CSE)	180 Seats
Electronics and Communication Engineering (ECE)	120 Seats
Electrical Engineering (EE)	30 Seats
Information Technology (IT)	90 Seats
Electronics and Computer Science Engineering (ECSE)	30 Seats
Food Technology (FT)	60 Seats

Postgraduate (Full Time)

Master in Computer Application (MCA), 2 Years	60 Seats
M.Tech in Electronics and Communication Engineering (ECE) 2 Years	18 Seats
M.Tech in Computer Science and Engineering (CSE) 2 Years	18 Seats

Some of our Recruiters



Admission Report

Programme name	Programme Code	Number of seats sanctioned	Number of Students admitted
B.Tech in Computer Science & Engineering	CSE (01)	180	180
B.Tech in Electronics & Communication Engineering	ECE (02)	120	118
B.Tech in Electrical Engineering	EE (03)	30	27
B.Tech in Information Technology	IT (04)	90	90
B.Tech in Food Technology	FT (09)	60	45
B.Tech in Electronics & Computer Science Engineering	ECSE (05)	30	17
M.Tech in Computer Science & Engineering	M.Tech CSE (21)	18	4
M.Tech in Electronics & Communication Engineering	M.Tech ECE (22)	18	5
Master in Computer Application	MCA (41)	60	59

Scholarship

MTech-

Scholarship of @20% on tuition fee (Rs.2,00,000 for 2 years, total course fee is Rs.2,22,100 for 2018-19) i.e Rs.10,000/ per semester is applicable only to the students who have studied their B.Tech in any of the following institutions:

1. JISCE
2. NIT
3. GNIT
4. DSCSDEC
5. GKCEM (JV)

GATE qualified students are also eligible for this scholarship apart from their GATE scholarship from AICTE.

AICTE scholarship/stipend will be provided to the GATE qualified candidates as and when received from AICTE.

Financial assistance for publication in Scopus/Thompson & Reuters indexed journals i.e upto 50% of the publication fee

Classes will be conducted twice a week

B.TECH LATERAL-

Scholarship of Rs.60,000/- @ Rs.10,000/- per semester (Tuition fee is Rs.2,34,000 and total course fee is 2,97,050 for 2018-19) is applicable only to the students who have studied their three years Diploma in Engineering in this institutions:

1. JISSP
2. JISCE
3. NIT
4. GNIT
5. DSCSDEC
6. GKCEM (JV)

Scholarship

MCA-

Scholarship of Rs.45,000/- at the time of admission (Admission Fee: 10000/- + Caution money : 10000/- + Tuition Fee : 25000/-) and Rs. 20000/- (Tuition fee) in 2nd semester is applicable only to the students who have studied their Under-graduate courses in any of the following institutions:

1. JISCE
2. NIT
3. GNIT
4. GNIPST
5. JISU

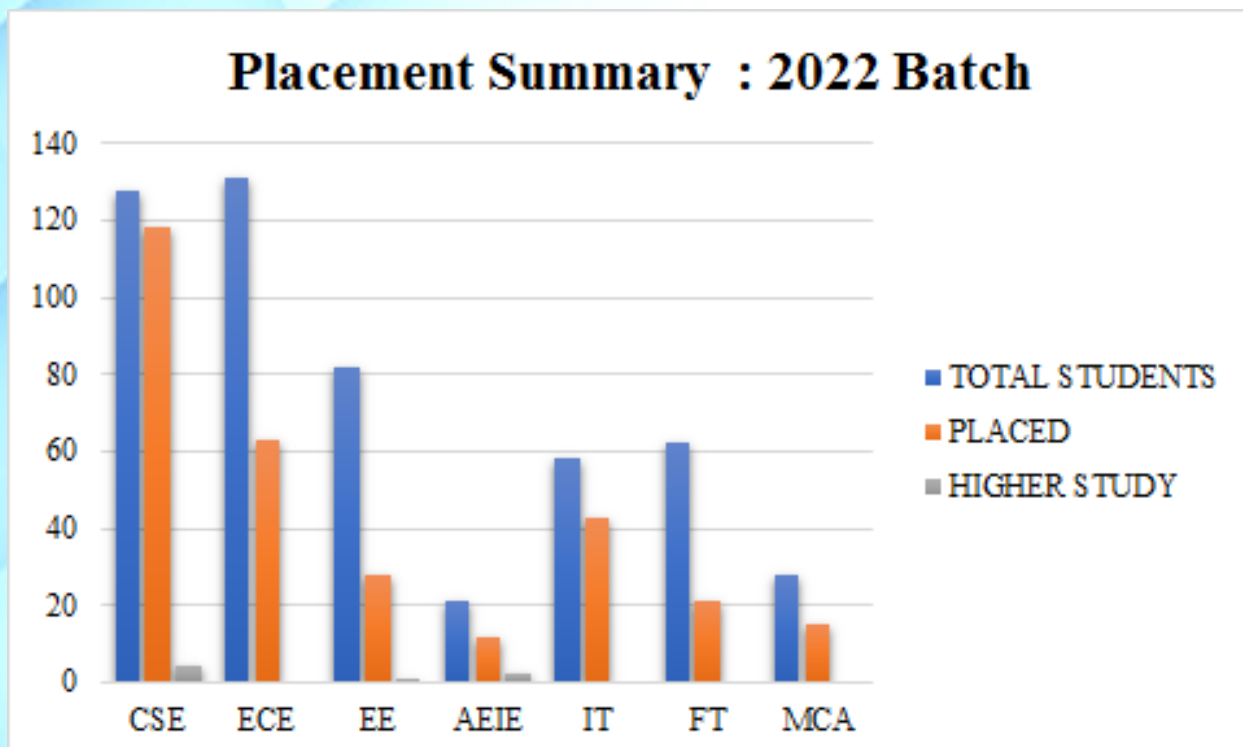
MBA (2 Years)					
Particulars	1st Sem	2nd Sem	3rd Sem	4th Sem	Total Fees
Application Kit (one time)	1000				
Admission Fees(one time)	5000				
Registration Fees (one time)	2600				
Caution Deposit (Refundable)	10000				
Library Fees Per Sem	1000	1000	1000	1000	
Student Activity Fees Per Sem	500	500	500	500	
Tuition Fees Per Semester	99600	99600	99600	99600	
Grand Total	119700	101100	101100	101100	423000
Scholarship 30% on Tuition Fees (Bet 70%-89%)	89820	71220	71220	71220	303480
Scholarship 25% on Tuition Fees (Bet 40%-69%)	94800	76200	76200	76200	323400

Scholarships/ Teaching assistantships are liable to be withdrawn, partially or wholly, in case of misconduct, deliberate concealment of materials/facts and/or supply of false information, and/or continued absence of more than one month except on medical grounds.

Scholarships/Teaching assistantships are liable to be reduced or terminated for a period of up to one semester on account of poor academic performance or not carrying out the assigned tasks in a satisfactory manner.

Training & Placement

Around 117 companies took part in placement of the students in the academic year 2021-22. Some of the major companies which hired our students are. The highest salary offered is **Rs. 8 lacs per annum** by HighRadius. The average salary is. Rs. 2.20 lacs Per annum.



Training & Placement

The list of companies

Juspay | Johnson Controls | AsaBhanu | Capgemini | Deloitte | ITC Food Division | Capgemini | DBS | Zensar Technologies | Just Dial | Asahi India Glass | Adobe Systems India Pvt Ltd | Ganesh Products Pvt Ltd | ITC Infotech | TCG Digital | Efrac | DirectI | Prolifics Corporation Ltd. | Franciscan | Nestle | Pinnacle | Poornam | Infosys | IBS Software Services (P) Ltd | Genpact | Pinnacle | VastuVihar | Mindtree | Patel Information Technology Services | TCS | Innoraft | CTS | Kovair | JBM Group | Hearing Plus | Think & Learn (Byjus) | Asahi India Glass | Asahi India Glass | Indusnet Technologies | Techno Electric | Mphasis Ltd | Nerdy Turtlez | BSA Corp Ltd | Fixfin Technologies | Ginesys | Haricons Engineers & Contractors | Vijai Electricals | Stesalit Systems | Go Speedy Go | VastuVihar | Net2Source | Mitsuba Sical India Pvt Ltd | Manikaran | CSM Technologies | IoTivity | Collabera | CloudKaptan | Capgemini | Zicom Electronic Security Systems | Dynamics Finer Info Solution | erp2enterprise | oornam | Centium Electronics Ltd | Vyom Labs | HP Inc. (under the payrole of fidelis group) | Indigo | Linde Group | Tenneco India | Medullus Systems | Morse Systems India | Netpro System | Indigo | Adani Solar (Under the payroll of Addeco) | Gemini Systems | Control Print | Paapri Business Technologies | Tirumala Seven Hills | eClinical Works | Wipro Technologies | Wipro Technologies | Quadrant Suraksha Service | Blue Star | JR Technologies | Keyence India | Atlas Healthcare | CodeAchi Technologies | Hind Rectifier | Ambootia | Ayant Software Pvt.Ltd. | Valued Epistemics | LG Soft India | T-Web Exponent | Newhope Kolkata Animal Feed Private Limited | Ayant Software Pvt.Ltd. | Soft Vision | Aponiar Software | Motherson Automotive Technologies and Engineering | Xento Systems Pvt. Ltd. | Nerdy Turtlez | VAP Technology Pvt. Ltd. | Wizertech Informatics | Rajsriya Automotive Industries Pvt Ltd | Spicejet | New Vision Software | Sonodyne Electronics Pvt Ltd | Hexaware Technologies | VAP Technology Pvt. Ltd. | Netscribe | Irvine Infocom | Shree Balaji Equipments Pvt Ltd | Mantra Labs | Ridhima Enterprise | Passionate Futurist | Greppent Solution | Excel Orgo | Peol Technologies | Cyber Swift | Dhanush Engg. | Whitelion

Library Resources

Library Services

The Library is an information resource center providing books, magazines, periodicals, and newspapers. Computers offer Internet access to online databases of full text periodicals and electronic books. The Library offers study rooms, course reserve materials, and photocopy machines. Reference assistance is available for group and individualized instruction. Apart from faculty, staff, administration and students, Industrial establishments / corporate houses can also avail the services of Library on taking Institutional / Corporate membership of the Library. Library consultation facilities are also available to faculty and students of outside Institutes / Organization on request. The Library, besides having a huge collection of books on engineering, science and humanities offers library services through its various Divisions.

Area: Carpet area 660.43 sq.mt.

Hours of Operation

Other than the holidays and Sundays, library remains opens on

Monday to Friday: 08.00 a.m. to 8:00 p.m.

Saturday: 08.00 a.m.to 5.00 p.m.

Library Resources (Printed Document)

Text Books: 53852

Reference Books: 5666

Hard copy Journal & Magazine: 08 (Magazine)

News paper: 5 (4 Daily and 1 weekly)

Previous year question paper

Faculty Publication

Student Publication

Student Project Paper

E-Resources

E-books: 1, 15,000

E-Journal: 7825+

CD/DVD: 1547

Institutional Membership

We are collaborated with

On-Line Text based Information for IEEE ASPP Online- Tier 3

276 no's of online E-journal are fully Downloadable

Library Resources

British Council Library

Best current collection of British books and journals

Training materials

Professional training DVDs

Management Workshops and Video- Screenings

Business English skills development programmers

Exclusive series of workshops

Fully downloadable online resources (90,000+ e-books, 7,000+ e-journals) with personalized access

Management Information Support Services

Film screenings, musical performances, arts exhibitions and book launches

20 Books & 10 periodicals for three weeks

Two management training video for three weeks

Single login to 115000 full text E-books, 7000 full text e-journals, Literature Online(350,000 full-text works of English and American literature), Zinio (collection of international digital magazines) and IndieFlix (3000 award winning independent movies and short feature)

National Digital Library of India (Govt. of India)

Repository hosts contents for multiple subject domains like Technology, Science, Humanities, Agriculture and Others Repository integrates contents from different Indian Institutional repositories. NDLI is designed to hold content of any language and provide interface support for 10 most widely used Indian languages.

E-ShodhSindhu (Ministry of HRD)

Based on the recommendation of an Expert Committee, the Ministry of HRD (now renamed as Ministry of Education) has formed e-ShodhSindhu merging three consortia initiatives, namely UGC-INFONET Digital Library Consortium, NLIST and INDEST-AICTE Consortium. The e-ShodhSindhu will continue to provide current as well as archival access to more than 10,000 core and peer-reviewed journals and a number of bibliographic, citation and factual databases in different disciplines from a large number of publishers and aggregators to its member institutions.

MOU Details

Sl.	Name of the Department	Name of Organization Signed MOU	Year	Programming Highlights/ Objective
1	Department of Food Technology	Smart Management Consultancy	2017	Collaborate with industry for creating synergy of knowledge, innovations and professional expertise.
2	Department of Food Technology	Vedaant AgroBiotech Limited (VABL)	2017	Enhancement of Professional Expertise and Knowledge and Training.
3	Department of Food Technology	Bundelkhand University	2018	Collaborations in Academic Developments, Industry Projects and student internships, R&D, Entrepreneurship Development
4	Department Of Information Technology	Ogma Tech Lab	2007	NASSCOM Apprentice Programme (NAP), Validity One Year.
5	Department Of Information Technology	Balishtha e Tech Pvt Ltd	2007	Over all Development of Technical Skill and knowledge
6	Dept. of CSE	Ardent Computech Private Limited	2021	Over all Development of Technical Skill and knowledge
7	Dept. of CSE	Globsyn Knowledge Foundation	2019	Under Campus Connect Programme for enriching the technical education process and to jointly work for enhancing the quality of education imparted to students, faculty and management of the college.
8	Dept. of CSE	Globsyn Knowledge Foundation	2019	To enhance knowledge, research activities and professional skills towards the modern technologies and recent trends in the field of automation, cutting edge technology for machining, design and tooling development and engineering support.

MOU Details

Sl.	Name of the Department	Name of Organization Signed MOU	Year	Programming Highlights/ Objective
9	Dept. of CSE	Ardent Computech Private Limited	2021	Collaborate with industry for student internship, student training, R&D, knowledge exchange.
10	Dept. of CSE	Induji Technologies Private Limited	2017	Enhance knowledge, research activities and professional skills towards the modern technologies and recent trends in the field of automation.
11	Dept.of CSE	Induji Technologies Private Limited	2017	Collaborations in Academic Developments, Industry Projects and student internships, R&D, Entrepreneurship Development
12	Dept. of CSE	Infosys Campus Connect	2019	The objective of this MOU between Department of Electrical Engineering Dept, Guru Nanak Institute of Technology and Electromech & Transtech Pvt. Ltd. would be to enhance technical skill of students as well as to provide the development of course curriculum as per current socioeconomic demand.
13	GURUNANAK INSTITUTE OF TECHNOLOGY	Ardent Computech Pvt Ltd	2020	Software Development, Training, and Technical Education (IT & Core Sector) FOR AIC
14	GURUNANAK INSTITUTE OF TECHNOLOGY	Prolific Systems & Technologies Pvt. Ltd	2017	Enhancement of technical skill of students as well as to provide the development of course curriculum as per current socioeconomic demand
15	GURUNANAK INSTITUTE OF TECHNOLOGY	MSME Tool room, Kolkata	2018	Research and Development
16	Dept of ECE	Reunited Tech Solution Pvt.Ltd	2020	Over all Development of Technical Skill and knowledge

MOU Details

Sl.	Name of the Department	Name of Organization Signed MOU	Year	Programming Highlights/ Objective
17	Dept of ECE	OGMA tech lab, Kolkata	2018	Over all Development of Technical Skill and knowledge
18	Dept of ECE	Jadavpur University	2018	Over all Development of Technical Skill and knowledge
19	Dept of ECE	Ardent Computech Private Limited	2018	The goal of this MOU is to foster collaborative training, research and other activities to provide advancement in scientific knowledge for the benefit of society by enlarge.
20	Dept of ECE	Ardent Computech Private Limited	2020	Enhancement of technical skill of students as well as to provide the development of course curriculum as per current socioeconomic demand
21	Dept of ECE	Trident Techlabs Pvt.Ltd	2020	To provide student training, student internship, student placement, R&D activities and knowledge exchange.
22	Dept of ECE	Sikharthy Infotech Pvt.ltd	2021	Training on “Learn to design of own Solar Home System”
23	Dept of FT	Faculty of Health Sciences, Puntland State University, Somalia	2022	Bridging the gap between Academics & Industry
24	Dept of ECE	Capsule Lab	2022	Bridging the gap between Academics & Industry
25	Dept of AEIE/ ECSE	MSME TOOL ROOM, Kolkata	2022	Bridging the gap between Academics & Industry

MOU Details

Sl.	Name of the Department	Name of Organization Signed MOU	Year	Programming Highlights/ Objective
26	Dept of FT	Smart Management Consultancy headed by Shri Debayan Das	2021	Bridging the gap between Academics & Industry
27	Dept of FT	VORF- Vedaantic Organic Research Foundation headed by Ms. Arpita Dhawa	2021	
28	Dept of FT	SHRM Biotechnologies headed by Shri Kunal Vora	2021	
29	Dept of FT	Crushers International headed by Mr. Rajat Budhreja	2021	
30	Dept of FT	Wisdom Robotics- headed by Mr. Debarshi Chakraborty	2021	
31	Dept of FT	Engineering & Management College Teachers Development Association headed by Mr. Sayantan Chakraborty	2021	
32	AEIE & CSE	Sikharthy Infotech Private Limited	2021	

IT Resources

Hardware

SERVER - 6

DESKTOP - 961 (including 11 Workstation,215 not working)

LAPTOP- 17 (12 distributed to M.tech Student)

LCD Projector -14

Switches - 63

Firewall And Routers - 1 (Cyberoam 500ing Firewall),

1 (Cisco 2800 router),

1 (CISCO Rv 130 vpn Router)

Printers -44

Color laser Printer - 4

Scanners - 18

Photocopiers -1

Video Conferencing Systems-1

Wifi Dsevice = 21

Bio Metric Devie = 3

CCTV Cameras - 147



IT Resources

Services

WiFi Bandwidth -

20-30 Mbps Average from campus Infrastructure from 50 Mbps **Raitel**, 25 Mbps **Alliance** Broadband Lease Line Connection.

1 Gbps CAT6 Intranet - connected

Central Computing Facilities: yes

MHRD's QEEE Infrastructure :

Microsoft Exchange mail server: managed by Hash Technologies

WiFi Facility throughout the campus: yes

Website hosting all university Details: managed by Hash Technologies

Software

Licensed Software :-

Microsoft windows (7/8/10), Server (2008/2012/2016/2019) And Office 365 (Campus AGREEMENT)

	Department	Software
Application Software	ECE	Matlab 2013- 5 user(perpetual) Tanner v 15.2- 5 user(for Ledit) & 5 user(for Sedit) Electronic Device and Service - (1 dvd) –perpetual Mentor Software – 1 nos. VLSI Universal Trainer Kit – 1 nos. VLSI Back End- mentor IC Nanometer Design Bundle (30 users)
	MCA	Microsoft Volume License(as campus agreement).
	IT	Microsoft Volume License(as campus agreement).

IT Resources

Application Software	Department	Software
	FT	Microsoft Volume License(as campus agreement).
	Library	Multiuser LSEase (EJB) Software(LIBSYS 4). expired
	ASHU	Orell Pro – 60 Users. Autocad 2005-win edu – single user License. Engineer Graohics/Drawing(1 dvd) –perpetual Basic of Mechanical & Civil - (1 dvd) –perpetual
	CSE	Oracle 10.2 Linux version-20 users (perpetual) Photoshop CS6 – 300 points (single license) Fundamental of Computing & programming(1 dvd)- perpetual Microsoft Server 2003 Standard edition (3 CD) – single user Xiline vivado software @25 user pack (Perpetual)
	EE	Matlab 2013 – 10 users(perpetual) My Power – 5 User(perpetual) Multisim 13 – 10 users(perpetual) Basic of electrical & electronics(1 dvd) – perpetual ETAP Software 19.5 version(5 users Educational Licence) – perpetual NI Academic Lab VIEW 5 USER.SOFTWARE Latest & Perpetual Includes NI Lab VIEW Professional Development System and popular LabVIEW, modules such as Lab VIEW Control Design and Simulation, Lab VIEW FPGA,and, NI Vision and etc.



GURU NANAK INSTITUTE OF TECHNOLOGY

Department
of
Computer Science & Engineering

ANNUAL REPORT

2021-22

Name of the Department: Computer Science and Engineering

Vision of the department

To produce proficient professionals of global standard with respect to industry, academia, and entrepreneurship who can play a key role in their respective domain and become a responsible citizen for the sustainable growth of the society.

Mission of the department

DM1: To impart quality education with holistic development to produce professionals with leadership traits

DM2: To impart knowledge on emerging technologies and entrepreneurship skills to produce technocrats of global standard and entrepreneurs

DM3: To promote interdisciplinary work culture and opportunity to work in a team through collaborative research and project work

DM4: To inculcate professional ethics and moral responsibility for a better society

PEO

PEO1: Our graduates will establish themselves as effective professionals in industry, academia and entrepreneurship.

PEO2: Our graduates will become profound researchers in multiple domains.

PEO3: Our graduates will act as a leader in society.

Program Outcomes

- * **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- * **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- * **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- * **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- * **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- * **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- * **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

- * **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- * **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- * **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- * **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- * **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcomes (PSOs)

PSO 1: To use efficient algorithm for designing and developing software applications and products

PSO 2: To correlate computer science and core engineering subjects to solve real life problems across multiple domains

PSO 3: To write code efficiently in competitive environment in national and international platform

Brief overview of the department

The Department of Computer Science and Engineering was established in the year 2003 and provides a comprehensive research environment complemented by excellence in teaching. The Department has several qualified teachers who encourage the students to get engaged in several extra-curricular and co-curricular activities for them to be successful engineers. The Department of Computer Science and Engineering aims to bring up students as engineers; helping them to build, strong technical acumen, and harness their skills and talents through several cutting-edge technologies and state-of-the-art techniques. The Department also keeps focus on research and development activities and foster innovative. The department focus on holistic development of the students through extra-curricular and co-curricular activities. In addition to escalating technical manpower, the Department also publishes periodically several newsletter and magazines to inculcate creative ventures.

Courses Offered:

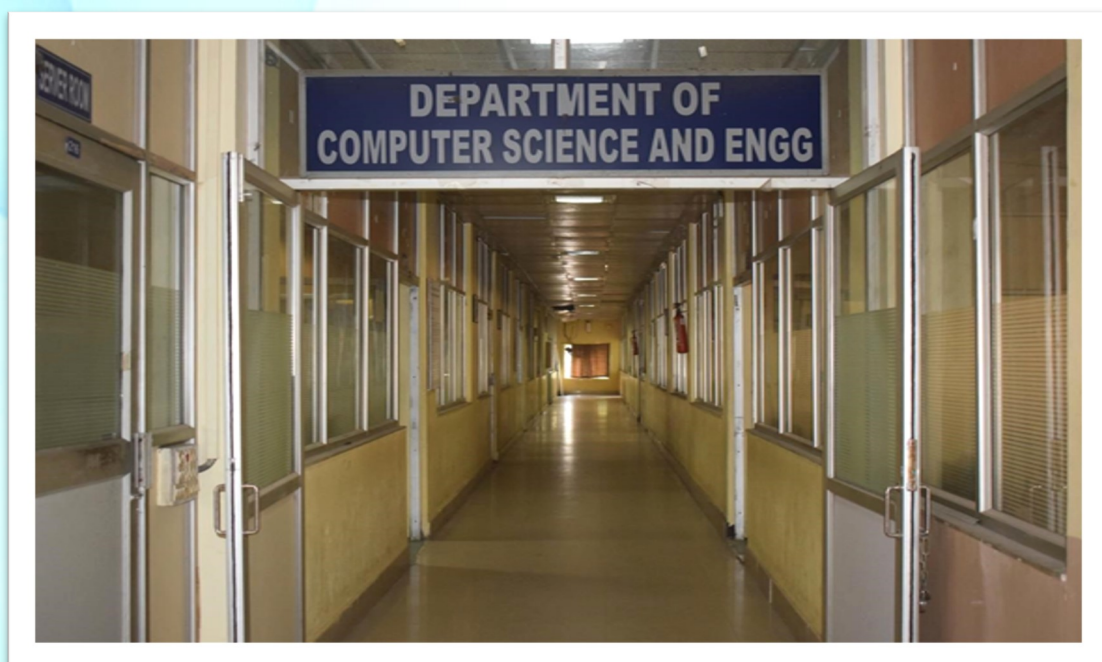
- 1) 4 years B.Tech in Computer Science and Engineering
- 2) 2 years M.Tech in Computer Science and Engineering

Department of Computer Science & Engineering

CORE STRENGTH:

Computers being used in almost every aspect of life: Automobile Engines, Electronic Devices, Microwave Ovens, Telephones, Medical Diagnostic Equipment, Commercial Aircraft, and Orbital Satellites that deliver cable signals around the world, this area of specialization is one of the fastest growing segments of industry and changing areas of technology. Engineering graduates with degrees in Computer Science and Engineering might find themselves in a variety of environments –Academia and Research (pursuing M.Tech or Phd.), Software Industry (Companies like IBM, TCS, CTS, Capgemini, Tech Mahindra, ITC Infotech), Government Organizations (like DRDO, ISRO, BHEL, BAARC), and PSU (like SAIL, ONGC, Indian Oil, SBI).

The department is a life institutional member of ISCTE and Institute of Engineers (India).



HOD's message

Computer Science & Engineering department has been in the forefront of imparting quality education to the students. The success of the Department is amply reflected in the outstanding achievements of the students employed both abroad and within the country. Every success is due to the contribution of the well-qualified and dedicated faculty motivating the efforts of the students to reach the top. In addition to the curriculum, our department conducts regular value-added course and soft skill programs to meet the ever changing needs of employability. This helps the highly motivated students to understand the dynamics of the industry and to upgrade their skills for higher studies. This Department of GNIT was established in the year 2003 and offers disciplines like B. Tech (CSE) and M. Tech (CSE) by a number of qualified faculty and technical members who engage the students in innovative teaching-learning process to provide a comprehensive research environment complemented. The Department is constantly evolving towards greater heights to serve the needs of the society and meet the aspirations of the student community.

Dr. Sangeeta Bhattacharya
HOD
CSE Department

Departmental achievements:

a. Students' achievements:

- Biplab Roy of CSE 2018-22 batch received All India Rank 61 in GATE, 2022.
- Anindita Bhattacharya has got Ayan Dey Memorial Award for Highest YGPA 9.9 in the first year.
- Abir Ganguly of CSE 2020-24 batch received 3rd position in Coding (Pattern Realy) in the TechFest KRITANJ at Narula Institute of Technology, Awarded with monetary reward in May 2022.
- After five years with TCS, Nazneen Hasan was offered an opportunity to pursue a master's degree at the University of Illinois in the United States of America.
- Snehashis Mondal of CSE 2020-24 batch became Winner (1st position) in Kashiyatra, the annual socio-cultural festival of IIT BHU, Awarded with prize money in April 2022.
- Piyush Kumar of CSE 2020-24 batch received 2nd position in Web Picasso (Web Development) competition organised by Narula Institute of Technology in December 2021.
- Priyam karmakar of CSE 2020-24 batch received 1st position Malang E Mridang, 1st position Nrityagraha, 2nd position in JIS Spirit solo dance, became judge at Lalita Nandana International Dance Competition.
- Shreyashree Sarkar was named Alpha Microsoft Learn Student Ambassador by Microsoft Learn Student Ambassador Program on 17th July 2021.
- Aoindreela Neogi, Sristi Kundu, Anindita Bhattacharya, Dwaipayan Mitra, and Ankita Banerjee competed in the GNIT's EE Department's Quiz Info-Tech 2K21 from 9th to 10th July 2021.
- Poulami Bera, Atul Singh, Ritam Ghosh, and Bidrohi Pradhan competed in the Sigma Institute of Engineering's National Level Python Programming Quiz on 9th July 2021.
- Priyadarshi Kumari, Ankit Gupta on August 21, I attended ShapeAi's seven-day Bootcamp Basic web development with js and react js.
- Sharanya Paul, Moubani Hari, Prince Sana on 6th June 2021, I attended the Capgemini Tech Challenge 2021 Edition, which was organized by Capgemini.
- Sourav Auddy (winner), Arnab Chowdhury (winner), Vaskar Paul (5th winner), Madhumita

Dutta (2nd winner), and Arghadip Biswas (3rd winner) competed in the Bit 2 Byte coding club's event on 06.08.21 and earned positions.

- Arnab Chowdhury placed second in the JIS Group and Science Club's Short Story Writing Competition on 15.06.2021.
- Madhumita Dutta won various events including a drawing competition, a poster-making competition (Father's Day mania), and a poster-making competition (Foundation Day). These activities were organized by the Science Club, the JIS group, and GNIT.

GATE 2022 Result [CS]

Name	BIPLAB ROY	
Registration Number	CS22S16509317	
Gender	Male	Biplab Roy
Parent's/Guardian's name	SABITA ROY	
Date of birth	7-October-1999	
Examination Paper	Computer Science and Information Technology (CS)	
Marks out of 100#	0.0	All India Rank in this paper: 61
Qualifying Marks##	General: 25.0, OBC (NCL)/EWS: 22.5, SC/ST/PwD: 16.6	GATE Score: 863



b. Faculty achievements:

- Dr. Amrut Ranjan Jena earned a Ph.D. degree from VIT, Vellore in computer science and engineering.
- Dr. Sangeeta Bhattacharya delivered the keynote address at the Faculty Development Program on "Outcome-Based Education" on September 6th, 21.
- Dr. Mahamuda Sultana spoke as a Keynote Speaker and Panelist at an IE webinar on "Industry 5.0 and Green IoT with Relevant Future Technologies."
- Dr. Rupak Chakraborty's publication won first prize in the Institution of Engineers (India) Chapters conference on "Role of Budding Engineers in Smart and Sustainable Technologies."
- Bidyutmal Saha, Mandira Banik, and Moloy Dhar have received a Certificate of Recognition from Nikhil Bharat Shiksha Parisad for their service as Nikhil Bharat Council's Sub-

ject Matter members Expert Group (SMEG) for Massive Open Online Courses.

- Dr. Suman Bhattacharya, Dr. Mahamuda Sultana, and Dr. Sangeeta Bhattacharya have enrolled students in MAKAUT's Ph.D. program.
- Nirupam Saha has achieved the NPTEL Elite+Gold Certificate in "Problem Solving through C Programming" during the Even Semester, 2020-21.
- Dr. Rupak Chakraborty earned the Elite+Siver NPTEL "Programming in Java" certificate during the Even Semester, 2020-21.



- Dr. Mahamuda Sultana Has Been Awarded the Institute of Scholars' Young Achievers Award (InSc).
- Ipsita Saha received the Institute of Scholar's Young Researcher Award for her publication 'Development of a Sustainable Business Model: A Conceptual Framework for the Financial Sector to Achieve Successful ERP.'
- Dr. Suman Bhattacharya has received the Institute of Scholars' Young Achievers Award (InSc).



Publication by Faculty and Students:

a. Journal:

- Ipsita Saha, Tatiana S. Smirnova, Vladimir A. Maryev, "Implementation of Eco-Industrial Park for Effectual Establishment of Circular Economy in Russia", *Nature Environment and Pollution Technology*, Vol. 20, No.5 (October, 2021), pp. 2031-2040.(Scopus Indexed).
- Amrut Ranjan Jena, Raja Das, D. P. Acharjya, " An Integrated Approach for Prediction of Radial Overcut in Electro Discharge Machining using Fuzzy Graph Recurrent Neural Network", *Int. J. Embedded Systems* , Vol. 4, No. 4, 2021. (SCOPUS & WoS, IF-1.2).
- Mrs. Srabani Biswas, "Real Time Event Area Localization and Estimation in Smart Environments Based on A Realistic Sensing Model", *International Journal of Communication Networks and Distributed Systems*, Accepted (SCOPUS).
- Suman Bhattacharya, Mahamuda Sultana, "A Comprehensive Survey on Bird Species Identification Models" *International Journal of Computer Information Systems and Industrial Management Applications*. Scopus (2021) ISSN: 2150-7988.2021.
- Suman Bhattacharya, Mahamuda Sultana, Bikramjit Das, Biplab Roy, "A Deep Neural Network Framework for Detection and Identification of Bengal Tigers" *Innovations in Systems and Software Engineering*, Scopus, ESCI (Springer) (2022) ISSN: 1614-5046.
- Dr. Ananjan Maiti. "Building of an edge enabled drone network ecosystem for bird species identification." *Ecological Informatics* 68 (2022): 101540.
- Amrut Ranjan Jena, "An integrated approach for prediction of radial overcut in electro discharge machining using fuzzy graph recurrent neural network." published in *International Journal of Embedded Systems*, 14(4), pp.345-354, 2021.
- Amrut Ranjan jena, Madhusmita Mishra, Rantadeep Mazumder "A Framework for Emotion Detection using Open Source Computer Vision and Convolutional Neural Network" Vol. 12 - No. 4 (April 2022), *International Journal of Engineering Research and Applications*, ISSN: 2248-9622.
- Sourish Mitra,Pallabi Das, Nilimesh Chakraborty, Sounak Majumdar, Tiyasa Barman, Poulomi Das, Riya Pahan, Tiyas Ghosh," IoT Based Saplings Protection System against Unsuitable Natural Climate", published in *International Journal for Research in Applied Science & Engineering Technology (IJRASET)*, ISSN: 2321-9653,Vol-X, Issue-V, May-2022, DOI: 10.22214/ijraset.2022.43526, Impact factor-7.538.
- Sourish Mitra, Subhaditya Banerji , Reshmi Das, Sayan Sarkar, Pallabi Das, Bidyutmala Saha, Rafiqul Islam , Rupak Chakraborty" Virtual Reality (VR) and Augmented Reality (AR) Based 360 Degree Panoramic Environment Generator for Virtual Tour", published in *International Journal for Research in Applied Science & Engineering Technology (IJRASET)*, ISSN: 2321-9653,Vol-X, Issue-V, May-2022, DOI: <https://doi.org/10.22214/ijraset.2022.43632>, Impact factor-7.538.
- Prithviraj Biswas, Rohan Chakraborty, Tathagata Mallik, Rohan Chakraborty, Sk Imran Uddin, Shreya Saha, Pallabi Das, Sourish Mitra, " Flight Price Prediction: A Case Study", published in *International Journal for Research in Applied Science & Engineering Technology (IJRASET)*, ISSN: 2321-9653,Vol-X, Issue-V, June-2022, DOI: <https://doi.org/10.22214/ijraset.2022.43666>, Impact factor-7.538.

- Amlan Dutta, Abhijit Pal, Mriganka Bhadra, Md. Akram Khan, Rupak Chakraborty, Sourish Mitra, Rafiqul Islam, Nirupam Saha, "Object Detection Technique using a fast R-CNN based Technique", published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, June-2022, DOI: <https://doi.org/10.22214/ijraset.2022.44112>, Impact factor-7.538.
- Neela Chattyopadhyay, Hrittika Maity, Bipsa Debnath, Debanjana Ghosh, Rupak Chakraborty, Sourish Mitra, Rafiqul Islam, Nirupam Saha, "Classification of MNIST Image Dataset Using Improved Convolutional Neural Network", published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, June-2022, DOI: <https://doi.org/10.22214/ijraset.2022.44111>, Impact factor-7.538.
- Moloy Dhar, Paromita Saha, Nirupam Saha, Sourish Mitra, Bidyutmala Saha, Pallabi Das, Rafiqul Islam, Sutapa Sarkar, "Object Detection using Deep Learning Approach", published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, June-2022, Impact factor-7.538.
- Arindam Dutta, Ekta Sardar, Sarbani Dutta, Sushmita Saha, Rupak Chakraborty, Moloy Dhar, Sourish Mitra, Biswajit ChakiChoudhury, "Identification of Cancerous Cell from Noisy Images", published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, June-2022, Impact factor-7.538.

b. Conferences:

- Rupak Chakraborty, Sourish Mitra, Rafiqul Islam, Nirupam Saha, Bidyutmala Saha, "An Improved Differential Evolution Scheme for Multilevel Image Thresholding Aided with Fuzzy Entropy", Proceedings of International Conference on Innovations in Software Architecture and Computational Systems, Springer, October 12, 2021 (SCOPUS Indexed).
- Sayani Chandra, Sangeeta Bhattacharya, and Srabani Kundu, "Suicide Ideation Detection in Online Social Networks: A Comparative Review", Proceedings of International Conference on Innovations in Software Architecture and Computational Systems, Springer, October 12, 2021 (SCOPUS Indexed).
- Amrut Ranjan Jena, Santanu Kr. Sen, "A Framework for Predicting Placement of a Graduate using Machine Learning Techniques", Proceedings of International Conference on Innovations in Software Architecture and Computational Systems, Springer, October 12, 2021 (SCOPUS Indexed).
- Sudeep Ghosh, Mandira Banik, Tridib Chakraborty, Chowdhury Md. Mizan, Trishita Ghosh, and Soumyadipta Basu "Repairing TSVs for 3D ICs Using Redundant TSV", In Proceedings of International Conference on Industrial Instrumentation and Control ICI2C 2021, Lecture Notes in Electrical Engineering (LNEE, volume 815), Springer, ISBN: 978-981-16-7011-4.
- Moloy Dhar, "A Video based Uncertainty Technique for Human Action Recognition - A Deep Learning Approach", 3rd International Conference of Communication, Devices and Computing (ICCDC 2021), Springer, (SCOPUS Indexed).
- Pallabi Das, "Agile Methodology vs. Traditional Waterfall SDLC: A Case Study on Quali-

ty Assurance Process in Software Industry”, 2021 5th International Conference on Electronics, Materials Engineering & Nano-Technology (IEMENTech).

- Mandira Banik, S. Ghosh, Amrut Ranjan Jena, Chakraborty, T., Ghosh, T. and Gupta, A., 2022. Approximate computing: Error Tolerant Adder. In Applications of Networks, Sensors and Autonomous Systems Analytics (pp. 113-123). Springer, Singapore.
- Rupak Chakraborty, Ashesh Roy Choudhuri, Barnali Guha Thakurata, Bipsa Debnath, Debanjana Ghosh, Hrittika Maity, Neela Chattopadhyay, “MNIST Image Classification using Convolutional Neural Networks”, International Conference on Modeling, Simulation and Optimization (CoMSO 2021), Springer, NIT Silchar, December 116-18, 2021.
- Rupak Chakraborty, Amlan Dutta, Abhijit Pal, Ahmad Atik, Mriganka Bhadra, Md Akram Khan, “Detection of Objects using a Fast R-CNN based Approach”, International Conference on Modeling, Simulation and Optimization (CoMSO 2021), Springer, NIT Silchar, December 16-18, 2021.

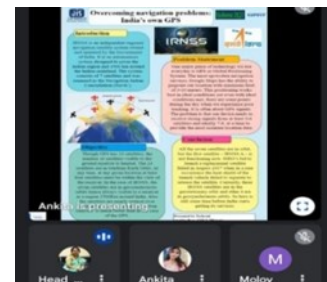
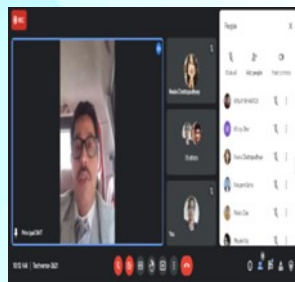
c. Patents:

- Dr. Suman Bhattacharya, Dr. Mahamuda Saltuna, and Dr. Amrut Ranjan Jena have submitted a patent for Automatic Bengal Tiger Detection and Identification Using Deep CNN.
- Dr. Suman Bhattacharya, Dr. Mahamuda Saltuna, and Mr. Sourish Mitra submitted a patent for a system for detecting and responding to accidents (Go Safe).
- Mr. Sourish Mitra filed an IoT-based Solar-Powered Multipurpose Vehicle for Dew Soaking, Moisture Drying, and Pitch Covering Techniques on Cricket Grounds.
- Ms. Mandira Banik filed this patent of Petri Net-Based Cargo Ship Navigation and Traffic Control System.
- Mr. Nirupam Saha, Mr. Moloy Dhar, Dr. Rupak Chakraborty, Mr. Rafiqul Islam, and Mrs. Pallabi Das filed a patent, titled "Performance optimization of the Internet of Robotic Arm (IORA) operated remotely using a Deep Learning Approach for socially challenged individuals."
- Dr. Rupak Chakraborty and Dr. Sangeeta Bhattacharya submitted a patent for a Deep Learning-based Automated Agricultural Crop Disease Identification and Resolution Model Assisted by IoT.
- Dr. Amrut Ranjan Jena filed a patent for an Anti-Puncture System for a Lightweight Motor Vehicle.
- Mr. Moloy Dhar and Ms. Bidyutmal Saha filed a patent for an Ecobasket powered by a Solar cell.
- Mr. Moloy Dhar filed a patent for Fuzzy Logic-Based Development of an Obstacle-Avoiding Autonomous Robot.

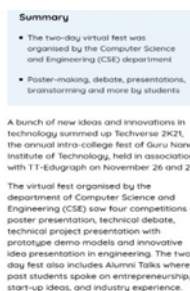
Departmental events (for e.g., Industry visit, Industry mentor meet, BOS meeting pic, seminar, conference work, PTM, sports, wall magazine, newsletter and other)

a. Techverse 2k21

The Department of Computer Science and Engineering hosted the annual techfest "Techverse 2k21" on 26th and 27th November, collaborating with TT Edugraph. The Convenors and Co-Convenors of Techverse 2k21 are Dr. Sangeeta Bhattacharya, Mr. Sourish Mitra, and Dr. Rupak Chakraborty. There are four occasions of 150 students' participation. The following events emerge Technical Project Presentation, Technical Poster Presentation, Technical Debate, and Presentation of an Innovative Idea. Mr. Prasenjit Chakraborty, a 2005-2009 CSE graduate, currently employed as a data scientist at Hoonar Tekwurks, conducted an Alumni Interaction. The whole event was successfully anchored by Neela Chattopadhyay (B.Tech, CSE, 4th-year student). The report of Techverse 2k21 was published in The Telegraph Edugraph on 4, December'21. Some glimpses of the event are attached herewith.



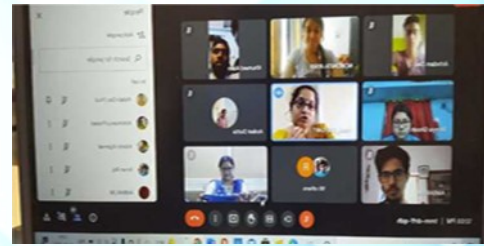
a.
b.
c.
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h.



b. Know your Department for 1st Year B. Tech students

Computer Science and Engineering @ GNIT had organized the "Know Your Department" for 1st year B.Tech. students of CSE Dept. as a part of Student SIP 2021 on 25th October 2021. Dr. Sangeeta Bhattacharya, HOD@CSE started the session by giving the Welcome Address and continued it with the brief introduction of the CSE Department. The presentation included the mission and vision of the department, relevant information regarding placement, MAR marks, internships, MOOCs courses, the scope of higher study, research work, extra-curricular and co-curricular activities of the present 2nd, 3rd, and 4th-year students of the department. Final year students Rohan Chakraborty, Nabonita Ayan, Amlan Dutta, and Prithiraj

Biswas were also a part of the program. A Virtual Department Visit and Feedback Session by Alumni (2021 pass out batch) was also arranged for the newcomer to better understand the reputation, scope, and prospects of CSE.



c. International Conference ISACS 2022

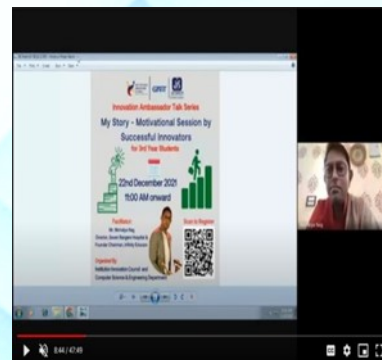
Second International Conference on Innovations in Software Architecture and Computational Systems (ISACS 2022), technically sponsored by AIP Publishing, USA, was organized by The Department of Computer Science and Engineering during 21 - 22 July, 2022 under the leadership of Dr. Santanu Kumar Sen, Principal, GNIT; Dr. Amrut Ranjan Jena and Dr. Sangeeta Bhattacharya, Convener, ISACS 2022, Ms. Srabani Kundu (Co-Convener) and the entire organizing committee of ISACS 2022. The inauguration witnessed the gracious presence of the Chief Guest Prof. Amlan Chakrabarti, University of Calcutta, India and Guest of Honour Dr. Sheng-Lung-Peng, NTUB, Taiwan as the Keynote Speakers. For the 2nd day of the International conference, Keynote Speakers were Prof. Sudip Misra, IIT-KGP, India and Prof. D. P. Acharjya, VIT -Vellore, India. 4 Parallel Tracks on Intelligent and hybrid system, Intelligent software architecture, Machine learning and analysis, and Sensors and smart applications encompassed the Oral Presentations. The session chairs for Day 1 were Dr. Satyanarayana Vollala, IIIT Naya Raipur and Dr. Sandip Mall, VIT, Bhopal while for Day 2, Dr. S. Jaya Nirmala, NIT, Tiruchirappalli and Dr. Bunil Kumar Balabantaray, NIT Meghalaya graced as Session chairs. Researchers from different academic intuitions and Research organizations across the country presented their research papers in this conference which have been highly appreciated by the respective session chairs. Researchers from different academic intuitions and Research organizations across the country presented their research papers in this conference which have been highly appreciated by the respective session chairs.



d. Webinars organized

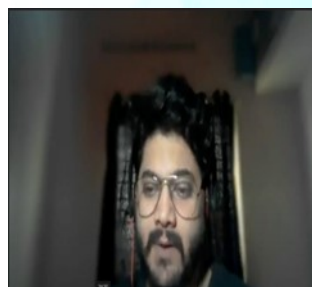
- Mr. Arijit Hajra, Chief Executive Officer of Think Again Lab, hosted a Webinar on Entrepreneurship on 19.06.2021 with 104 attendees. The webinar was organized by the Department of Computer Science and Engineering at GNIT.
- On 25.06.2021, Dr. Rupak Chakraborty and Mr. Moloy Dhar, Assistant Professor of CSE, GNIT, gave a Webinar on Image Processing and hands-on with Matlab with 108 attendees. The webinar was organized by the Department of Computer Science and Engineering at GNIT.
- One day webinar on 'Analysis of Product Quality- Role of an Engineer' was organized by the dept. Of CSE under IE chapter on 19th February, 2022 for the students of 3rd year CSE. Mr. Abhirup Sinha, analyst, Tata consultancy Services hosted the session.
- Ms. Mousita Dhar, Corporate Trainer and Data Analyst at Techtree Technologies, recently hosted a webinar. On 07.08.2021, 145 individuals attended the project's implementation utilizing Machine Learning and related technologies. The webinar was organized by the Department of Computer Science and Engineering at GNIT.
- On 28.08.2021, Ms. Pallabi Saha, Trainer, Ardent Computech Pvt. Ltd., gave a webinar on Managing Software Development with Android Applications, which drew 138 attendees. The webinar was organized by the Department of Computer Science and Engineering at GNIT.
- Mr. Deepayan Pal, Senior Software Developer and Founder of Sikharty Infotech Pvt. Ltd. gave a talk on Python Web Development for 132 participants on 18.09.2021 at the Department of Computer Science and Engineering, GNIT.
- Mr. Archit Verma, Senior Trainer, Aspirevision Tech Education Pvt. Ltd., gave a webinar on Machine Learning for 125 participants on 13.11.2021 at the Department of Computer Science and Engineering, GNIT.
- Department of Computer Science and Engineering, @ GNIT, in collaboration with Institutional IIC Cell, organized a session on 'My Story - Motivational Session by Successful Innovators', on 22nd December, 2021, as part of Innovation Ambassador Talk Series. Mr Nirmalya Nag, Director at Seven Rangers Hospital and Founder Chairman of Infinity at Infinity Educare, also spearheads the digital arm Medcycloepdia, an AI-driven App that offers expert counseling and medical admission in the best colleges in India and abroad motivated the students and shared invaluable words about the journey of life. More than 78 participants, including faculties, JTAs, and students of the college, attended the interactive session.





e. Alumni interaction by the Department:

- Mr. Sayantan Saha, Founder & CEO, Medera Global Entrepreneurship, gave a workshop for alumni interaction on 19.06.2021 for 98 participants at the Dept. of CSE, GNIT.
- Mr. Vikram Kumar, Chief Technical Officer (CTO) and Director at Sama, a company recognized by the Ministry of Law and Justice of the Government of India and Mr. Vishal Srivastava, Emerging Technology and Intelligent Automation Consultant at EY conducted an Alumni Interaction workshop on "The Missing Link to Your Dream Internship" for 96 participants on 26.06.2021 at the Dept. of CSE, GNIT.
- Both persons conducted an Alumni Interaction workshop on "Learn How to Code for Today & Tomorrow" for 90 participants on 03.07.2021 at the Dept. of CSE, GNIT.
- Mr. Abhisek Choudhary, Project Manager, TCS, interacted with alumni at the 1st year Induction Program for 180 participants on 13.11.2021 at the GNIT Department of CSE and IT.



f. MOU:

- CSE Department has signed MoU with "Sikharthy Infotech Pvt. Ltd." on 5th October, 2021 at the institute. Mr. Deepayan Pal, Founder and Director-Sikharthy Infotech Pvt.Ltd. acted as the signatory for the firm.

g. Industry Visit:

- Department of Computer Science and Engineering, @ GNIT organized a one-day Industry Visit to Ardent Computech Pvt. Ltd., GP Block, Sector V, Bidhannagar, Kolkata, on 10th June, 2022 for the students of CSE, 2nd year and 3rd year.



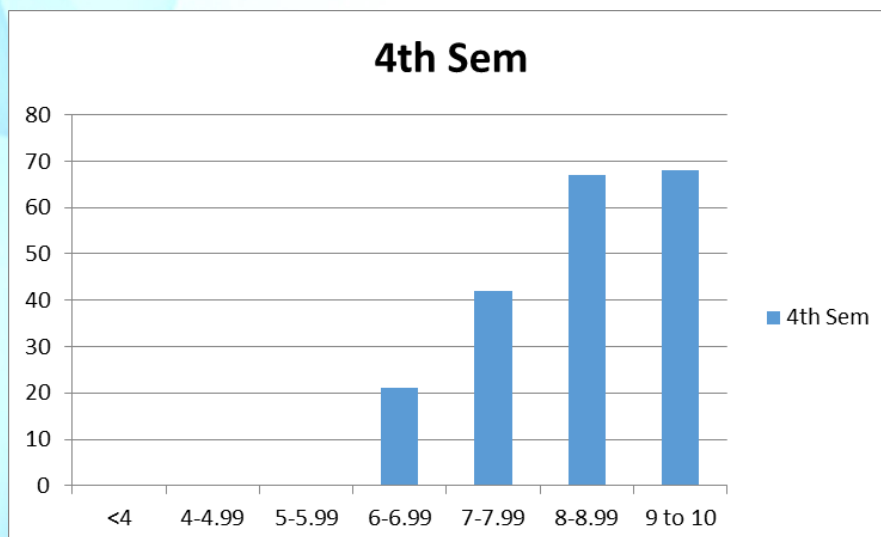
h. Industry Mentor Meet:

- Mr. Subhadip Chakraborty, Senior Associate, CTS, hosted an industry mentor meet for 1st year CSE and IT students on Cognizant Technology Solutions on 13.11.2021.
- On 15.05.2021, from 3:00 to 4:00 p.m., Mr. Indranil Das, Technical Analyst, Webskitters Technology Solutions Pvt. Ltd., organized a Virtual Industrial Visit at Webskitters Technology Solutions Pvt. Ltd.
- On 15.05.2021, from 4:00 to 5:00 p.m., Mr. Sayan Karmakar, Technical Analyst, Webskitters Technology Solutions Pvt. Ltd., organized a Virtual Industrial Visit at Webskitters Technology Solutions Pvt. Ltd.

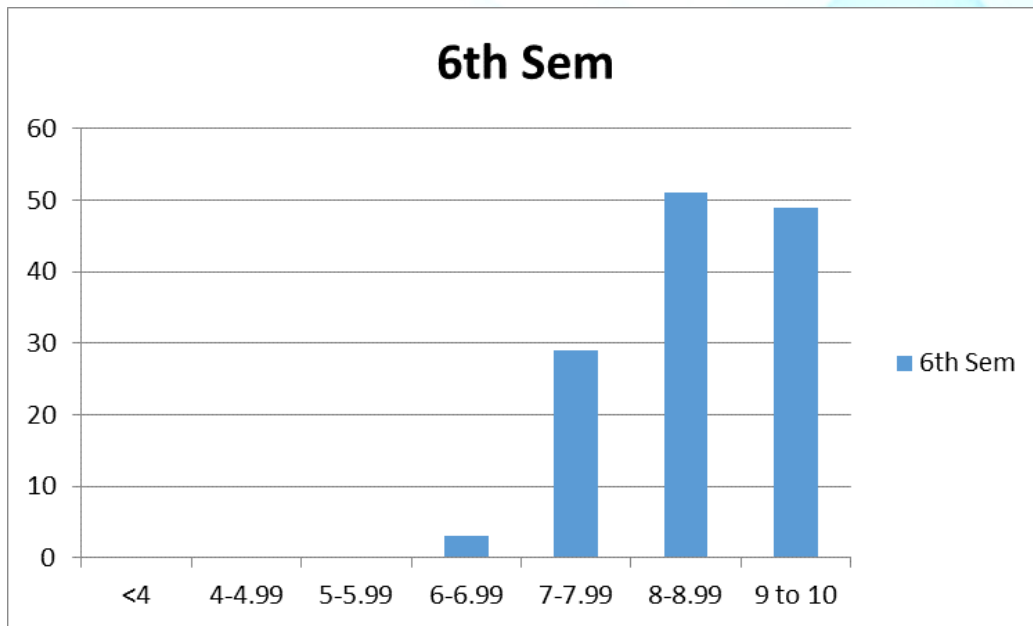
Result (Bar chart):

Result Analysis A.Y. 2021-22 – EVEN SEM:

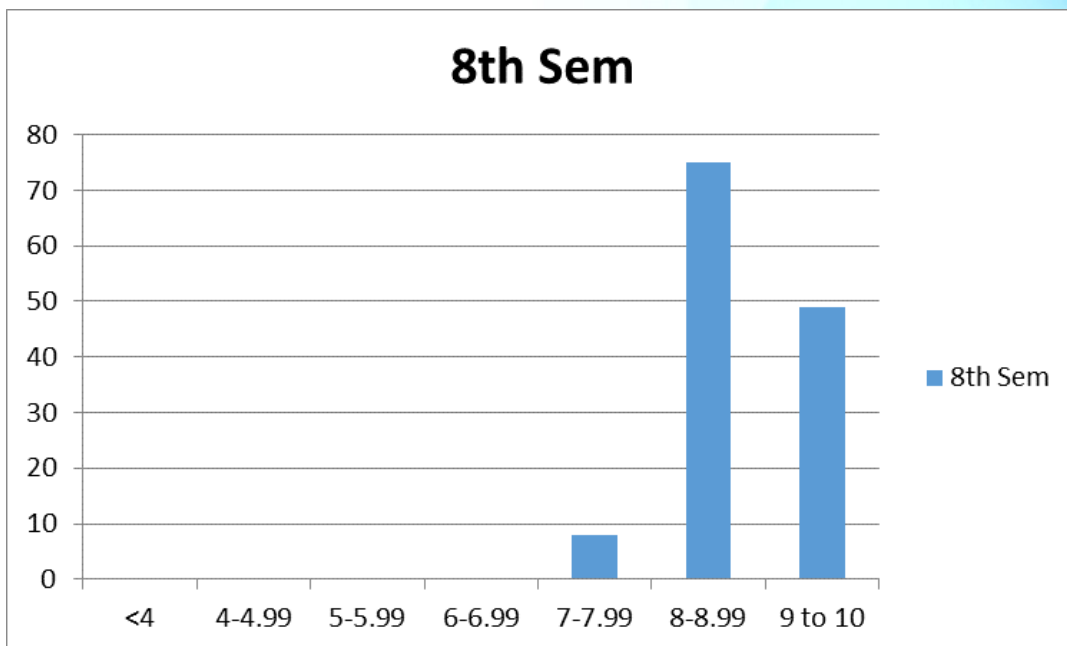
4th Sem:



6th SEM:

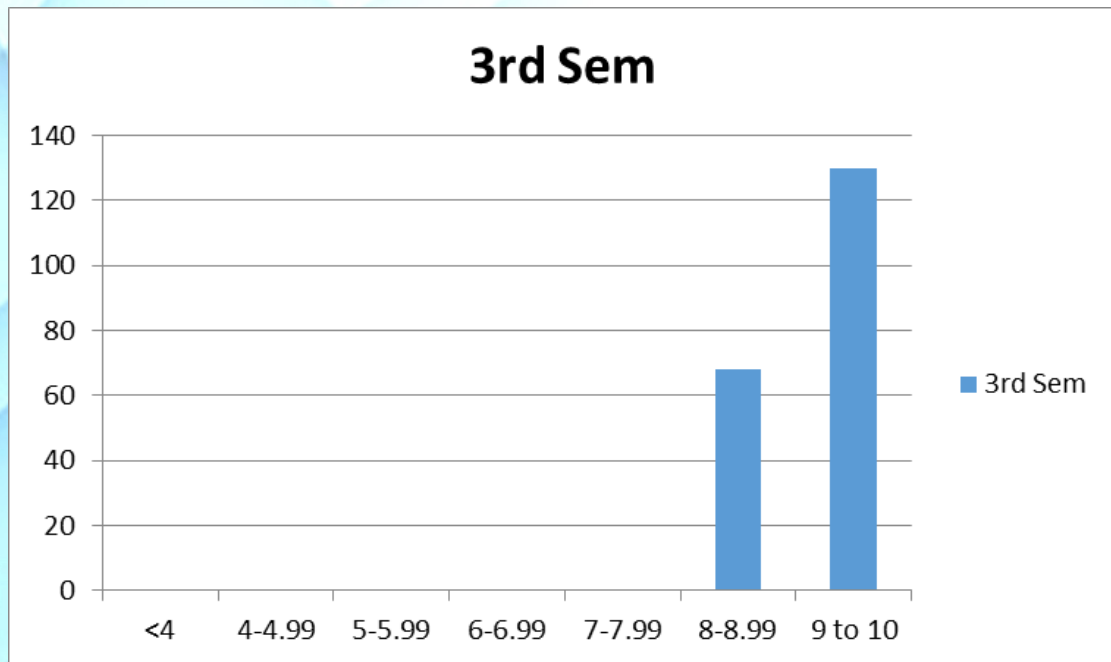


8th SEM:

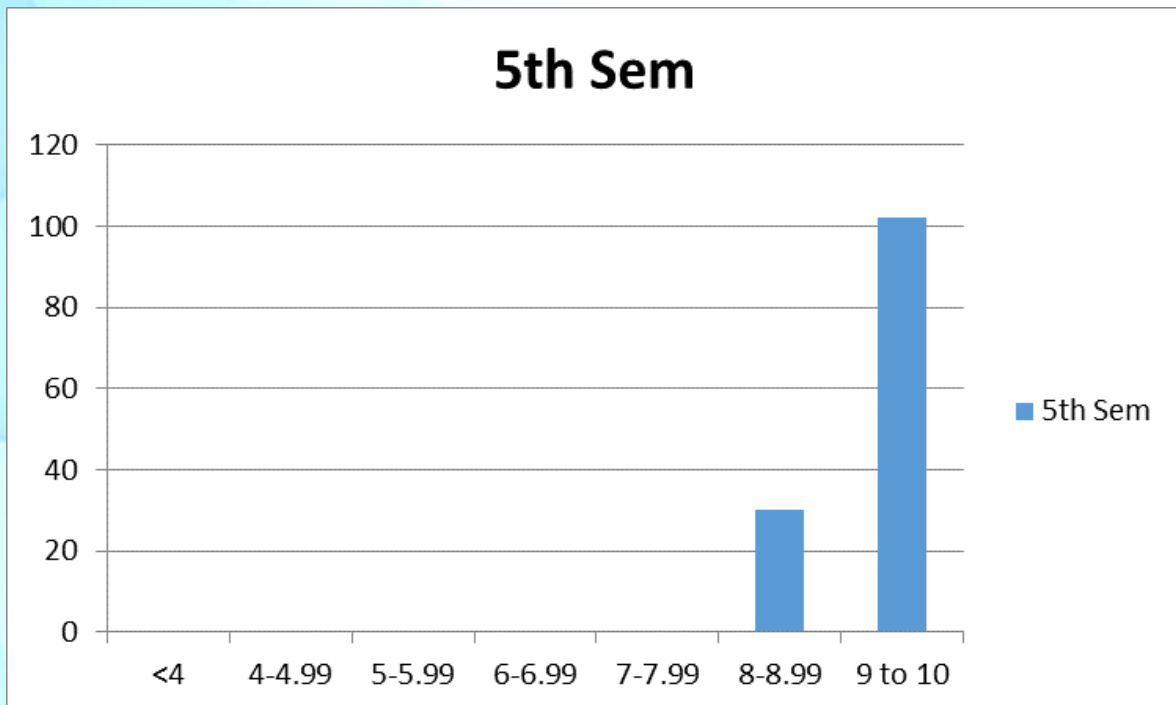


Result Analysis A.Y. 2021-22 - ODD SEM:

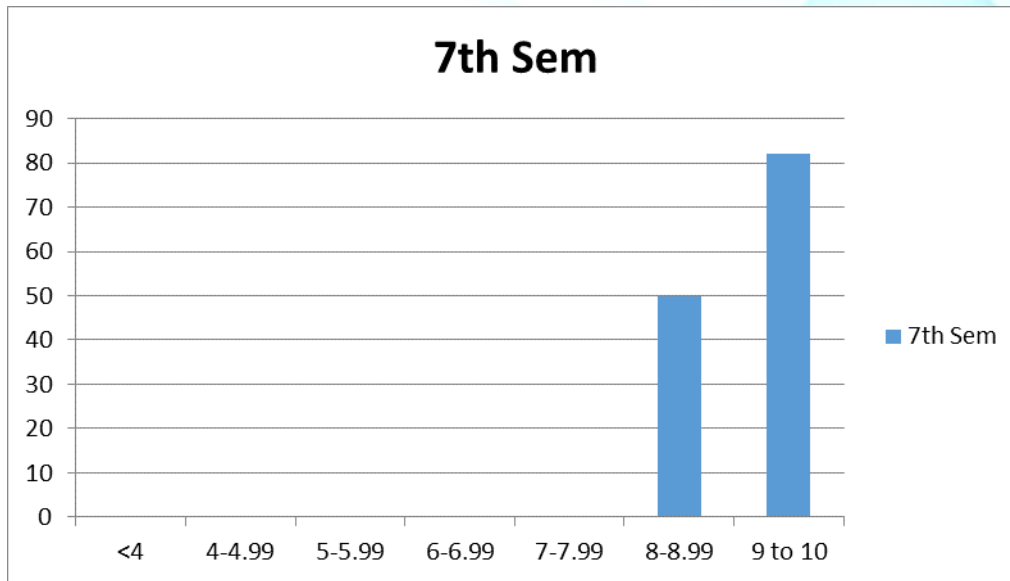
3rd SEM:



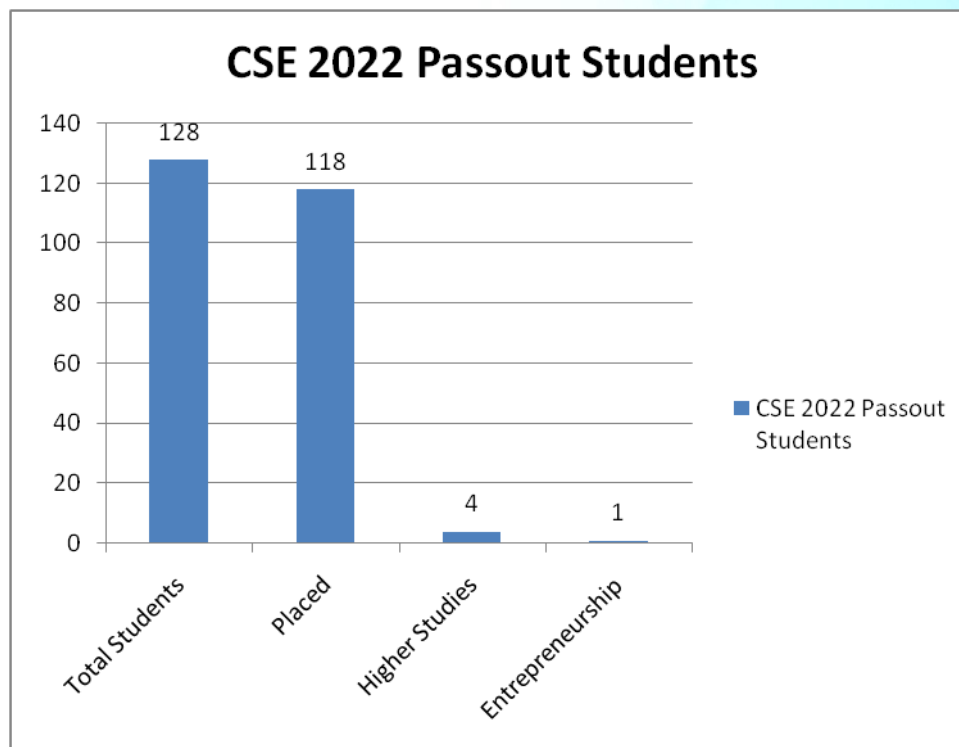
5th SEM:



7th SEM:



Placement and higher studies (Bar chart):



GURU NANAK INSTITUTE OF TECHNOLOGY

Department
of
Electronics & Communication
Engineering

ANNUAL REPORT

2021-22

Name of the Department: Electronics and Communication Engineering

Vision of the department

To impart quality education and excel in research to create centre of excellence in the field of Electronics & Communication Engineering to produce outstanding professionals to become future leaders and responsible citizens.

Mission of the department

DM1: To impart high quality education with innovative teaching-learning methodologies

DM2: To impart knowledge on innovative field of engineering and provide opportunity to work in a team on interdisciplinary projects for empowering ability to become successful professionals

DM3: To carry out high quality research through collaboration and interaction with research organizations and industries

DM4: To motivate to follow professional ethics and encourage to work for the sustainable growth of the society

PEO

PEO I: To build up the concept of core electronics subjects with a strong foundation in the engineering

fundamentals to solve, analyze and design the real-life engineering problems.

PEO II: To impart training on emerging technologies and provide opportunity to work in a team on interdisciplinary projects to inculcate leadership quality

PEO III: To foster interdisciplinary learning environment to succeed in their profession, higher

education, research and entrepreneurial development .

PEO IV: To imbibe ethical attitude and life-long learning capability

Program Outcomes

- * **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- * **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- * **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- * **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- * **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- * **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- * **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

- * **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- * **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- * **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- * **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- * **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcomes (PSOs)

PSO 1: To acquire deep analytical knowledge of Electronics and Communication Engineering to meet requirements of global consumers in Devices and communication

sector and contribute to the society through govt. and Non Govt. Sectors.

PSO 2: To develop integrated systems in the field of Electronics and Communication by

applying modern tools and skills to meet the challenges in Industry.

PSO 3: To apply innovation in the field of communication for designing IoT based systems along with AI and ML

Brief overview of the department

The Electronics and Communications Department commenced in the year 2003 and now runs one undergraduate, one postgraduate program (M. Tech in Mobile Communication & Network Technology) and Ph. D. program under JIS University/MAKAUT. The programs offered by the department are the most sought after branch in Engineering by top WBJEE rank holders and other aspirants from across the country. All the programs are accredited by NAAC the undergraduate program is accredited by National Board of Accreditation (NBA) which is compulsorily outcome based, planned to meet the Industry needs and also Research organization. The program contents are upgraded on annual basis with involvement from industry experts, academia and reputed research institutions.

Experienced faculty members all of whom are engineering postgraduates and most of them with PhDs as well, support three core specializations (VLSI &

Microelectronics, Communication, Image processing & Embedded system) in the Department. The curriculum includes a strong self-study component and mini projects at all levels so as to develop the students' independent analytical abilities. Opportunity for innovation and incubation is provided at this stage to successful projects by the institute for industrial standards. The department offers financial support to its young faculty for cutting edge research and also encourages them to undertake sponsored research from industry and government agencies. Presently several projects sponsored by UGC, AICTE are under way in the department. Also, department provides healthy environment to students and faculties to carry out inter department collaborative research in area like robotics, human computer interface, SMART sensor etc. Software Simulation environment (MATLAB, Ansoft HFSS, ORIGIN Tanner EDA Tools, FPGA, Intellisuite, COMSOL, VISSIM etc.) and state of the art are available.

Having undergone such a robust academic program under the supervision of highest quality faculty members, all passing out students of the department are capable of envisage, planning and developing big projects of commercial and research interests in their respective field of expertise.

We strive to train and empower our students who will make the world a better place by using power of engineering principles, techniques and systems.

Welcome to our Department!

HOD's message

Dr. Sunipa Roy - Being the HOD of Electronics and Communication Engineering department, I am pleased to convey my opinion about the departmental development which offers four years full time B-TECH program in ECE since 2003. The course is accredited by NBA. The average passing result is excellent in the department. Almost 10-15% students scored above 9 DGPA. Apart from this we are running P.G. Programs, M-TECH in Electronics & Communication Engineering (MCNT) since 2009. The department of ECE offers premier professional technical training that keeps in pace with the latest developments in the field of Electronics and Communication Engineering. We have excellent infrastructure, highly experienced faculties and professionals, associated with research work which collectively ensure dynamic and vibrant environment in the campus. Some of the Faculty members of this department went to attend International Conferences in abroad. The department organized so many International & National Educational Programs (i.e. IEEE sponsored Seminars, international conference- published in IEEE Xplore Digital Library, Faculty Development Programs and one day educational Industrial visit). There are so many events like Paper presentation, Poster presentation, Technical Quiz contest, Technical Report writing Contest & Technical Workshop. There are more than 100 publications are done by the faculty & students in National & International Journals & Conferences. Furthermore six UGC projects, one MODROB are completed in last few years with consultancy. Many of our Alumni are settled in abroad and also many of the students are placed in so many reputed Govt sectors and Private Sectors Company and Research Organizations. There is also separate Departmental Library in the ECE department. There are so many high valued simulation software are present in our department like Tanner SPICE, Mentor Graphics, Matlab 2014b, TCAD, HFSS, Qualnet, COMSOL Multiphysics, Intellisuite, TMS Kit with Code Coposer Studio etc. We have also Project lab in our department.

Dr. Sunipa Roy

HOD, ECE Department

Departmental achievements

Student's achievements:

- * Pritam Maity, Smita Kundu, Abhirup Bhowmick, Safflaya porel successfully published a conference (national) paper dated 30/10/2021.
- * Hrithika Saha, Pritam Maity, Ayantika Goswami successfully published a conference (international) paper dated 28/10/2021.
- * Suchandra Roy, Shweta Roy, Indranil Dey Sarkar, Rajorsi Chatterjee, Swarna Kamal Pal, Adrija Sengupta successfully published a journal (international) paper July, 2021.
- * Piyal Bose, Arko Saha, Aritra Ghosal, Arjyama Seal, Bikram Paul successfully published a conference (national) paper dated 30/10/2021.
- * Koena Das, Sneha Samanta, Nitesh Kumar, Sayan Kundu successfully published a conference (national) paper dated 30/10/2021.
- * Chandrima Banerjee, SmitaKundu, Sumana Saha successfully published a conference (national) paper dated 30/10/2021.
- * Ahmed Reza, Chandrima Banerjee, Debasish Saha successfully published a conference (national) paper dated 30/10/2021.
- * Swarnava Saha, Saayan Ghorui, Mainak Paul, Debasish Saha successfully published a conference (national) paper dated 30/10/2021.
- * Debashree Ghosh participated in logo design competition organized by IIM Bangalore, to design a logo for world water week, dated 21/08/2021.
- * Debashree Ghosh participated in Capture the flag competition organized by IIM Calcutta, to Find solutions to puzzles, dated 16/07/2021.
- * Debashree Ghosh participated in Fast forward competition organized by IIM Bangalore, to virtual trading from 2.07.2021 to 6.07.2021.
- * Jeet Mukherjee participated in Poetry competition organized by Berongin Kolam
- * Sayan Singh, Trinika Das participated in logo design competition organized by WEB-BEE week, dated 19/08/2021.
- * Sayan Singh participated in TEAMPLATES DESIGN competition organized by WEB-BEE week, dated 11/08/2021.
- * Neel Sarkar participated in Prodigy The Case Competition and became winner ,organized by IIM Bangalore, dated 15/08/2021.
- * Pranay Dutta participated in Food Envision GNIT LENSATION (Photography) competition, organized by FT department (GNIT), dated 10/09/2021.
- * Pranay Dutta completed online training Introduction to Digital Journalism organized by REUTERS, dated 22/07/2021.
- * Sayak Paul participated in photography Competition and recurred 3rd position, organized by IIM Bangalore, dated 01/09/2021.
- * Piyal Bose and Smita Kundu organized virtual Teachers day event in GNIT dated 05.09.2021.
- * Atrayee Gayen organized KIDEMÓNAS 2021, teachers' day of ECE (GNIT) department.
- * Smita Kundu successfully completed Internship at NIIT, from May '21 to Oct '21.
- * Smita Kundu became Member of Rotaract club (North sub urban) science August '21 (social work).
- * Sayantani Das successfully Published a paper on Publication of research article - "TechDoc - System for queue management of pharmacies and online consultation of doctors" ,organized by International Journal for Modern Trends in Science and Technology, June 2021 and international conference of electronics, material engineering and Nano-technology, organized by Institute of Engineering and Management, September 2021
- * Sayantani Das successfully completed Python course organized by Coursera - University of Michigan, September 2021
- * Sayantani Das successfully completed Machine learning Course by Coursera, September 2021
- * Sayantani Das, successfully Published a Paper in IE(I) Conclave, organized by Student's chapter of Institute of Engineers, October 2021.
- * Sayantani Das received Kriti Award for academic performance, October 2021.

- * Souvik Mondal received Kriti Award, October 2021 for publishing paper in SCOPUS indexed IEEE supported 5th International Conference of Electronics, Material Engineering and Nano-technology 2021.
- * Souvik Mondal, successfully published a Paper in Paper, September 2021, organized by Institute of Engineering and Management on International Conference of Electronics, Material Engineering and Nano-technology.
- * Shirsendu Banerjee received Kriti Award for academic performance, October 2021.
- * Atrayee Gayen successfully completed Industrial Training from Reunited Tech Solutions, July-August, 2021, organized by Reunited Tech Solutions.
- * Sumedha Bhattacharya, Sandesh Raj, Rahul Jha successfully completed Tech track internship organized by Highradius.
- * Sudipta Roy successfully completed Data Structures course organized by Coursera, dated 5/1/2022.
- * Sukanya Roy successfully completed Data Structures course organized by Coursera, July 2022.
- * Kaushik Shee successfully completed Data Structures course organized by Coursera, July 2022.
- * Soumyadeep Ghosh successfully completed Digital System from logic gates to Processor, organized by Coursera—Universitat Autònoma de Barcelona, May 2022.
- * Nandini Kumari Singh successfully completed Digital System from logic gates to Processor course, organized by Coursera – Universitat Autònoma de Barcelona, May 2022.
- * Pranav kumar, Sujoy Dutta, Subrata Maity, Mallika Roy, Josita Sengupta, Arpita Saha Biswas successfully completed Digital System from logic gates to Processor course, organized by Coursera—Universitat Autònoma de Barcelona, May 2022.
- * Suniti Kumari Jha successfully completed Programming for Everybody (getting started with python) course, organized by Coursera - University of Pennsylvania, May 2022.
- * Asmita Chakraborty, Romik Halder successfully completed Web Development Internship, March 2022, organized by Verzeo.
- * Atrayee Gayen become Wipro Campus Ambassador to enhance leadership qualities and represent our college.
- * CHIRAG LAL received JIS SAMMAN 2022 for represented GNIT MEDIA at JIS SAMMAN.
- * Asmita Chakraborty, Romik Halder received JIS SAMMAN 2022 for SELECTED IN IDEA-O-METER.
- * Sumedha Bhattacharya received JIS SAMMAN 2022 for Stood 3rd in Sur Sargam.
- * Adars Sonar, Debjitbera, Parna Banerjee, Sanchita Das, Sumana Saha received Kriti Award for academic performance, October 2021.
- * ANISH SHARMA, Abhirup Bhowmick received JIS SAMMAN 2022.
- * Chandrima Banerjee, Sneha Baidya, Piyal Bose, CHIRAG LAL successfully acted as Organizer of Tesseract-Gameology (Co-Event Head) (8 BALL POOL).
- * Suchandra Roy passed IELTS (Band score 6.5) in Feb, 2022.
- * Chandrima Banerjee (2nd yr., ECE2) received the “JIS SAMMAN 2022” for Students with highest no of publication.

Student publication:

International Journal

- **Internet Of Things (IOT) Based Smart Health Monitoring System-** Sougata Karmakar, Susmita Pallob, Subrata Dutta, Sayan Roy Chaudhuri, Suparna Biswas. International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653; IC Value: 45.98; Volume 9 Issue VII July 2021- Available at www.ijraset.com
- **Koushik Pal, Souvik Das, Soumyadeep Sett, Subhojyoti Saha, Soumyadeep Saha, Soumyadeep Roychoudhury “A Novel Face Detection Technique Using Open CV”**, International Journal of Research in Engineering, Science and Management Volume 4, Issue 7, ISSN: 2581-5792, July 2021 page-121-124

- **Koushik Pal, Anjali Kumari, Debabanjana Das, Debarati Roy, Mahuya Maity, Plaban Mal** “A New Type of Solar Energy Measurement System using PIC Controller”, *International Journal for Research in Applied Science & Engineering Technology (IJRASET)* ISSN: 2321-9653; Volume 9 Issue VI July 2021, page-5195-5199
- **Koushik Pal, Poushali Paul, Ankit Kumar, Adrita Roy** “A SELF-ACTIVATING PLAYFUL STEM ROBOT USING RASPBERRY PI”, *International Research Journal of Engineering and Technology (IRJET)* e-ISSN: 2395-0056 Volume: 08 Issue: 08 | Aug 2021, p-ISSN: 2395-0072, page 177-182
- **Suchandra Roy, Shweta Roy, Indranil Dey Sarkar, Rajorsi Chatterjee, Swarna Kamal Pal, Adrija Sengupta** and Surajit Basak, “Design and Implementation of Drone with Jammer” , *International Journal of Engineering Science and Computing (IJESC)*, vol. 11, no. 7, pp. 28391- 28395, July 2021. ISSN: 2321 3361
- **Dipta Pal** and Surajit Basak, “Bit Error Rate (BER) Comparison in AWGN Channel of BFSK and QPSK using Matlab and Simulink”, *International Journal of Innovative Research in Technology (IJIRT)*, vol. 8, Issue 2, pp. 258- 261, July 2021. ISSN: 2349-6002
- **Partha Sarathi Dutta**, Surajit Basak and Kaushik Roy, “Cross-Layer Routing for Outage Minimization in Multi-hop Ad hoc Networks”, *International Journal for Research in Applied Science & Engineering Technology*, vol. 9, Issue VII, July 2021.
- **Avali Banerjee, Shobhandeb Paul, Santanu Saha, Suvasish Paul**, “Analysis of Supervised Machine Learning Techniques for Diagnosis of Disease of Infant Baby”, *International Journal for Modern Trends in Science and Technology (IJMTST)*, Volume 7, Issue 06, 2021. ISSN: 2455-3778. DOI: 10.46501/IJMTST0706002.
- **Avali Banerjee, Deepak Pandey, Mamata Singh, Atrayee Gayen, Kashish Rani, Prafulla Kumar Sahani**, “Ayushi Jaiswal TechDoc - System for Queue Management of Pharmacies and Online Consultation of Doctors”, *International Journal for Modern Trends in Science and Technology (IJMTST)*, Volume 7, Issue 06, 2021. ISSN: 2455-3778. DOI: 10.46501/IJMTST0706006.
- **Avali Banerjee, Swrnika Nath, Rounak Ghosh, Srinjan Majhi, Sudipta Das, Mrinmoy Kar, Sreya Bhattacharya**, “Drone: The Solution to Delivery Problems”, *International Journal for Research in Applied Science & Engineering Technology (IJRASET)*, Volume 9 Issue V May 2021. ISSN: 2321-9653. DOI: 10.22214/ijraset.2021.34696.
- **Shobhandeb Paul, Santanu Saha, Suvasish Paul, Souradeep Kundu, Taniya Mitra**, Avali Banerjee, “Comparative Analysis on Stroke Prediction using various Supervised Machine Learning Techniques”, *International Journal for Research in Applied Science & Engineering Technology (IJRASET)*, Volume 9 Issue V May 2021. ISSN: 2321-9653. DOI: 10.22214/ijraset.2021.34416.
- **Koustab Maity**, Avali Banerjee, “An Application of IoT to revolutionize Agro Sector”, *International Journal for Research in Applied Science & Engineering Technology (IJRASET)*, Volume 10 Issue I January 2022. ISSN: 2321-9653. DOI: 10.22214/ijraset.2022.39709.
- **Avali Banerjee, Deepak Pandey, Mamata Singh, Atrayee Gayen, Kashish Rani, Prafulla Kumar Sahani**, “Our Indian Shop – E-Commerce Website Interconnecting the Farmers, Shopkeepers, Delivery Personnel and Consumers”, *International Journal for Modern Trends in Science and Technology (IJMTST)*, Volume 7, Issue 12, December 2021. ISSN: 2455-3778. DOI:10.46501/IJMTST0712003 .

- **Sourjyadip Sarkar, Sourav Paul, Soumyajit Goswami, Souman Bej, Saikat Ghorai, Avali Banerjee, Suparna Biswas, “A Review on Security of Personal Credentials through Smart Technology using Advanced Digital Signatures”**, International Journal of Technology and Empirical Research (IJTER), Volume 1, Issue 1, September 2021.

National Conference

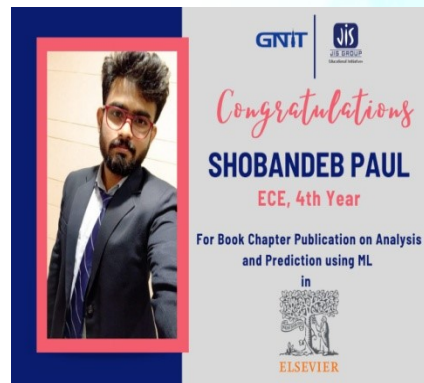
- Avali Banerjee, **Mamata Singh, Deepak Pandey and Kashish Rani, “QuickDoc - Online Doctor Consultation and Queue Management of Pharmacies”**, First Eastern Regional Conclave of Student’s Chapter of The Institution of Engineers (India) in association with All India Student’s Committee at GNIT Kolkata, 29th – 30th October 2021.
- Avali Banerjee, **Shobhandeb Paul, Santanu Saha and Suvasish Paul, “IOT Based Smart Baby Monitoring System”**, First Eastern Regional Conclave of Student’s Chapter of The Institution of Engineers (India) in association with All India Student’s Committee at GNIT Kolkata, 29th – 30th October 2021.
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- Ayantika Goswami, Palasri Dhar, **Hrithika Saha, Sunipa Roy, Sumedha Bhattacharya, Anurima Majumdar, Antara Ghosal, Avali Banerjee, “A Comprehensive Review on High Electron Mobility Transistor (HEMT)”**, First Eastern Regional Conclave of Student’s Chapter of The Institution of Engineers (India) in association with All India Student’s Committee at GNIT Kolkata, 29th – 30th October 2021.

International Conference

- **Koushik Pal, Sayantani Das, Souvik Mondal, Shirsendu Banerjee, “A Novel Agronomical Technology for Polar Region's Cultivation During Winter Dark”**, **5th International Conference on Electronics, Materials Engineering & Nano-Technology**, 24 to 26th September 2021, Kolkata.
- Souman Bej, Sourjyadip Sarkar, Soumyajit Goswami, Sourav Paul, Avali Banerjee, “A Review on Core Infrastructures for Establishment of a Smart City”, **5th International Conference on Electronics, Materials Engineering and Nano-Technology (IEMENTech -2021)**, Institute of Engineering & Management, Kolkata, 24 -26th September 2021.

Saumyadeep Bhattacharya 3rd year ECE

- 1. Developed institutional (GNIT: 143) website as a core committee member.
- 2. GNIT research mantra- initiated start up
- 3. NAAC data uploading during the period.
- 4. TESSARACT official website development
- 5. Developed institutional (GNIT: 311) website as an INDEPENDENT member.



ECE ALUMNI SECURES 10TH RANK IN IES EXAM



Faculty's achievements:

- * Dr. Sunipa Roy Received the “Appreciation Certificates” from JISCE Kalyani, for her valuable contribution in the online review process of IOCER COVID 19 conference.
- * Dr. Sunipa Roy Received the “Appreciation Certificates” from JISCE Kalyani, for conducting the One day workshop on Pedagogy Development and Mapping Techniques organized by IQAC on 01.06.2021.
- * Dr. Sunipa Roy Acted as honorable judge in JISTech2K21, 30th September to 1st October 2021.
- * Dr. Suparna Biswas Acted as honorable judge in JISTech2K21, 30th September to 1st October 2021.
- * Dr. Sunipa Roy Received the “Appreciation Certificates” from EE Dept. of GNIT for her valuable contribution in SAMATVA2K21.
- * **Department of Electronics and Communication Engineering, JIS SAMMAN 2022**
Category: BEST DEPARTMENT
- * Dr. Sunipa Roy Received the “JIS SAMMAN 2022” for Faculty with Best Research Credentials .
- * Ms.Palasri Dhar Received the “JIS SAMMAN 2022” for Faculty with highest no. of Students Publication .
- * Mr. Avijit Deb received the “JIS SAMMAN 2022” for Best Practical Demonstration Video by TA .
- * Mrs. Palasri Dhar Published a text book on Introduction to IT System Theory.

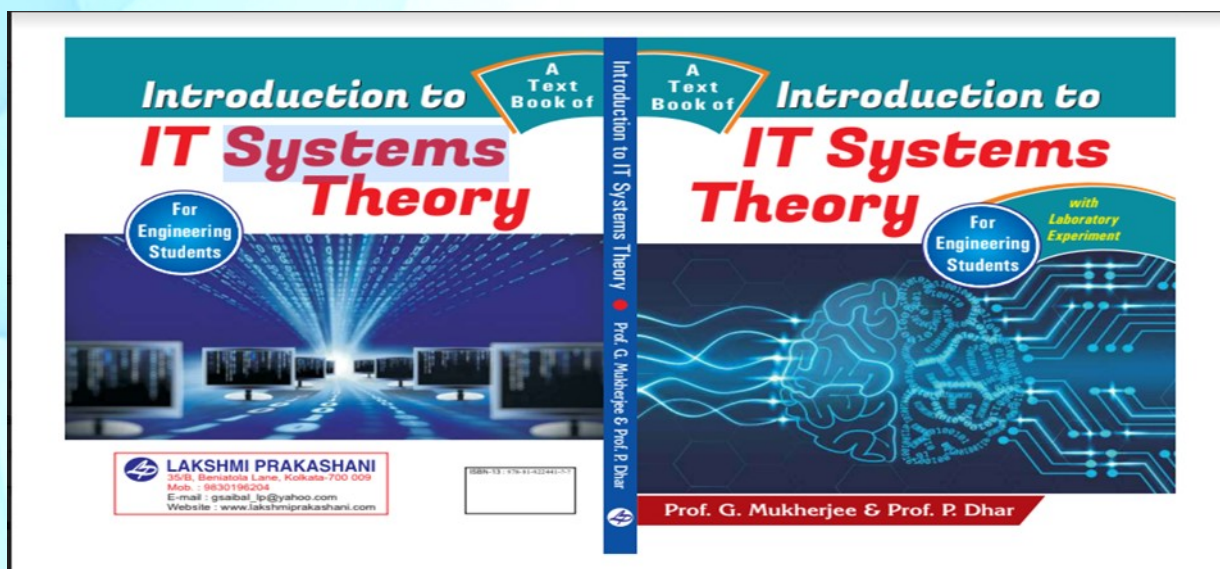
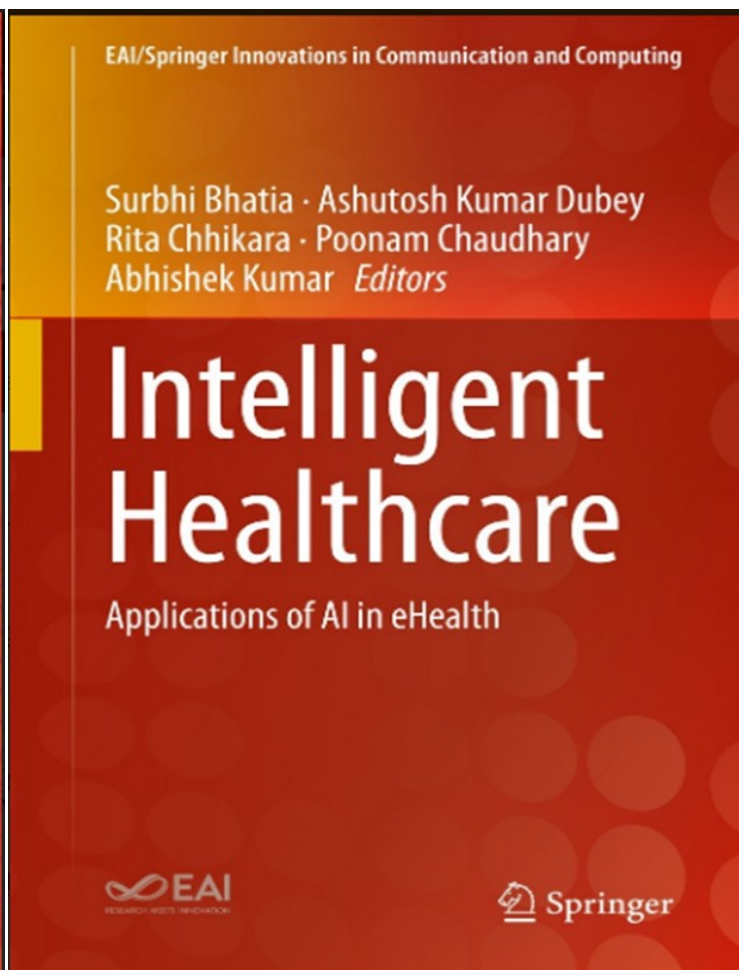
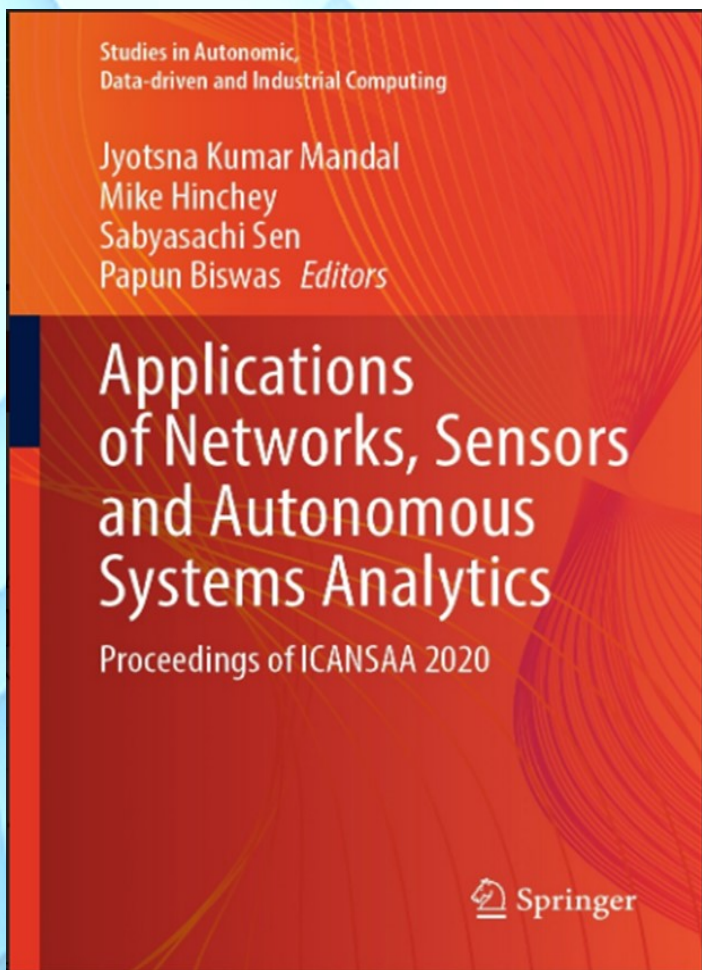
Patent Published:

- * Antara Ghosal, Anurima Majumdar and Dr. Avali Banerjee successfully Published, A novel multi slotted patch antenna for wireless application dated 07/01/2022.
- * Dr. Avali Banerjee successfully Published, Smart traffic law maintenance assistant dated 07/01/2022.
- * Dr. Kaushik Roy & Dr. Soumik Podder successfully Published, Inexpensive Green Production of Nano-silver using Couch Grass dated 07/01/2022.
- * Dr. Soumik Podder, Dr. Surajit Basak, Dr. Kaushik Roy and Dr. Sunipa Roy successfully Published, Polyindole/Polypyrrole Based Electronic Skin Devices dated 07/01/2022.
- * Dr. Suparna Biswas, Palasri Dhar, Swagata Bhattacharya, Mamata Singh, Atrayee Gayen Deepak Pandey successfully Published, ML (Machine Learning)-driven Intelligent Traffic Management System dated 22/01/2022.
- * Dr. Surajit Basak, Dr. Soumik Podder, Jayita Pramanik, Student Poushali Paul, Student Sneha Baidya, Student Tias Ghosh, Student successfully Published, Development of An Obstacle Avoiding Autonomous Robot Implemented by Fuzzy Logic dated 22/01/2022.

- * **PALASRI DHAR, DR. SUNIPA ROY, DR. SUPARNA BISWAS, AYUSHA BISWAS Healthcare,** successfully Published, **Education and governance application and website** dated 22/01/2022.
- * **Sayan Roy Chaudhuri, Moloy Dhar, Sayan Majumder, Sayan Mondal, Satish Singh,** successfully Published, **Development of An Obstacle Avoiding Autonomous Robot Implemented by Fuzzy Logic** dated 22/01/2022.
- * **Swagata Bhattacharya, Dr. Suparna Biswas, Dyuti Nandi, Sayan Majumder, Sayan Bhattacharjee** successfully Published **Sweat Powered Bluetooth Headphone with Neckband** dated 22/01/2022.
- * **1) Anurima majumdar 2) Antara ghosal 3) Prof. (Dr.) Sisir kumar Das 4) Prof. (Dr.) Annapurna das 5) Avali banerjee** successfully Published **A COPLANAR WAVEGUIDE (CPW) FED ANNULAR RING ARRAY ANTENNA WITH HIGH BANDWIDTH FOR WIRELESS COMMUNICATION APPLICATION** dated 11/06/2022.
- * **1) DR. SUNIPA ROY 2) PALASRI DHAR 3) OINDRILA GHATAK 4) DEBOLINA CHATRTERJEE 5) PARAMITA BHOWMICK 6) HRITHIKA SAHA** successfully Published **GREEN POWER GENERATION FOR RURAL DEVELOPMENT** dated 11/06/2022.
- * **1) Dr. Soumik Podder 2) Mr. Tridib Chakraborty 3) Mr. Suman Ghosh** successfully Published **Cosmetics Processing Device** dated 22/04/2022.

Book and Book Chapters published:

- * **Dr. Avali Banerjee** successfully Published “Suicide Ideation Detection in Online Social Networks: A Comparative Review” in the book “Studies in Autonomic, Data-driven and Industrial Computing” publisher “Springer” year 2021.
- * **Dr. Suparna Biswas, Palasri Dhar, Sayan Roy Chaudhuri and Dr. Avali Banerjee** successfully Published “Real-Time Object Detection using YOLO Algorithm” in the book “Frontiers in Engineering, Management and Applied Science” publisher “GNIT” year 2021.
- * **Dr. Sunipa Roy** successfully Published “Real Quartz Crystal Microbalance Sensors in various Engineering Fields: A Review” in the book “Frontiers in Engineering, Management and Applied Science” publisher “ICM” year 2021.
- * **Dr. Surajit Basak** successfully Published “Education Portal: An effective way to implement the digitalized process in Learning” in the book “AICTE Sponsored International Conference on Communication, Computing and Nano-Microwave Technology (CCNMT-2022)” publisher “GNIT” year 2021.
- * **Dr. Surajit Basak** successfully Published “A Deep Study on Silent Sound Technology” in the book “AICTE Sponsored International Conference on Communication, Computing and Nano-Microwave Technology (CCNMT-2022)” publisher “GNIT” year 2021.
- * **Dr. Pijush Kanti Bhattacharjee** successfully Published “A Deep Study on Silent Sound Technology” in the book “Lap Lambert Publisher, Germany” publisher “GNIT” year 2021.





Mr. Koushik Pal , Asst. Prof , ECE was invited speaker on One day webinar on Digital Image processing , organised by Vignan's Institute of Management & Technology for women,Hyderabad , Telengana

Dr. Sunipa Roy acted as Invited Speaker in the International conference at Mahatma Gandhi University, Kerala, 12-14 th February 2021



Coursera Status:

- * Dr. Sunipa Roy successfully completed coursera course on “Data Scientist's Toolbox” and received the certificate.
- * Dr. Kaushik Roy successfully completed coursera course on “Fundamentals of Network Communication” and received the certificate.
- * Dr. Suparna Biswas successfully completed coursera course on “Machine Learning with Python” and received the certificate.
- * Dr. Avali Banerjee successfully completed coursera course on “What is Data Science?” and received the certificate.
- * Dr. SURAJIT BASAK successfully completed coursera course on “Big Data Emerging Technologies” and received the certificate.

- * Palasri Dhar successfully completed coursera course on “Machine Learning with Python” and received the certificate.
- * Anurima Majumdar successfully completed coursera course on “Machine Learning with Python” and received the certificate.
- * SAYAN ROY CHAUDHURI successfully completed coursera course on “Introduction to the Internet of Things and Embedded Systems” and received the certificate.
- * Mr. Koushik Pal successfully completed coursera course on “Fundamentals of Network Communication” and received the certificate.

Faculty publication:

International Journal

- * **Dr. Kaushik Roy, “Smart Dustbin Utility System using IoT”**, International Journal for Research in Applied Science & Engineering Technology, vol. 9 (VIII), pp 2289-2292, Aug, 2021 (UGC approved). DOI: <https://doi.org/10.22214/ijraset.2021.37675>.
- * **Koushik Pal, “A Novel Face Detection Technique Using Open CV”**, International Journal of Research in Engineering, Science and Management Volume 4, Issue 7, ISSN: 2581-5792, July 2021 page-121-124.
- * **Koushik Pal, “Design of DGS Printed Antenna for Surface Ship Radar Applications”**, Turkish Online Journal of Qualitative Inquiry (TOJQI), e-ISSN 1309-6591, Publisher Science Research Society Vol-12, No-7, pp-9842-9849 (SCOPUS Indexed).
- * **Koushik Pal “A New Type of Solar Energy Measurement System using PIC Controller”**, International Journal for Research in Applied Science & Engineering Technology (IJRASET)ISSN: 2321-9653; Volume 9 Issue VI July 2021, page-5195-5199.
- * **Koushik Pal, “A SELF-ACTIVATING PLAYFUL STEM ROBOT USING RASPBERRY PI”**, International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056 Volume: 08 Issue: 08 | Aug 2021, p-ISSN: 2395-0072, page 177-182.
- * **Surajit Basak, “Design and Implementation of Drone with Jammer”**, International Journal of Engineering Science and Computing (IJESC), vol. 11, no. 7, pp. 28391- 28395, July 2021. ISSN: 2321 3361
- * **Surajit Basak, “Bit Error Rate (BER) Comparison in AWGN Channel of BFSK and QPSK using Matlab and Simulink”**, International Journal of Innovative Research in Technology (IJIRT), vol. 8, Issue 2, pp. 258- 261, July 2021. ISSN: 2349-6002.
- * **Surajit Basak and Kaushik Roy, “Cross-Layer Routing for Outage Minimization in Multi-hop Ad hoc Networks”**, International Journal for Research in Applied Science & Engineering Technology, vol. 9, Issue VII, July 2021.
- * **Avali Banerjee et. al. “Analysis of Supervised Machine Learning Techniques for Diagnosis of Disease of Infant Baby”**, International Journal for Modern Trends in Science and Technology (IJMTST), Volume 7, Issue 06, 2021. ISSN: 2455-3778. DOI: 10.46501/IJMTST0706002..
- * **Avali Banerjee et. al. “Ayushi Jaiswal TechDoc - System for Queue Management of Pharmacies and Online Consultation of Doctors”**, International Journal for Modern Trends in Science and Technology (IJMTST), Volume 7, Issue 06, 2021. ISSN: 2455-3778. DOI: 10.46501/IJMTST0706006.
- * **Sunipa Roy, Technological Development of Graphene and Graphene-Nanocomposite-Based Supercapacitor Electrode, Low-Dimensional Nanoelectronic Devices Theoretical Analysis and Cutting-Edge Research**, Book Chapter, Apple academic press ISBN: 9781774638668.29th September 2021.
- * **Sunipa Roy, Sensing Using Memristive Approach, Governing Physics, and Instrumentation Challenges,Low-Dimensional Nanoelectronic Devices Theoretical Analysis and Cutting-Edge Research**, Book Chapter, Apple academic press. ISBN: 9781774638668. 29th September 2021.

- * **Avali Ghosh, Sisir K. Das and Annapurna Das, “Digital Crosstalk between Triple Traces in a Double Layer PCB”, International Journal of Electronics on 06th October 2021 (SCI). DOI: <https://doi.org/10.1080/00207217.2021.1972476>**
- * **Pijush Kanti Bhattacharjee, “Reforms in India Based on Sociological and Realist Schools of Jurisprudence”, International Journal for Legal Research and Analysis (UGC approved), vol. 2, issue 4, pp. 4-11, Nov 2021, ISSN 2582-6433.**
- * **Pijush Kanti Bhattacharjee, “Identification Cause of Earth’s Magnetism”, International Journal of Trend in Scientific Research and Development, vol. 6, issue 3, pp. 438-443, April 2022, ISSN 2456-6470.**
- * **Pijush Kanti Bhattacharjee, “Untold Facts of the Hindu Epic Ramayana”, Indian Journal of Applied Research (UGC approved), vol. 12, issue 05, pp. 23-25, May 2022, ISSN 2249-555X.**
- * **Pijush Kanti Bhattacharjee, Reforms in India Done by Sociological and Realist Jurisprudence, Book, Lambert Academic Publishing, Germany, June 2022, ISBN 9786204977416.**
- * **Soumik Podder, Light Responsive Nanomaterials with Pro-oxidant and Anti-oxidant Activity, Emergent Materials (WoS, SCOPUS), vol. 5, issue 2, pp 455-475, March 2022, ISSN 2522-5731.**
- * **Suparna Biswas, Sayan Roy Chaudhuri, Avali Banerjee, et. al. “Automated Vacant Bed System using Robot Framework to Combat with COVID-19”, in International Journal of Innovative Research in Computer and Communication Engineering(IJIRCC), e-ISSN 2320-9801, Volume 9, Issue 12, December 2021.**
- * **Sayan Roy Chaudhuri, Suparna Biswas et. al. “Internet Of Things (IOT) Based Smart Health Monitoring System”, International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Volume 9 Issue VII July 2021.**
- * **Sayan Roy Chaudhuri, Antara Ghosal, Suparna Biswas et.al. “Trajectory Planning in Robotic”, International Journal of All Research Education and Scientific Methods (IJARESM), ISSN: 2455-6211, Volume 9, Issue 7 July 2021**
- * **Sayan Roy Chaudhuri, Suparna Biswas et. al. “Implementation of Plastic Detecting Garbage Monitoring System using Machine Learning”, International Journal of All Research Education and Scientific Methods (IJARESM), ISSN: 2455-6211, Volume 10, Issue 4, April 2022.**
- * **Koustab Maity, Avali Banerjee, “An Application of IoT to revolutionize Agro Sector”, International Journal for Research in Applied Science & Engineering Technology (IJRASET), Volume 10 Issue I January 2022. ISSN: 2321-9653. DOI: 10.22214/ijraset.2022.39709.**
- * **Avali Banerjee, Deepak Pandey, Mamata Singh, Atrayee Gayen, Kashish Rani, Prafulla Kumar Sahani, “Our Indian Shop – E-Commerce Website Interconnecting the Farmers, Shopkeepers, Delivery Personnel and Consumers”, International Journal for Modern Trends in Science and Technology (IJMTST), Volume 7, Issue 12, December 2021. ISSN: 2455-3778. DOI:10.46501/IJMTST0712003.**
- * **Sourjyadip Sarkar, Sourav Paul, Soumyajit Goswami, Souman Bej, Saikat Ghorai, Avali Banerjee, Suparna Biswas, “A Review on Security of Personal Credentials through Smart Technology using Advanced Digital Signatures”, International Journal of Technology and Empirical Research (IJTER), Volume 1, Issue 1, September 2021.**

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- * **Souman Bej, Sourjyadip Sarkar, Soumyajit Goswami, Sourav Paul, Avali Banerjee, “A Review on Core Infrastructures for Establishment of a Smart City”, 5th International Conference on Electronics, Materials Engineering and Nano-Technology (IEMENTech -2021), Institute of Engineering & Management, Kolkata, 24-26th September 2021.**

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- * **Avali Banerjee, Mamata Singh, Deepak Pandey and Kashish Rani, “QuickDoc - Online Doctor Consultation and Queue**

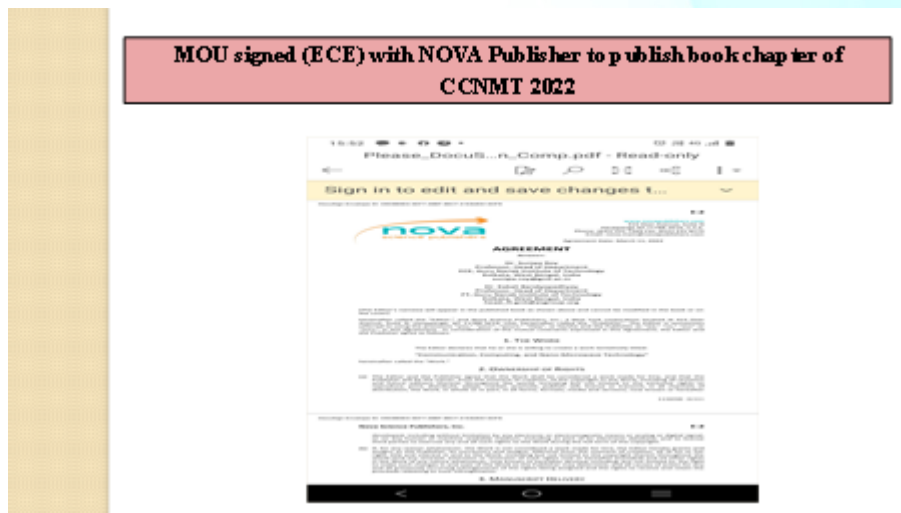
Management of Pharmacies", First Eastern Regional Conclave of Student's Chapter of The Institution of Engineers (India) in association with All India Student's Committee at GNIT Kolkata, 29th – 30th October 2021.

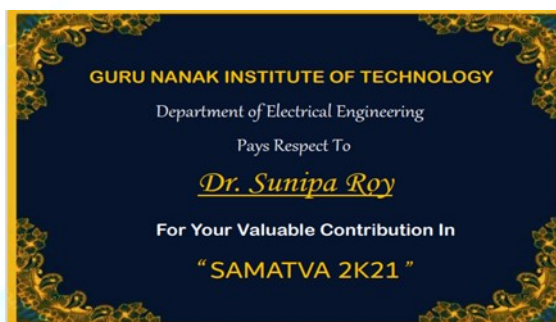
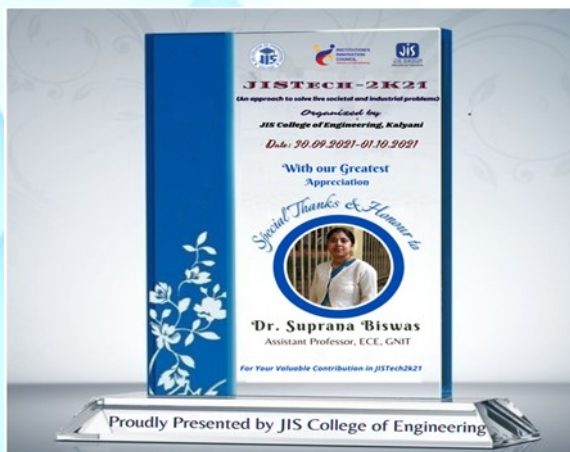
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- * **Sourjyadip Sarkar, Sourav Paul, Soumyajit Goswami, Souman Bej, Saikat Ghorai, Avali Banerjee and Suparna Biswas, "Human Credentials and Security through Smart Technology using Advanced Digital Signatures"**, First Eastern Regional Conclave of Student's Chapter of The Institution of Engineers (India) in association with All India Student's Committee at GNIT Kolkata, 29th – 30th October 2021.
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- * **Suparna Biswas, Sayan Roy Chaudhuri et. al. Detection of Various Plant Leaf Diseases: A Review**, First Eastern Regional Conclave of Student's Chapters of The Institution of Engineers (India), 29-30, Oct 2021.
- * **Sayan Roy Chaudhuri, Antara Ghosal, Kaushik Roy, Suparna Biswas et.al Design of BPSK/QPSK Modulator using Verilog HDL and Matlab**, First Eastern Regional Conclave of Student's Chapters of The Institution of Engineers (India), 29-30 Oct 2021.
- * **Sayan Roy Chaudhuri, s et. al. Underwater Drone With 360 Degree Camera Capture Based on Deep Learning**, First Eastern Regional Conclave of Student's Chapters of The Institution of Engineers (India), 29-30 Oct 2021
- * **Sayan Roy Chaudhuri et.al. Multi-modal image captioning system using VLAD encoded CNN and LSTM architecture**, First Eastern Regional Conclave of Student's Chapters of The Institution of Engineers (India), 29-30 Oct 2021



MOU Signed with ECE Department:

1. Ardent Computech Pvt. Ltd Kolkata (Industry) (Renewed) (Ongoing)
2. Jadavpur University India (Academic) (Ongoing)
3. Trident Techlabs Kolkata (Industry) (Started March 2021) (Ongoing)
4. Unianimity Solution (Industry) (Started January 2020) (Ongoing)
5. Signed MOU with Capsule Lab dated 15.02.2021.
6. Department of ECE signed the MOU with Sikharthy Infotech Private Limited on 9th December 2021





Written in accordance with the New Syllabus of 2021 for the 1st Year 2nd Semester of First Year Diploma Engineering Students of "West Bengal State Council of Technical & Vocational Education & Skill Development" and preparing for any Competitive Examination and Joint Entrance Examination. Only Text Book Published for First year Students.

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RESEARCH AREA :

- MICROSTRIP ANTENNA FOR APPLICATIONS IN HIGH SPEED DATA COMMUNICATION
- ULTRA WIDEBAND ANTENNA FOR APPLICATIONS IN SECURED DATA COMMUNICATION
- DUAL POLARISED ULTRA WIDEBAND PATCH ANTENNA FOR APPLICATIONS IN SATELLITE COMMUNICATION, RADAR SYSTEMS AND COMMUNICATION IN MILITARY SECTOR
- WEARABLE ANTENNAS FOR APPLICATIONS IN HEALTH MANAGEMENT SYSTEMS AND MILITARY SECTOR.
- ELECTROMAGNETIC INTERFERENCE WITH HUMAN TISSUE.

PhD Submitted:



Ms. Antara Ghosal
Ph.D. thesis : Submitted

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RESEARCH AREA :

- MICROSTRIP ANTENNA FOR APPLICATIONS IN HIGH SPEED DATA COMMUNICATION
- WIDEBAND ANTENNA FOR APPLICATIONS IN SECURED DATA COMMUNICATION
- ELECTROMAGNETIC INTERFERENCE WITH HUMAN TISSUE.

MEMBER OF IEEE , LIFE MEMBER OF ISTE(I) , MEMBER OF IE , LIFE MEMBER OF SEMCE, MEMBER OF IEEE(WIE), LIFE MEMBER OF CEGR

PhD Registration :



Ms Soma Manna – Granted Registration for PhD programme at MAKAUT on 16.09.2020

Under the guidance of **Prof Arun Kumar Mondal** (Professor, ECE Department & COE GNIT) .

Departmental events:

(for e.g., Industry visit, Industry mentor meet, BOS meeting pic, seminar, conference work, PTM, sports, wall magazine, newsletter and others)

Organized:

- * ELECTROFUSION 2021 organized by Dept of ECE in the period 01.11.2021-02.11.2021. Speakers-Dr. Sunipa Roy, HOD, ECE, Prof. (Dr.) Santanu Kr. Sen, Principal, GNIT

Photo Gallery: Industry Visit to Euphoria Genx on 21 st May ,2022



Photo Gallery: Industrial Visit at Geetanjali Solar Enterprise (GSE) on 04th May 2022.



Seminar/ Workshop/ Conference Organized at the Institute by ECE Dept., GNIT:

- * Department of Electronics and Communication @ GNIT organized in collaboration with IQAC Cell organized a 5 -days National Level Faculty Development Program on “GenNext Trends on Nano-Scale Devices towards Industrial Revolution 5.0” from 15th to 19th February, 2022 in online mode.
- * Department of Electronics and Communication Engineering and Department of Electrical Engineering @ GNIT in association with the Department of Applied Science and Humanities@ GNIT organized an Awareness Program during 22nd to 28th February, 2022) and year round

Training programs under the STUTI 2021 program as a part of the 'Azadi ka Amrit Mahotsav' celebrations.

- * Principal investigator, Dr Sunipa Roy (PI) and CO-PI, Dr Nabaneeta Banerjee and eminent faculty members, Dr Soumik Podder, Dr Sucharita Bhattacharyya and Dr Sreyasree Basu explained and demonstrated the working principles of different high tech equipments including spectrum two FT-IR spectrometer, Thermal Vacuum Coater (SS-304), Centrifuge (REMI, RM12C), Delta Spin Coater (500-1000rpm), Digital Hot Air Oven, Semiconductor Parameter Analyzer (Hioki IM3536).

The program was coordinated by Mr Koushik Pal and Ms Palasri Dhar. ECE (GNIT)

- * Department of Electronics and Communication Engineering @ GNIT in collaboration with IE(I) and IQAC Cell organized a 5-days National Level Faculty Development Program on “GenNext Trends on Nano-Scale Devices towards Industrial Revolution 5.0” from 15th to 19th February, 2022 in online mode.



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SEMINAR on M.Tech ADMISSION DRIVE


Dr. Sunipa Roy
HOD, ECE, GNIT

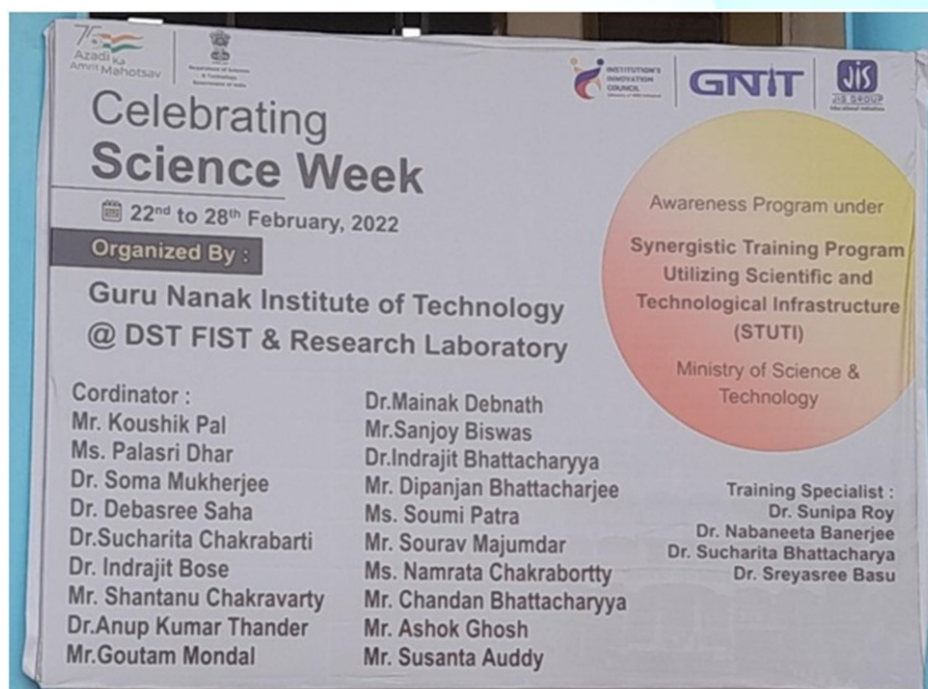

Dr. Suparna Biswas
Associate Professor,
ECE, GNIT

Contact Person
Dr. Suparna Biswas
+91 87775 13336

31st MAY, 2022 | 2 P.M. - 4 P.M.

Organized By : ELECTRONICS & COMMUNICATION ENGINEERING DEPARTMENT



75
AZADI KA
AMRIT MAHOTSAV

Department of Science & Technology
Government of India

INSTITUTION'S
INNOVATION
COUNCIL

GNIT | JIS
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The Global Institute of Skill

Celebrating Science Week

22nd to 28th February, 2022

Organized By :

**Guru Nanak Institute of Technology
@ DST FIST & Research Laboratory**

Awareness Program under
Synergistic Training Program
Utilizing Scientific and
Technological Infrastructure
(STUTI)
Ministry of Science &
Technology

Cordinator :

Mr. Koushik Pal	Dr. Mainak Debnath
Ms. Palasri Dhar	Mr. Sanjoy Biswas
Dr. Soma Mukherjee	Dr. Indrajit Bhattacharyya
Dr. Debasree Saha	Mr. Dipanjan Bhattacharjee
Dr. Sucharita Chakrabarti	Ms. Soumi Patra
Dr. Indrajit Bose	Mr. Sourav Majumdar
Mr. Shantanu Chakravarty	Ms. Namrata Chakraborty
Dr. Anup Kumar Thander	Mr. Chandan Bhattacharyya
Mr. Goutam Mondal	Mr. Ashok Ghosh
	Mr. Susanta Auddy

Training Specialist :
Dr. Sunipa Roy
Dr. Nabaneeta Banerjee
Dr. Sucharita Bhattacharyya
Dr. Sreyasree Basu



National Level Faculty Development Program

From 15th to 19th February, 2022 on
GenNext Trends on Nano-scale Devices towards Industrial Revolution 5.0

Keynote Speakers:

			
Dr. Debanjan Acharyya Assistant Professor Dept. of ECE, IIT-Ranchi	Dr. Koushik Dutta Assistant Professor Dept. of ECE IITDM-Jabalpur	Dr. Basanta Bhowmik Assistant Professor Dept. of ECE NIT-Jamshedpur	Dr. Sunipa Roy Associate Professor & HOD, Dept. of ECE GNIT

Convenors:
 Dr. Kaushik Roy (8334043348)
 Dr. Nabaneeta Banerjee (7980929731)

Organized by:
 Department of Electronics & Communication Engg.
 In Collaboration with Internal Quality Assurance Cell, GNIT



& get e-certificate

Scan to register

www.gnit.ac.in | www.jisgroup.org



AICTE Sponsored INTERNATIONAL CONFERENCE

On
Communication, Computing and Nano-Microwave Technology (CCNMT-2022)

Organized by
 Department of Electronics and Communication Engineering
 and
 Department of Food Technology

Venue
 Guru Nanak Institute of Technology
 KOLKATA, INDIA
 10-11th May, 2022
 08-09th July, 2022



SCAN ME

Objective:

The AICTE sponsored International Conference on Communication, Computing and Nano-Microwave Technology (CCNMT-2022) will be organized by ECE and FT department of Guru Nanak Institute of Technology, Kolkata, West Bengal during March 9-10, 2022. It will act as the forum for researchers and practitioners working in the development and application of emerging trends to share their ideas. This conference aims to build networks among the industries and academia, detecting research demands, exchanging best practices and experiences in a global scale context. It will also serve as a platform to develop the recent trends in design and implementation of smart devices, engineering computation and also microwave technology. Each participant will also be provided one Participation Certificate. Contributory papers presented in the technical sessions will be published in the Conference Compendium.



International Speaker 1 :
 Prof. Anisul Haque, EEE EDS Distinguished Lecturer (DL)
 Professor, East West University, Dhaka, Bangladesh



International Speaker 2 : Dr Tien Anh Tran
 Assistant Professor at Department of Marine Engineering, Vietnam Maritime University, Haiphong City, Vietnam.

PTM/Alumni Interaction /Industry mentor meet/Techfest:

- * ELECTROFUSION 2021 organized by Dept of ECE in the period 01.11.2021-02.11.2021. Speakers-Dr. Sunipa Roy, HOD, ECE, Prof. (Dr.) Santanu Kr. Sen, Principal, GNIT.
- * Webinar on Knowing The Universe - The space book was organized by ECE department Gnit, dated 03.07.21. Speakers **Anarghya Bose, B.TECH, CSE , 1st Year Founder @ GNIT MAHAKASH-The Space Club Sayantan Bhattacharya Process Analyst at Globsyn 3rd Life, B.TECH ECE (GNIT), M.Tech (ECE) 1st Year, GNIT.**
- * Virtual Industry Visit: “From Sand to Silicon : the making of a chip | intel” organized by Dept of ECE dated 09.02.2021.
- * One day Seminar on “Track your career” organized by Dept of ECE, dated 08.02.21.
- * Two day Virtual Industry visit in collaboration with Webskitters Academy, dated 11.4.21 and 16.4.21.

SCHOOL ENGAGEMENT PROGRAMS:

- * Interschool Digital poster making competition was organized by ECE department GNIT on World Environment Day, in the period 07.06.2021-11.06.2021.
- * Workshop on “Open your own You Tube Channel- Run your start up” was organized by ECE department GNIT, dated 23.06.2021. Resource Person-Sayan Ghorui, Shibas Sen, Tusar Patra, Sandipan Saha.
- * Workshop on “Learn Video Editing Software” was organized by ECE department GNIT, dated 18.06.21. Resource Person-Arnab Biswas (3rd year).
- * Webinar on Knowing The Universe - The space book was organized by ECE department Gnit, dated 03.07.21. Speakers Anarghya Bose, B.TECH, CSE, 1st Year Founder @ GNIT MAHAKASH-The Space Club Sayantan Bhattacharya Process Analyst at Globsyn 3rd Life, B.TECH ECE (GNIT), M.Tech (ECE) 1st Year, GNIT.

GNIT | **IEEE SSCC KOLKATA CHAPTER** | **GNIT** | **JIS GROUP**

5 Days National Faculty Development Programme on Implementation of Machine Intelligence Towards Digital India
22nd to 26th June, 2021
Organized By **Electronics and Communication Engineering Department, GNIT**
In association with **IEEE Solid-State Circuits Society, Kolkata Chapter**

Facilitators

Prof. (Dr.) Santanu Kr Sen
Principal, GNIT

Mr. Sagar Mukherjee
Senior Design Engineer
(An HCL Technologies Company)

Dr. Nanda Dulal Jana
Assistant Professor - CSE
NET, Durgapur

Mr. Sumit Chaudhury
Design Engineer
Cadence Design Systems India Pvt. Ltd.

Dr. Agam Das Goswami
Assistant Professor
School Of Electronics Engineering, VIT A. P.

Conveners:
Dr. Sunipa Roy (HOD, ECE, GNIT)
Dr. Suparna Biswas (AP, ECE, GNIT)

Last Date of Registration:
20th June, 2021

For Any Query Please Contact:
8017432780 / 9830751850

Registration is Free
E-Certificate for All

www.gnit.ac.in | www.jisgroup.org

ISR ACTIVITY BY THE DEPARTMENT

Students and Faculty members of ECE Department worked with PRAGAATI in this COVID Crisis, who are providing leads on the resources needed. They are verifying leads themselves and communicating directly With the needful-no forwarding without verification to save the family in need from harassment. The main jobs done are verifying information and database on lead of oxygen cylinder (fresh/refill) , Plasma , Blood, community kitchens , fetching verified data on hospital bed availability from Govt. Web portal or directly calling the hospitals to check the information. Many people reached to PRAGAATI through personal contact or Facebook page. Multiple cases were solved and many people got help from the club .One App and website is also developed to maintain database.

PRAGAATI APP DOWNLOAD

LINK: <https://www.growevery.org/blog/direct%20share/download/yd7iVx80CLcobYm>

PRAGAATI WEBSITE

LINK: <https://pragaati.growevery.org>



Participated:

Faculty & Staff:

- * Dr. Kaushik Roy (ECE) has attended FDP on “GenNext Trends on Nano-scale Devices towards Industrial Revolution 5.0” from 15.02.2022 to 19.02.2022.
- * Dr. Kaushik Roy (ECE) has attended FDP on “ATAL FDP on Nanoscience for Nano Materials” from 20.09.2022 to 24.09.2022.
- * Dr. Nabaneeta Banerjee (ECE) has attended FDP on “GenNext Trends on Nano-scale Devices towards Industrial Revolution 5.0” from 15.02.2022 to 19.02.2022.
- * Dr. Nabaneeta Banerjee (ECE) has attended Five days ATAL FDP on Data Science from 04/12/2021 to 08/12/2021.
- * Dr. Nabaneeta Banerjee (ECE) has attended FDP on “Quality Management System towards Risk Perception Approach of Industries based on ISO 9001:2015 “from 31/01/2022 to 04/02/2022.
- * Dr. Nabaneeta Banerjee (ECE) has attended FDP on “Application of different computational techniques in the field of Engineering” from 25/01/2022 to 29/01/2022.
- * Dr. Nabaneeta Banerjee (ECE) has attended FDP on “Robotics” from 22/11/2021 to 26/11/2021.
- * Dr. Nabaneeta Banerjee (ECE) has attended FDP on “Outcome Based Education (OBE)” from 06/09/2021 to 10/09/2021.
- * Dr. Nabaneeta Banerjee (ECE) has attended FDP on “Workshop on IOT” dated 27/05/2022.
- * Dr. Soumik Podder (ECE) has attended ATAL FDP on "Parallel and Distributed Deep Learning “from 28.06.2021 to 02.07.2021.

- * Dr. Soumik Podder (ECE) has attended ATAL FDP on "Blockchain and its Security Perspectives "from 06.12.2021 to 10.12.2021.
- * Dr. Soumik Podder (ECE) has attended AICTE-ISTE Sponsored Refresher Course/ Orientation Program on Internet of Things (IoT) Applications from 14.02.2022 to 19.02.2022.
- * Dr. Soumik Podder (ECE) has attended FDP on Python Programming for Beginners using A Learning & Deep Learning organised by NIT, Warangal from 01.11.2021 to 05.11.2021.
- * Dr. Soumik Podder (ECE) has attended TCS FDP on Use of ML/DL in Industrial Internet of Things dated 06.09.2021.
- * Dr. Soumik Podder (ECE) has attended FDP on IoT: Past, Present and Future from 02.09.2021 to 07.09.2021.
- * Dr. Soumik Podder (ECE) has attended GenNext Trends on Nano-Scale Devices towards Industrial Revolution 5.0 from 15.02.2022 to 19.02.2022.
- * Dr. Suparna Biswas (ECE) has attended GenNext Trends on Nano-Scale Devices towards Industrial Revolution 5.0 from 15.02.2022 to 19.02.2022.
- * Dr. Avali Banerjee (ECE) has attended GenNext Trends on Nano-Scale Devices towards Industrial Revolution 5.0 from 15.02.2022 to 19.02.2022.
- * Dr. Avali Banerjee (ECE) has attended FDP on "Effective Communication Skills across domains titled TRANSCENDING THE HORIZON".
- * Mr. Sayan Roy Chaudhuri (ECE) has attended FDP on "GenNext Trends on Nano-scale Devices towards Industrial Revolution 5.0" from 15.02.2022 to 19.02.2022.
- * Mr. Sayan Roy Chaudhuri (ECE) has attended FDP on "IOT: Past, Present, and Future" from 02.09.2021 to 07.09.2021.
- * Mr. Sayan Roy Chaudhuri (ECE) has attended AICTE approved Refresher Course on Recent Trends in Signal Processing from 01.2022 to 31.01.2022.
- * Dr. Surajit Basak and Dr. Soumik Podder have attended Green IoT for Green Environment - Phase II .Sponsored by AICTE AQIS and GNIT-AEIE, from 10.05.2021 to 15.05.2021.
- * Dr. Avali Banerjee has attended Online FDP on "Wearable Devices". Sponsored by ATAL, from 14.12.2020 to 18.12.2021.
- * Dr. Sunipa Roy has attended Multi-Disciplinary Design Optimisation in Engineering: Basics. Sponsored by ATAL, from 14/06/2021 to 18/06/2021.
- * Palasri Dhar has attended Multi-Disciplinary Design Optimisation in Engineering: Basics. Sponsored by ATAL, from 14/06/2021 to 18/06/2021.
- * Dr. Suparna Biswas has attended ATAL FDP on Introductory Data Science and Deep Learning from 16/07/2021 to 20/07/2021.
- * Dr. Suparna Biswas has attended ATAL FDP on Data Science & Machine Learning with Python from 2021-7-5 to 2021-7-9.
- * Dr. Surajit Basak (ECE) has attended ATAL FDP on "Towards 5G & Beyond with IoT and Machine Learning" from 26/07/2021 to 30/07/2021.
- * Dr. Surajit Basak (ECE) has attended ATAL FDP on "Wireless Sensor Networks and IoT" from 10/01/2022 to 14/01/2022.

- * Dr. Surajit Basak (ECE) has attended FDP on Quality Management System towards Risk Perception Approach of Industries Based on ISO 9001:2015” from 31.01.2022 to 04.02.2022.
- * Dr. Surajit Basak (ECE) has attended FDP International Webinar on Machine Learning in Healthcare from 07.12.2022 to 11.12.2022.
- * Dr. Surajit Basak (ECE) has attended GenNext Trends on Nano-scale Devices towards Industrial Revolution 5.0 from 15.02.2022 to 19.02.2022.
- * Soma Borral has attended FDP on "Artificial Intelligence" under TechSaksham Program from 21/03/2022 to 25/03/2022.
- * Antara Ghosal has attended FDP on Internet of Things in 5G Wireless Communication from 06/09/2021 to 10/09/2021.
- * Sayan Roy Chaudhuri has attended IoT with Machine Learning & Artificial Intelligence Sponsored by ATAL, from 04/10/2021 to 08/10/2021.

Students:

- * ELECTROFUSION 2021 organized by Dept of ECE in the period 01.11.2021-02.11.2021.
- * Interschool Digital poster making competition was organized by ECE department GNIT on World Environment Day, in the period 07.06.2021-11.06.2021.
- * Workshop on “Open your own You Tube Channel- Run your start up”was organized by ECE department GNIT,dated23.06.2021.Resource Person-Sayan Ghorui, Shibas Sen, Tusar Patra, Sandipan saha.
- * Workshop on. “Learn Video Editing Software” was organized by ECE department GNIT, dated 18.06.21. Resource Person-Arnab Biswas (3rd year).
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Publication (2021-2022):

Faculty and staff:

International Conference: 5

International Journal: 35

Student:

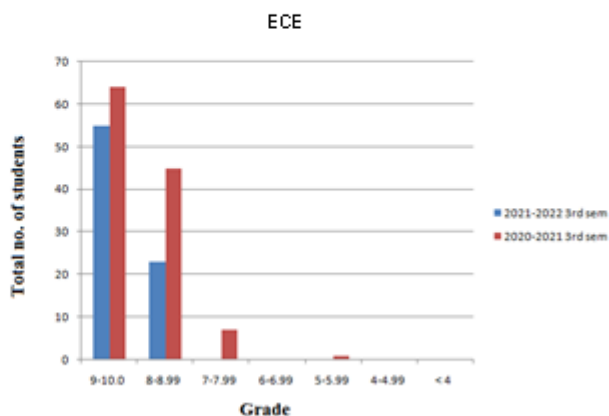
International Conference: 10

International Journal: 14

Result (Bar chart):

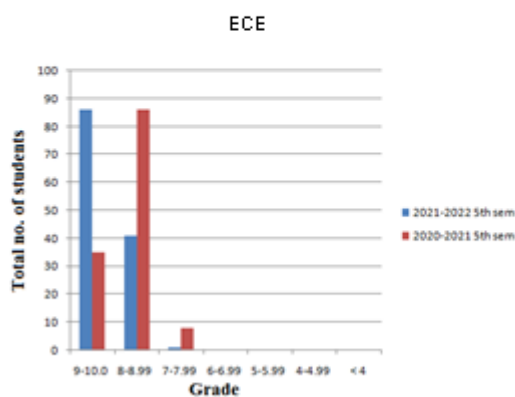
Comparison between 2021 and 2022 batch with respect to SGPA 3

Comparative Result Analysis : ECE 3rd Sem 2020-21 & 2021-22 (under Autonomy)		
Grade (SGPA)	Total no. of Students	
	2020-2021 3rd sem.	2021-2022 3rd sem.
9-10.0	64	55
8-8.99	45	23
7-7.99	7	0
6-6.99	0	0
5-5.99	1	0
4-4.99	0	0
< 4	0	0



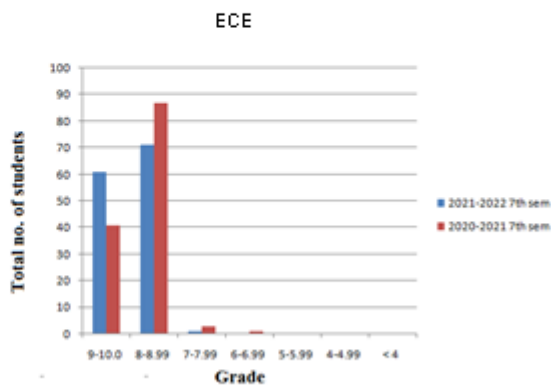
Comparison between 2021 and 2022 batch with respect to SGPA 5

Comparative Result Analysis : ECE 5th Sem 2020-21 & 2021-22 (under Autonomy)		
Grade (SGPA)	Total no. of Students	
	2020-2021 5th sem.	2021-2022 5th sem.
9-10.0	35	86
8-8.99	86	41
7-7.99	8	1
6-6.99	0	0
5-5.99	0	0
4-4.99	0	0
< 4	0	0



Comparison between 2021 and 2022 batch with respect to SGPA 7

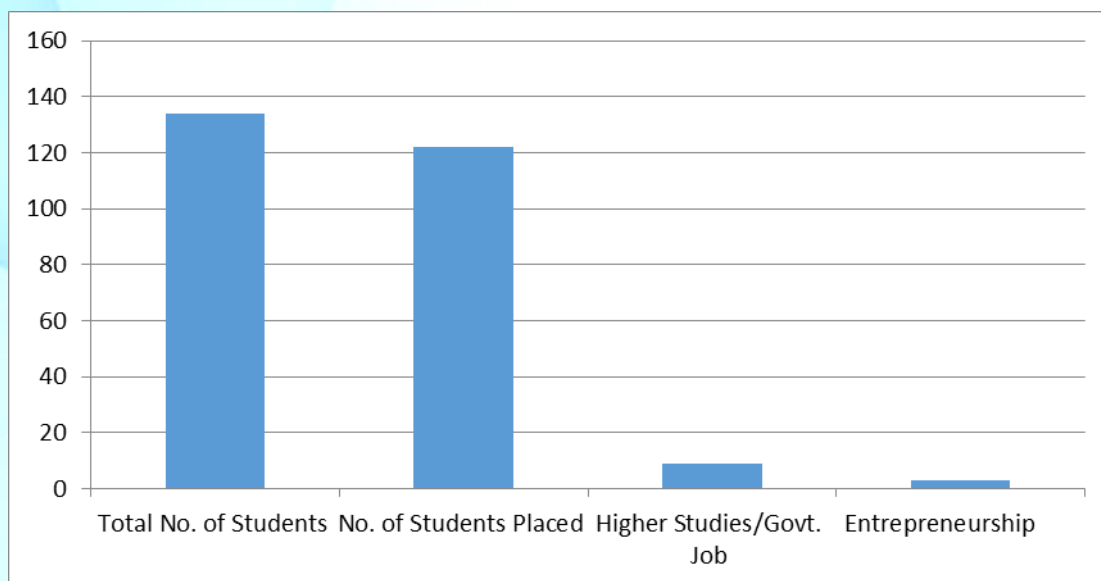
Comparative Result Analysis : ECE 7th Sem 2020-21 & 2021-22 (under Autonomy)		
Grade (SGPA)	Total no. of Students	
	2020-2021 7th sem	2021-2022 7th sem
9-10.0	41	61
8-8.99	87	71
7-7.99	3	1
6-6.99	1	0
5-5.99	0	0
4-4.99	0	0
< 4	0	0



Placement and higher studies (Bar chart):

Total No. of Students	No. of Students Placed	Higher Studies/Govt. Job	Entrepreneurship	Remarks if any
134	122	9	3	

2021-2022 – ECE:



GURU NANAK INSTITUTE OF TECHNOLOGY

Department
of
Electrical Engineering

ANNUAL REPORT

2021-22

Name of the Department: Electrical Engineering

Vision of the department

To produce new generation technologists and entrepreneurs with innovation and advanced research by inculcating world class education to meet industry expectations and impart sustainable growth of the society in global perspective.

Mission of the department

- * DM1: To impart quality education and innovative teaching learning methodologies.
- * DM2: To develop professionals with the ability of critical thinking and innovativeness to face the real-life challenges in their respective domain.
- * DM3: To inculcate an urge of entrepreneurship, research and pursue higher studies.
- * DM4: To imbibe the spirit of moral values and ethics for the sustainable growth of the society.

PEO

PEO1: To implant strong foundation in Science, Mathematics and Electrical Engineering to become successful professionals

PEO2: To impart knowledge on emerging technologies and entrepreneurship skills to produce future leaders

PEO3: To train students in developing ethical attitudes, strong communication skills and capacity to relate engineering issues in social and environmental context.

PEO4: To facilitate opportunity to work in a team in interdisciplinary projects

Program Outcomes

- * **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- * **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- * **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- * **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- * **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- * **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- * **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

building leadership qualities.

- * **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- * **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- * **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- * **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- * **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcomes (PSOs)

PSO1: To explore the ideas, methodologies and cutting-edge technologies in Renewable Energy and Electric Vehicles for gaining competence to solve energy related problems.

PSO2: To analyze, design and provide an engineering solution applying knowledge of Embedded System, Smart Grid, Power Electronics and Electric Drives.

PSO3: To use modern software tools for simulation, analysis and designing electrical and electronic Systems.

Brief overview of the department

The department of Electrical Engineering got the National Board of Accreditation (NBA) consecutively in 2009 and 2014 for its excellent performance in the arena of technical education. The department as a part of the college offers UG Program and the department has grown not only in terms of students and faculty strength but also with the improved laboratory facility for teaching and research purposes. The department has experienced faculty members with Doctoral degree (PhD), and dedicated technical staff. The laboratories are well-equipped with high-value hardware experimental setup including industry-oriented software packages. The Department provides world brand education in core engineering fields which will help the budding engineers to apply the knowledge in interdisciplinary research and projects. To make the Electrical Graduate industry ready, the department arranges industry visits, Soft skill and aptitude classes and also regular basis classes for qualifying GATE/PSU .

Department of Electrical Engineering

Course Offered

- * 4-years' B.Tech (Electrical Engineering) from Autonomous Institution GNIT, Affiliated to MAKAUT, West Bengal

Core Strength

- * The Department of EE has well qualified and dedicated faculty.
- * The Department has state-of-the-art Lab facilities like Machine Lab, Power System and SCADA Lab, Control System Lab, Power Electronics & Drives Lab, Measurement Lab, Circuit Theory Lab, to name a few.
- * World class software like MATLAB, PSCAD, ETAP, MULTISIM, PSIM, Lab-View, SCADA are available in the department to work on top-of-the line projects in various areas of electrical engineering.
- * Excellent central library including separate departmental library and computing, Internet facilities are available.
- * The department is always enthusiastic in conducting various seminars and workshops for the faculty and students to permeate advances in technology.
- * Mechanism is available for direct mentoring of students by faculty, interacting with students, and directing them to upgrade their skills.
- * Students are placed in reputed Core Industries as well as Software/IT Companies.
- * The department is a life institutional member of ISCTE and Institute of Engineers (India).



EE Department Laboratory



HOD's message

Department of Electrical Engineering, Guru Nanak Institute of Technology has started its auspicious academic journey under the West Bengal University of Technology, presently MAKAUT-West Bengal since 2003. The Department of Electrical Engineering is functioning in full swing in GNIT with approval of AICTE. The department has also obtained NBA accreditation up to the year 2017 and at present offers B. Tech. program in Electrical Engineering. The department has the state of the art laboratories and a team of well trend faculties to take care of knowledge transfer both in core engineering education and development of soft skill. Present strength of B. Tech. students is 120 per year. Apart from class room teaching the faculties are continuously pursuing different technical publication, research program, seminar and other co-curricular activities to fulfill the need for new generation educational institute and to make the students industry ready.

Dr. Barnali Kundu
HOD, EE Dept.

Department of Electrical Engineering

Departmental achievements

Faculty achievements

Sl. No.	Name of Faculty/ JTA/Staff	Achievement description	Month and Year of achievement
1.	Dr. Aveek Chattopadhyaya	Silver award for NPTEL Course on Digital Protection of Power System	April, 2022
2.	Susovan Dutta	MOOCs course (Power System-Electrical) developer for Nikhil Bharat Shiksha Parisad	30th June 2021
3.	Madhumita	Elite award for NPTEL Course on Introduc-	April 2022
4.	Dr. Debasree Saha	Received grant of Rs. 12,30,500/- for MO-	March 2022
5.	Dr. Barnali Kundu	Received grant of Rs. 12,30,500/- for MO-	March 2022
6.	Barnali Kundu	IEI, Kolkata Advisor of Engineering college students' chapter	October, 2021
7.	Barnali Kundu	Organizing secretary of 1st Eastern India IE Student Conclave, 2022	October, 2021

10 Years of Distinguished Service completing during October 2021-August 2022

Sl. No.	Name of Faculty/ JTA/Staff	Dept	Designation	DOJ
1	Shyamal Kumar Roy	EE	Assistant Professor	24/07/2012
2	Rikta Majumder	EE	Assistant Professor	02/07/2012
3	Bapi Tarafder	EE	JTA	17/06/2012

15 Years of Distinguished Service completing on or before August 2022

Sl. No.	Name of Faculty/ JTA/Staff	Dept	Designation	DOJ
1	Subhra Sen	EE	JTA	05/03/2005

Research Paper publication by Faculty Members in Journal/ Seminar/ Conferences

International Journal

- * **Ms. Rikta Majumder, Dr. Debasree Saha, Dr Papun Biswas, Dr Aveek Chattopadhyaya** “**Modeling, Simulation and FFT Based Dynamic Performance Analysis of Three Phase Asynchronous Machine**”, International Conference on Education and Technology (IC-ET-22) 12th June 2022 Kolkata, India.
- * **Suman Ghosh, Chandan Kr. Chanda, J. K. Das,** “**Voltage Profile Management and Power Loss Minimization in a Real Valued Conventional Grid Connected Microgrid System with the Help of Optimally Placed PMUs**”, Journal of The Institution of Engineers (India): Series B, 18th Oct 2021, SCI Indexed.
- * **Suman Ghosh, J. K. Das, Chandan Kr. Chanda,** “**Performance Analysis of Latency on Wide Area Monitoring And Control for A Smart Power Grid**”, Lecture Notes in Electrical Engineering (LNEE). (Accepted) (Book Chapter).
- * **Debasree Saha,** “**Coordinated AC frequency versus DC voltage control in a PV-wind-battery based hybrid AC/DC microgrid**”, International Transactions on Electrical Energy Systems, August, 2021) (Wiley, SCI indexed, Impact factor: 2.86).
- * **Debasree Saha,** “**Pyrolysis: An Evolution of Waste Management**”, International Journal of Engineering Research & Technology (IJERT), Vol. 9, no. 11, pp. 98-101, July 2021. (ISSN: 2278-0181), NCETER - 2021 Conference Proceedings, (Scopus, Impact Factor - 7.86).
- * **Debasree Saha,** “**Review on Hybrid Inverter**”, International Journal of Engineering Research & Technology (IJERT), Vol. 9, no. 11, pp. 126 -129, July 2021. (ISSN: 2278-0181), NCETER - 2021 Conference Proceedings, (Scopus, Impact Factor - 7.86)
- * **Debasree Saha,** “**Design of A Novel Power Boost Converter With Dual Coupled Inductors**”, International Journal of Engineering Research & Technology (IJERT), Vol. 9, no. 11, pp. 94 - 97, July 2021. (ISSN: 2278-0181), NCETER - 2021 Conference Proceedings, (Scopus, Impact Factor - 7.86).
- * **Shreyash Singha, Sanju Garai, Arijit Ghosh, Niladri Dutta, Sayan Chakrobarty, Suman Ghosh,** “**Optimal Placement of PMUs in a Microgrid**”, International Journal of Engineering Research & Technology (IJERT), Vol. 9, no. 11, pp. 194 - 196, July 2021. (ISSN: 2278-0181).
- * **Suman Ghosh, Chandan Kr. Chanda, J. K. Das,** “**Performance analysis of a grid connected microgrid system under fault condition**”, Microsystem Technologies, Springer-Verlag GmbH Germany, April 2022, <https://doi.org/10.1007/s00542-022-05296-7>. (SCI indexed, Impact factor: 1.826).
- * **Shyamal Kumar Roy, Suman Ghosh, Aveek Chattopadhyaya, Madhumita Chakraborty,** “**Carbon Nanotubes Membranes: Application in Water Treatment**”, International Research

Journal of Engineering and Technology (IRJET), Volume: 09 Issue: 06, Jun 2022.

International Conference

- * **Suman Ghosh, Chandan Kr. Chanda, J. K. Das, "Reactive power control of a real valued DVC grid connected microgrid system with the help of optimally placed PMUs",** Fourth IEEE International Conference on Electrical, Computer and Communication Technologies (ICECCT 2021), Erode, Tamil Nadu, INDIA, 15-17th September 2021.

National Conference

- * **Debasree Saha, "A high voltage dc railway system",** First Eastern Regional Conclave of Students' Chapters of The Institution of Engineers (India) 2021-2022, 29th-30th Oct., 2021.

Published The Book Chapter

Sl. No.	Name of the Faculty	Title	Name Of The Book	Publisher	ISBN Number	Year
1	Barnali Kundu	Cloud Based Real-Time Vibration and Temperature Monitoring System for	AI and IOT in Renewable Energy	Springer Singapore	978-981-16-1011-0_9	2021
2	Aveek Chattopadhyaya	Harmonic Distortion, inter-harmonic Group Magnitude and Discrete Wavelet Transform based Statistical Parameter Estimation for Line to Ground Fault Analysis in Microgrid System	International Conference	IET	978-1-83953-523-9	2021
3	Barnali Kundu	Distributed Generators Curtailment for Congestion Mitigation	International Conference	IEEE	Electronic ISBN:978-1-6654-0373-3 Print on Demand(PoD) ISBN:978-1-6654-4747-8	2021

Patent Publication by Departmental Faculty Members

- Impact of electric spring for improvement in power quality and stability of power system.
- Single Phase Transformer less GRID Connected Solar Photovoltaic (PV) System with auto-synchronizer.
- Automatic forest foster robot- affro-bot.
- Carbon nanotubes membranes: application in water purification.

Department of Electrical Engineering

- Arduino based smart irrigation system using Iot.
- Mr. Suman Ghosh achieved JIS SAMMAN, 2022 being the best faculty with highest number of Publication.



Grant Details

- Dr. Barnali Kundu and Dr. Debasree Saha received a Grant- in aid of Rs. 12.30 Lakhs under MODROBS Scheme from AICTE.



Seminar/Conference/Workshop Organized by the department

- First Eastern Regional Conclave Of Student's Chapter Of The Institutions Of Engineers (India), 2021-2022.

Department of Electrical Engineering



- One day seminar on Scope of Entrepreneurship in Renewable Energy in Indian Market organized by Electrical Engineering Department on 20/02/2022.



- One day seminar on Core Industry Expectations from Fresh Engineers organized by Electrical Engineering Department on 05/03/2022.



- MOU Signed with Logic Zap for student Training & Placement in Electrical Vehicle Sector on 10/02/2022.



- A Voluntary Blood Donation Camp on College Campus in association with College of Medicine & Sagore Dutta Hospital, Kamarhati on 31/03/2022.



- One day seminar on recent trends in power system and applications on 03.03.2017.

Student Achievements

Departmental Topper in terms of YGPA (from each year)

Sl. No.	Name of Student	Current Semester	YGPA score (Odd Sem of 2021 and Even of 2022)	Mentor's Name
1.	Mousam Manna (DEE)	2022 Passout	$(8.8+9.3)/2 = 9.05$	Suman Ghosh
2.	Monishankar Ghosh (B.Tech)	2022 Passout	9.81	Dr. Aweek Chattopadhyaya Dr. Debasree Saha
3.	ANKITA SENSARMA	7th Sem	$(5\text{th}+6\text{th sem})= 9.69$	Madhumita Chakraborty Susovan Dutta
4.	Prathit Bandhopadhyaya	5th Sem	$(3\text{rd}+4\text{th})= 9.42$	Rikta Majumder Amit Debnath
5.	Rima Dutta	4th Sem (DEE)	$(3\text{rd Sem Result not declared yet. Considering 2nd sem only})= 9.8$	Shyamal Kumar Roy

Top Student in terms of DGPA only for 2022 pass out batch

Sl. No.	Name of Student	DGPA score	Mentor's Name
1	MAMALI MA-HAKUD (B.Tech)	8.8	Suman Ghosh
2	Monishankar Ghosh (B.Tech)	9.61	Dr. Debasree Saha Dr. Aweek Chattopadhyaya

Student Achievements (Co-curricular and Extracurricular)



Sl. No.	Name of Student	Achievement/ Award Description	Month and Year of achievement	Whether enlisted in Inst FB/ Group email @all (Y/N)
1	SUBHAMOY DEY	NCC C CERTIFICATE Awarded (BRAVO)	31 July 2022	N

Alumni Achievers (For excellent work of Alumni during last 2 years)

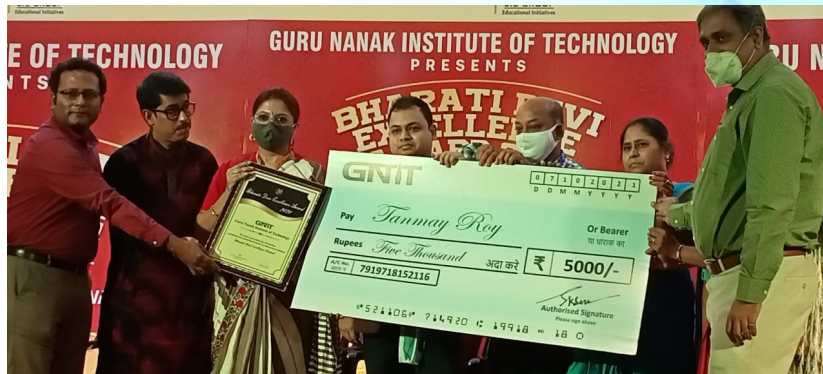
Sl. No.	Name of Student	Achievement Description	Month and Year of achievement	Whether enlisted in Inst FB/ Group email @all (Y/N)
1.	Bidyut Mahato	Completed PhD from IIT, Dhanbad and served department in various Webinars and awareness Programmes.	Dec 2021	N
2.	Sheikh Tanveer Hossain	Completed MS in Electrical Engineering and Computer Sciences from Texas A&M University, Kingsville and served department in various Webinars and awareness Programmes.	May 2022	N
3.	Swaraj Sharma	Completed M.Tech in Renewable Energy and Energy Management from NIT, Arunachal Pradesh	JUNE 2022	N

Department of Electrical Engineering

International Alumni Achievements

Name	Batch	Photo	Foreign Country	Recent Status
Tanveer Hossain	2014-2018		Bangladesh	Graduated (Master in EE) from Dept. of Electrical Engineering & Computer Science, Texas A&M University, Kingsville, USA December 2021
Chandan Das	2016-2020		Bangladesh	Admitted in MBA at Utkal University, Bhubaneswar January 2022

- Tanmoy Roy from the Department of Electrical Engineering, received Bharati Devi Excellence Award 2021, 7th October 2021, who scored 9.82 DGPA in B.Tech 2021 Pass out.



Internship Program

Organized by (Name & Designation)	Name of Dept.	Year	Date	
			From	To
Electrosnic Art	EE	3 rd year 2022	Ongoing	
West Bengal State Electricity company & Transmission company limited(WBSETCL)	EE		Ongoing	
RAMNAGAR S.K.U.S LTD.	EE	4 TH YEAR 2022	01/05/2021	31/10/2021
INTERNSHALA	EE		20/01/2022	24/8/2022
TCS iON	EE		07/07/2022	09/09/2022
TTS systematics	EE		21/03/2022	30/04/2022

- Girls Volleyball Team is Champions of the Second Edition of SKMVT under the guidance of Mr. Shyamal Roy, AP, EE. The Team comprised of the following Players : 4th Yr of EE (Poulami Das, Suman Kumari, Shilpa Dutta).

Student Publication

International Journal

- * **Meghna Sengupta, Arijit Das, Ramanuj Bhowmick, “Pyrolysis: An Evolution of Waste Management”**, International Journal of Engineering Research & Technology (IJERT), Vol. 9, no. 11, pp. 98-101, July 2021. (ISSN: 2278-0181), NCETER - 2021 Conference Proceedings, (Scopus, Impact Factor - 7.86).
- * **Abhirup Bhowmick, Trinika Das, Sayan Singh, “Review on Hybrid Inverter”**, International Journal of Engineering Research & Technology (IJERT), Vol. 9, no. 11, pp. 126 -129, July 2021. (ISSN: 2278-0181), NCETER - 2021 Conference Proceedings, (Scopus, Impact Factor - 7.86).
- * **Pratap Hazra, Raj Kumar Saha, Subhajit Debnath, “Design of A Novel Power Boost Converter With Dual Coupled Inductors”**, International Journal of Engineering Research & Technology (IJERT), Vol. 9, no. 11, pp. 94 - 97, July 2021. (ISSN: 2278-0181), NCETER - 2021 Conference Proceedings, (Scopus, Impact Factor - 7.86).
- * **Pratap Hazra Raj Kumar Saha , Subhajit Debnath , MD. Yusuf Yuhana , Shaoli Paul, “A high voltage dc railway system”**, First Eastern Regional Conclave of Students’ Chapters of The Institution of Engineers (India) 2021-2022, 29th-30th Oct., 2021.
- * **Biman Chandra, Anirban Chandra, Aditya Das, Anindita Das, Shirsho Paul, Mousam Manna, Suman Ghosh, “Smart Irrigation System Using Renewable Energy”**, International Conference on Communication Computing Nano-Microwave Technology (CCNMT 2022), 8th-9th July, 2022, Kolkata, India.
- * **Suman Ghosh, Shyamal Kumar Roy, Aveek Chattopadhyaya, Arnab Kumar Roy, Deb Kumar Singha, Ankur Pal, Debanjan Paul, Debaraj Dey, Pradipta Saha, “Integration of FACTS Controllers to the Distribution Network for Loss Reduction and Power Quality Improvement”**, International Conference on Communication Computing Nano-Microwave Technology (CCNMT 2022), 8th-9th July, 2022, Kolkata, India.
- * **Shyamal Kumar Roy, Suman Ghosh, Aveek Chattopadhyaya, Pallabi Banerjee, Toton Baidya, Tridib Mondal, Arafat Ali Mondal, Suparna Bhattacharya, “Design and Analysis of P&O algorithm based MPPT solar system in PSIM”**, YMER Digital, ISSN 0044-0477 in Volume 21 Issue 06(June 2022).

Industrial Visit participated by Students

- Visit to 20kWp Solar Power Plant at GNIT Campus on 04/05/2022.



- Visit at Electronic Interlocking System (EIS) in Bandel Railway Station on 13/06/2022.



- Visit to Agni Power 1 MW Canal Top Solar Power Plant, Newtown, Kolkata on 27/05/2022.



Department of Electrical Engineering

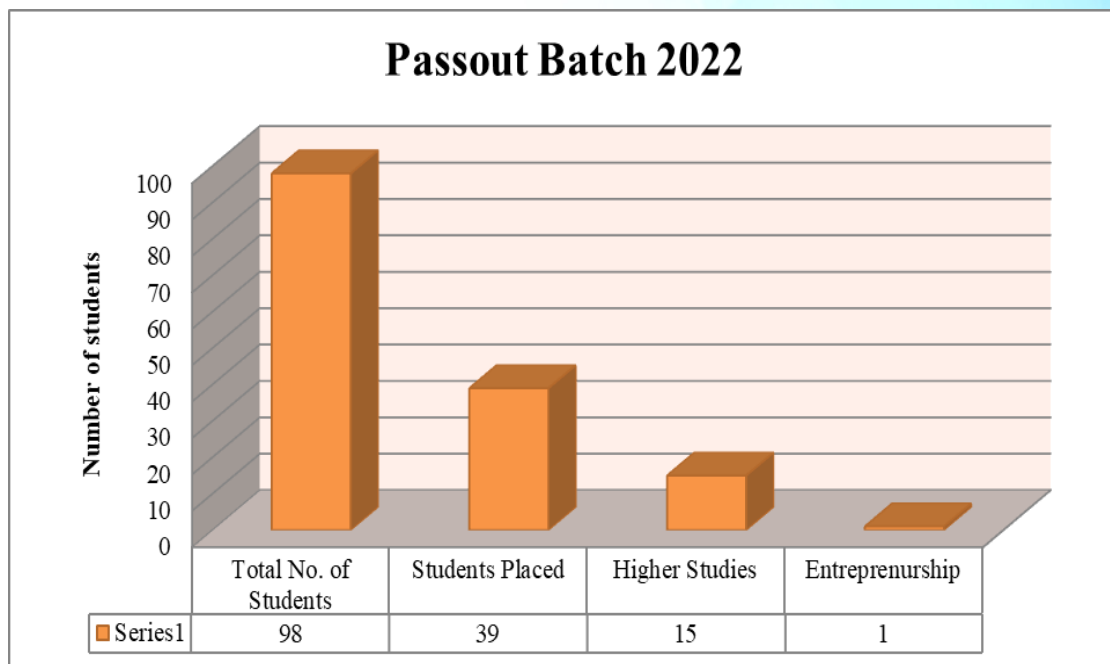
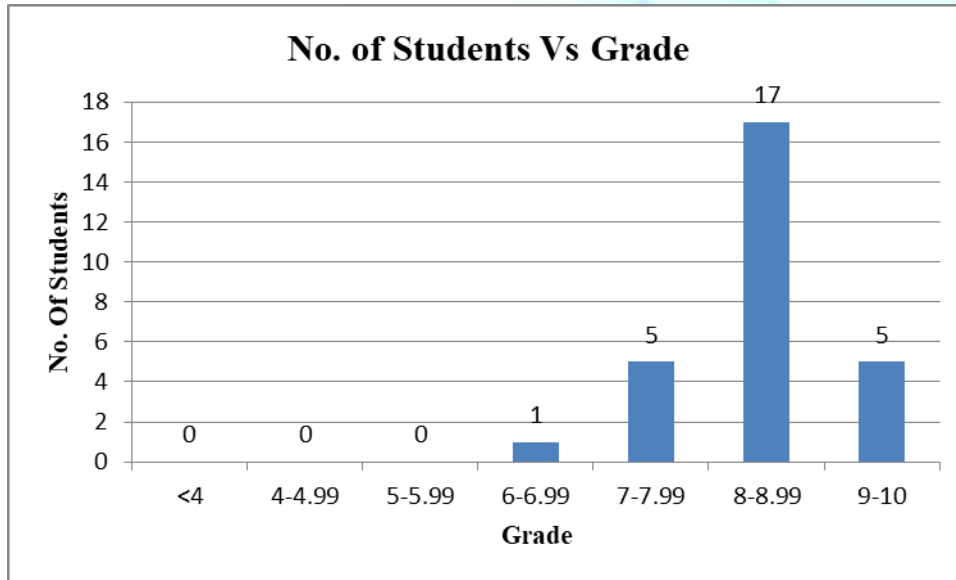
Placement 2022

Sl. No.	Academic Year	Name of the students	Program graduated from	Name of the employer with contact details	University Roll No
1	2022	Anindita Das	EE	Capgemini	500318021005
2	2022	Anirban Chandra	EE	CTS	500318011006
3	2022	Ankita Bhowmick	EE	Capgemini	500318021007
4	2022	Ashish Gupta	EE	IBM	500318011012
5	2022	Asif Ahamed	EE	Ericsson Global India Services	500318011013
6	2022	Asim Kumar Das	EE	Pinnacle Infotech	500318011014
7	2022	Biman Chandra	EE	HighRadius	500319111056
8	2022	Dipanjana Kuila	EE	ITC Infotech	500318011017
9	2022	Kinkini Adhikari	EE	Capgemini	500318021020
10	2022	Kinkini Adhikari	EE	Accenture	500318021020
11	2022	Monishankar Ghosh	EE	Wipro	500318011025
12	2022	Morsum Roy	EE	CTS	500318011026
13	2022	Nilabha Roy	EE	Wipro	500318011028
14	2022	Nilabha Roy	EE	TCS	500318011028
15	2022	Partha Hazra	EE	Archetive Solutions Pvt. Ltd	500318011030
16	2022	Partha Hazra	EE	Ericsson Global India Services	500318011030
17	2022	Payel Roy	EE	KEC International Ltd	500319121051
18	2022	Pradipta Saha	EE	Byjus	500318011031
19	2022	Prasenjit Ganguly	EE	ACC Ltd	500319111039
20	2022	Prasenjit Ganguly	EE	JSW	500319111039
21	2022	Rajashi Bhattacharjee	EE	Mindtree	500318021034
22	2022	Satyajit Dan	EE	CTS	500318011037
23	2022	Satyajit Dan	EE	Ericsson Global India Services	500318011037
24	2022	Sayan chakraborty	EE	Ericsson Global India Services	500318011038
25	2022	Sayanta Saha	EE	CTS	500318011040
26	2022	Shaoli Paul	EE	HighRadius	500319121066
27	2022	Shilpa Dutta	EE	CTS	500318021041
28	2022	Shirsho Paul	EE	Qualicom Solutions Pvt. Ltd	500318011042
29	2022	Shreya Adhikary	EE	KEC International Ltd	500318021043
30	2022	Shubhro Kundu	EE	Pinnacle Infotech	500318011044
31	2022	Shuvam Patra	EE	Wipro	500318011045
32	2022	Smriti Dutt	EE	Accenture	500318021047
33	2022	Smriti Dutt	EE	TCS	500318021047
34	2022	Soham Roy	EE	Manikaran Analytics Ltd	500318011048
35	2022	Sourav Pal	EE	Wipro	500318011052
36	2022	Sourav Pal	EE	CTS	500318011052
37	2022	Suman Kumari	EE	KEC International Ltd	500318021057
38	2022	Taniya Roy	EE	Capgemini	500318021060
39	2022	Taniya Roy	EE	TCS	500318021060

Result (Bar chart)

YGPA WISE RESULT ANALYSIS (EE) AY 2021-22

YGPA-wise Result Analysis (EE 2nd YEAR)



GURU NANAK INSTITUTE OF TECHNOLOGY

Department
of
Information Technology

ANNUAL REPORT

2021-22

Department of Information Technology

Name of the Department: Information Technology

Vision of the department

The vision of the Information Technology is to make leaders in Information Technology education in support of teaching and learning, and also to be the preferred source of quality technology education, research and community services delivery for the local, national and international levels.

Mission of the department

- * To build a quality and cutting edge technology infrastructure.
- * Deliver quality, prompt and reliable technology education services.
- * Establish and maintain an effective academic environment for students.
- * Engage in emerging research areas and establishing leadership.
- * Contribute to the community services at large as well as catering to socio-economic goals in local and national levels.

PEO

To prepare students to excel in graduate school or technical careers through a world-class, rigorous and competitive program in the field of Information Technology.

To train students across the spectrum of basic and applied science, recognizing and exploiting common descriptions in disparate systems.

To train students with sufficient scientific and Information Technology breadth to design and create novel solutions to real-life problems in computing domain.

To develop students professional and ethical attitudes, effective communication and teamwork skills, and an ability to place science and computational issues and solutions within the broader societal context.

To provide students with an academic environment committed to excellence and innovation that contributes for developing role ready individual with leadership, professionalism, and life-long learning for professional careers in the field of Information Technology

Program Outcomes

- * **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- * **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- * **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- * **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- * **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- * **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- * **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

- * **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- * **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- * **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- * **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- * **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcomes (PSOs)

PSO1-Graduates will be able to apply basic engineering knowledge to understand and analyze basic-complex problems in the field of Information Technology.

PSO2-Graduates will be able to provide optimized solutions for organizations and individuals through Information Technology specific skills.

PSO3-Graduates will be able to work in a group to manage projects and human resources in the field of Information Technology.

PSO4-Graduates will be able to contribute in the research and development field of Information Technology through the lifelong learning to serve the society and nation.

Brief overview of the department

The Dept. of Information Technology, at the Guru Nanak Institute of Technology, Kolkata came into existence in the year 2007 for the benefit of Engineering, Science and Technology and the Nation on a larger scale. The department is renowned for its quality education, placement, discipline and very good learning environment for the students. Since its inception the department has been recognized for excellent in research and teaching. The department has a thriving research environment with active with active research groups in the areas of Artificial Intelligence, Bioinformatics, Complex and Social Networks, Data and Web Mining, and software Engineering. Graduates from the department are heavily recruited by both academia and industry, and ex-students of the department occupy top positions in both academia and industry all over the world.

We are proud of the success of our student alumni over years in industries like Infosys, TCS, Cognizant, TechMahindra, Wipro, Data 64, Tally, HCL Technology,

Accenture, and many more. A handful percentage of students have gone for higher studies in reputed the institutes of India and abroad. Careers in IT are well paying and in high demand, hence our students face competition from engineering students of other branches and have to show their creativity and passion for IT. The aim of our accredited four year B.Tech. programme is to enable students to acquire specialized scientific knowledge, as well as to provide a basis for their personal, social and cognitive development.

The future outlook for Information Technology students is indeed a bright one. Most students that come out of Information Technology dept. have a job already lined up for them when they graduate, because there is a high demand for Information Technology specialists, and not nearly enough people to fill the positions available at the time. There are bright career prospects for information technology professionals or software professionals in recent scenario. With the opening of huge software and IT companies in India, the demand for trained professionals have increased considerably. India is known to be a leader in software and IT sector.

Courses Offered:

4 years B.Tech in Information Technology.

CORE STRENGTH:

Computers being used in almost every aspect of life: Automobile Engines, Electronic Devices, Microwave Ovens, Telephones, Medical Diagnostic Equipment, Commercial Aircraft, and Orbital Satellites that deliver cable signals around the world, this area of specialization is one of the fastest growing segments of industry and changing areas of technology. Engineering graduates with degrees in Information Technology might find themselves in a variety of environments - Academia and Research (pursuing M.Tech or Phd.), Software Industry (Companies like IBM, TCS, CTS, Capgemini, Tech Mahindra, ITC Infotech), Government Organizations (like DRDO, ISRO, BHEL, BAARC), and

PSU (like SAIL, ONGC, Indian Oil, SBI).

The department is a life institutional member of ISCTE and Institute of Engineers (India).

HOD's Message

It gives me immense pleasure to present brief report of Department of Information of Technology. The Dept. of Information Technology, at the Guru Nanak Institute of Technology, Kolkata came into existence in the year 2007 for the benefit of Engineering, Science and Technology and the Nation on a larger scale. Since its inception, the department of Information Technology has welcomed scholars and enrolled students whose inclination towards creative inquiry changes how we interact with and understand the world. No matter what the technology, our students and faculty are committed to a passionate pursuit of knowledge. The department has a team of highly experienced and motivated faculty members who are in process of tuning the young minds to make them globally competitive. The strength of the department is highly motivated students who understand the dynamics of the industry and upgrade their skills accordingly. The scope of Information Technology is endless. The students of the Information Technology are highly demanded by the recruiters of the top companies. Depending upon the interest of the student, he/she may choose to go for higher studies or if employed can choose to do research, development, testing or management in the Information Technology industry. In our department we not only give emphasis on study but also apply our knowledge in understanding what computers. We organized various seminars/workshops/industry visits regularly to make familiar students with recent trend in IT Industry.

Among the reasons why our graduates are such favorites of industry is the consistent hands-on experience-based approach of our curriculum, our excellent laboratories, the long-time connections between Department and the industry. Whether you are a student, parent, prospective faculty member or a curious member of the public, I invite you to become part of the GNIT-IT family. We hope you will also have the opportunity to visit us in our state-of-the-art facilities.

Sincerely

Dr. Moumita Das,

Departmental achievements

HOD,
Department of IT

A. Student's achievements

- Soumyadipta Basu has been invited as judge for the event "CYBERMATIC" of the fest in Relativity-2021 of La Martiniere for Boys which is scheduled to be held on 26th November, 2021.
- Rounak Seal has received JIS Samman in the category of highest number of Research Paper Publication.
- Astha Ghosh has received Microsoft Learn Trophy (Azure developer League): Getting started with artificial intelligence on Azure on 15/09/2021 and has received Microsoft badge: Introduction to Azure fundamentals on 07/05/2021.
- Sumit Choudhary Published Research Paper on VANET in Springer on December 2021.
- Neha Gupta Published Research paper on Cyber Vulnerabilities in Smart Grid: A Review on June 2021.
- Anurati Kar Published research paper on Neural Network in SCOPUS, WEB OF SCIENCE (ISACS 2022 conference) on June 2022.
- Anurati Kar Published research paper on ANPR in CCNMT 2022 on June 2022.
- Moumita Basak Published research paper on Neural Network in SCOPUS, WEB OF SCIENCE (ISACS 2022 conference) on June 2022.
- Moumita Basak Published research paper on ANPR in CCNMT 2022 on June 2022.
- Sougata Roy Published research paper on Neural Network in SCOPUS, WEB OF SCIENCE (ISACS 2022 conference) on June 2022.
- Sougata Roy Published research paper on ANPR in CCNMT 2022 on June 2022.
- Rajarshi Bhattacharya Got second place in Instrument category in JIS Samman on May 2022.
- Sayan Mitra Got Selected in Microsoft Learn Student Ambassadors Program (MLSA) as an Alpha Microsoft Learn Student Ambassador on June 2022.

B. Faculty achievements

- DR. MOUMITA DAS was Reviewer at International conference on machine Vision and Augmented Intelligence 2022, organized by National Institute of Technology, Jamshedpur on MARCH, 2022.
- DR. MOUMITA DAS was External judge at JISTECH-2K21 organized by JIS College of Engineering, Kalyani, JISCE on 30-09-2021 to 01-10-2021.
- DR. MOUMITA DAS was Resource Person at Innovation Ambassador Talk Series on

Department of Information Technology

“Entrepreneurship and Innovation: Vectors for Successful Fundraising” on 23.12.2021.

- DR. MOUMITA DAS was Resource Person at Innovation Ambassador Talk Series on “Developing Online Repository of Ideas Developed and Way Forward Plan” on 29.11.2021.
- MS. SUPARNA KARMAKAR was Reviewer of International Conference on Computational Intelligence, data Science and Cloud Computing (IEM-ICDC 2021) on 23.12.2021.
- DR. MOUMITA DAS Published one research paper on International Journal of Technology and Empirical Research on November, 2021.
- DR. MOUMITA DAS Published one research paper on International Journal of Progressive Research in Engineering Management and Science on May, 2022.
- DR. MOUMITA DAS Published one research paper on International Journal of Scientific Research in Engineering and Management on June, 2022.
- MS. TRISHITA GHOSH was awarded for IEEE Transactions on Systems, Man and Cybernetics on February, 2022.

Departmental events (for e.g., Industry visit, Industry mentor meet, BOS meeting pic, seminar, conference work, PTM, sports, wall magazine, newsletter and others)

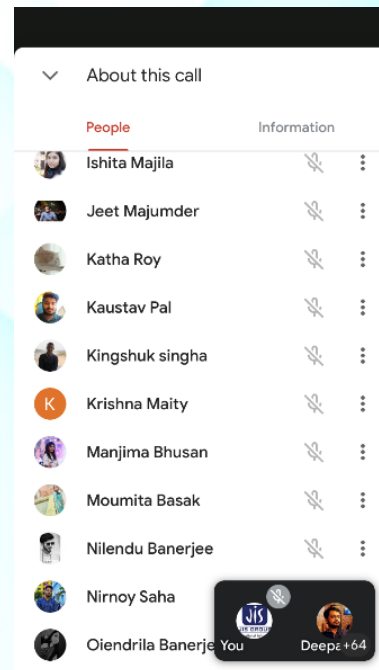
a. Organized

- Department of Information Technology has organized an Industrial Visit to *Sikharthy Infotech Pvt. Ltd.* for 2nd and 3rd year B.Tech students on 18th August, 2022.

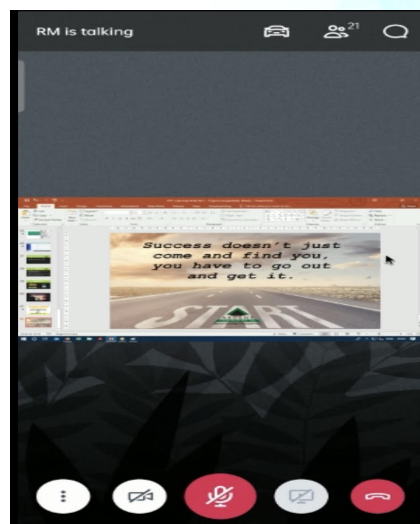


Department of Information Technology

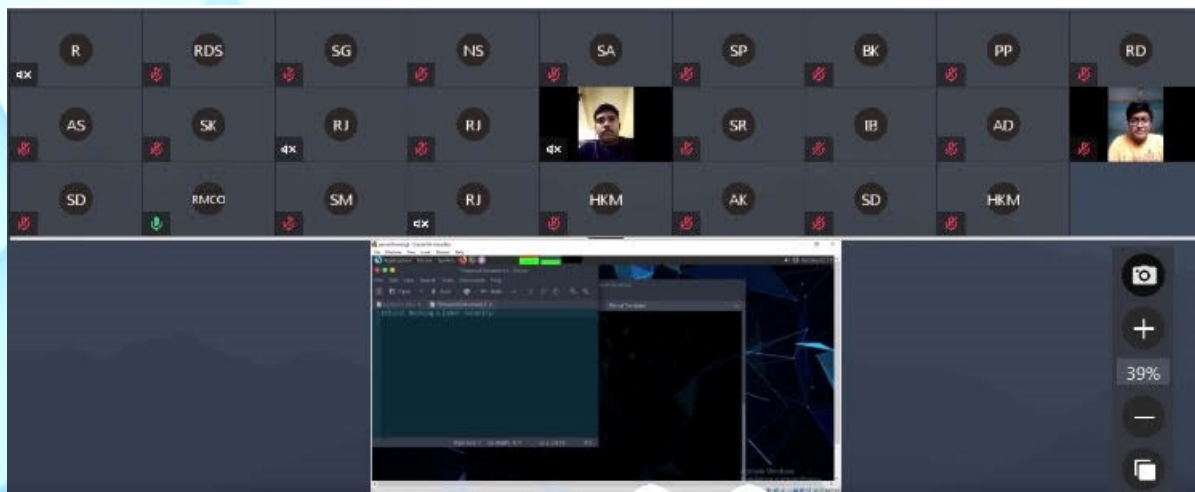
- Department of Information Technology has organized One day Virtual Industrial visit and Web Development Workshop with Sikharthy Infotech on 13/11/2021.



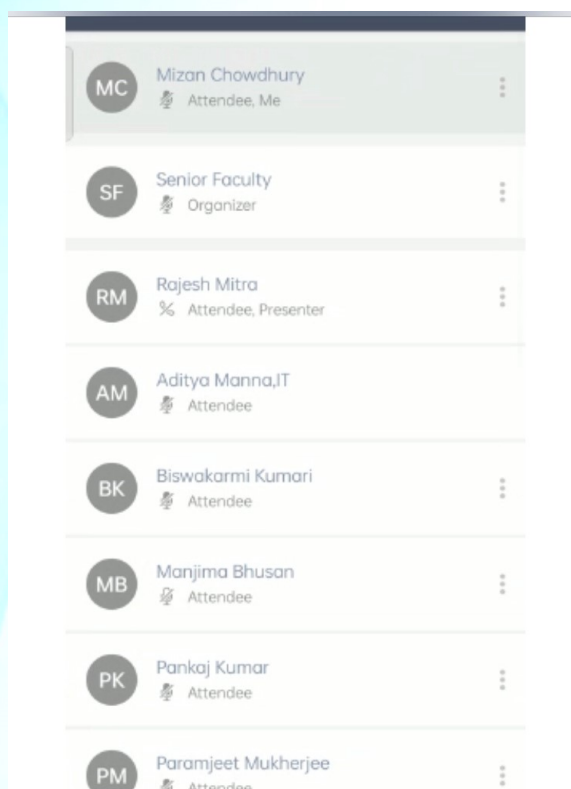
- Department of Information Technology has organized one day Online Workshop on "Machine Learning Using Python" in collaboration with The Institute of Engineers and Ardent Computech Pvt Ltd on 20/11/2021.



- Department of Information Technology has organized online workshop on "Python Programming Language" in collaboration with The Institute of Engineers and Tech Tree on dated 21/07/2021.



- Department of Information Technology has organized online Seminar on “GATE 2022” in collaboration with The GATE Academy on dated 20/08/2021.



- Department of Information Technology has organized Seminar on “Android Development” in collaboration with The Institute Of Engineers and Ardent Computech Pvt Ltd on dated 23/02/2022.

Department of Information Technology



- Department of Information Technology has organized Workshop on Machine Learning using Python in collaboration with Ogma Tech Lab and IE student Chapter on 13/04/2022.



- Department of Information Technology has organized One day seminar on “JAVA Programming” in collaboration with Sikharthy Infotech and IE student Chapter. on 25/05/2022.



- Department of Information Technology has organized online Seminar on “GATE 2022” in collaboration with Vani Institution on dated 04/02/2022.

Department of Information Technology



- Department of Information Technology@ GNIT organized Parent-Teacher Meeting on 25th May 2022, for 2nd Year 4th Semester and 3rd year 6th Semester respectively, 11AM onwards, at GNIT Campus.



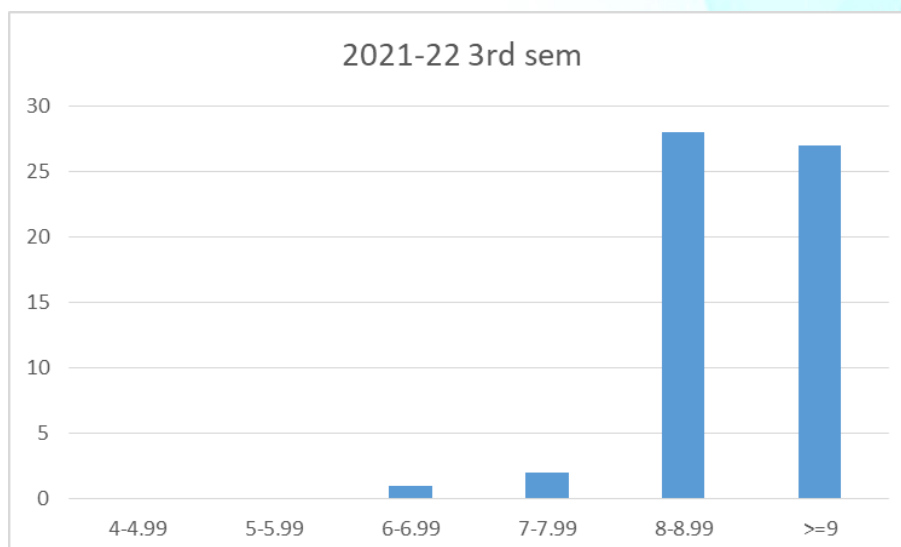
b. Participated Faculty & Staff

- Dr. Moumita Das, Assistant Professor, Dept. of IT has attended Online Faculty Development Programme on Advanced Optimization Techniques and hands-on with MATLAB/SCILAB 06/09/2021-17/09/2021 organized by Electronics & ICT Academie MNIT Jaipur, NIT Patna, IIITDM Jabalpur & IIT, Guwahati.
- Dr. Moumita Das, Assistant Professor, Dept. of IT FDP on has attended Short term course on Future Opportunities and Challenges in 5G Technology from 13/10/2021-17/10/2021 organized by Dept. of ECE with IEEE student chapter of Madanpalle Institute of Technology & Science , Madanpalle.
- Sudeep Ghosh has attended Online Faculty Development Programme on Advanced Optimization Techniques and hands-on with MATLAB/SCILAB 06/09/2021-17/09/2021 organized by Electronics & ICT Academie MNIT Jaipur, NIT Patna, IIITDM Jabalpur & IIT, Guwahati.
- Ms. Trishita Ghosh has attended ATAL FDP on “Patent Law for Engineers and Researchers from 26/07/2021-30/07/2021 organized by Prathyusha Engineering College.
- Ms. Trishita Ghosh has attended ATAL FDP on FDP on “Deep Learning” from 5/07/2021-9/07/2021 organized by Atal Bihari Vajpayee Indian Institute of Information Technology and Management, Gwalior.

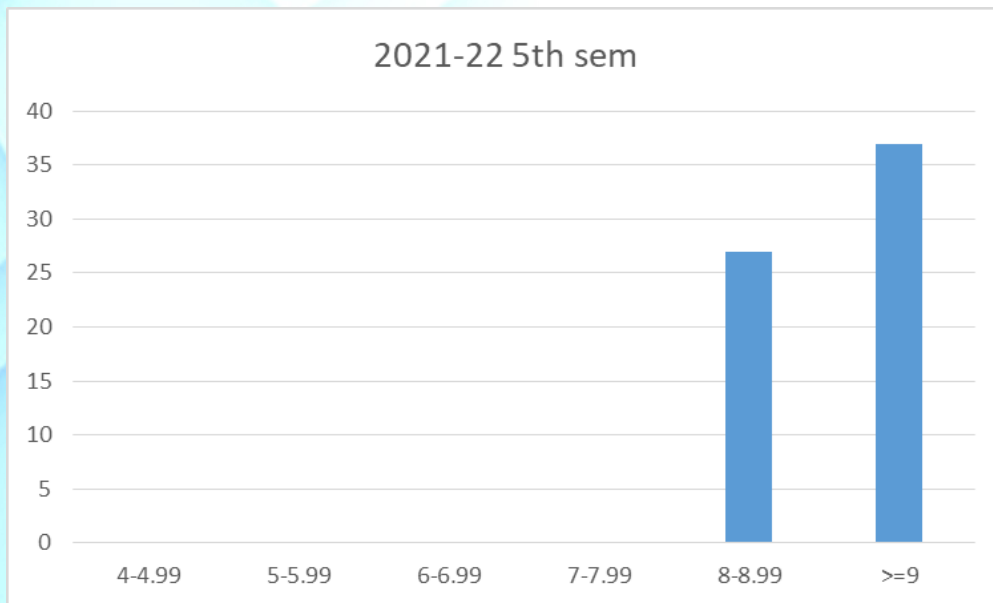
Result (Bar chart)

SGPA WISE RESULT ANALYSIS (IT) AY 2021-22

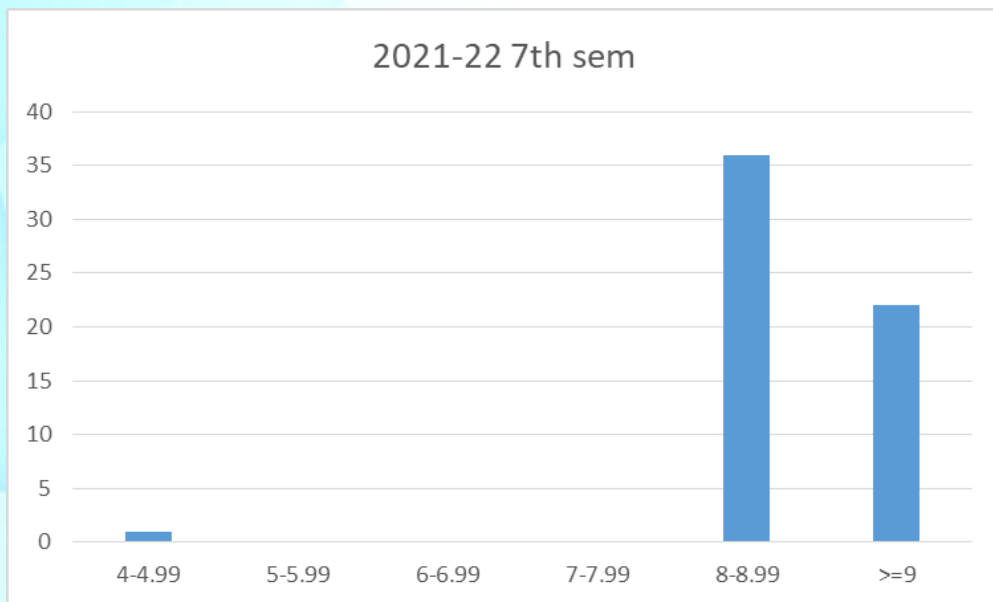
SGPA-wise Result Analysis (IT 2ND YEAR)



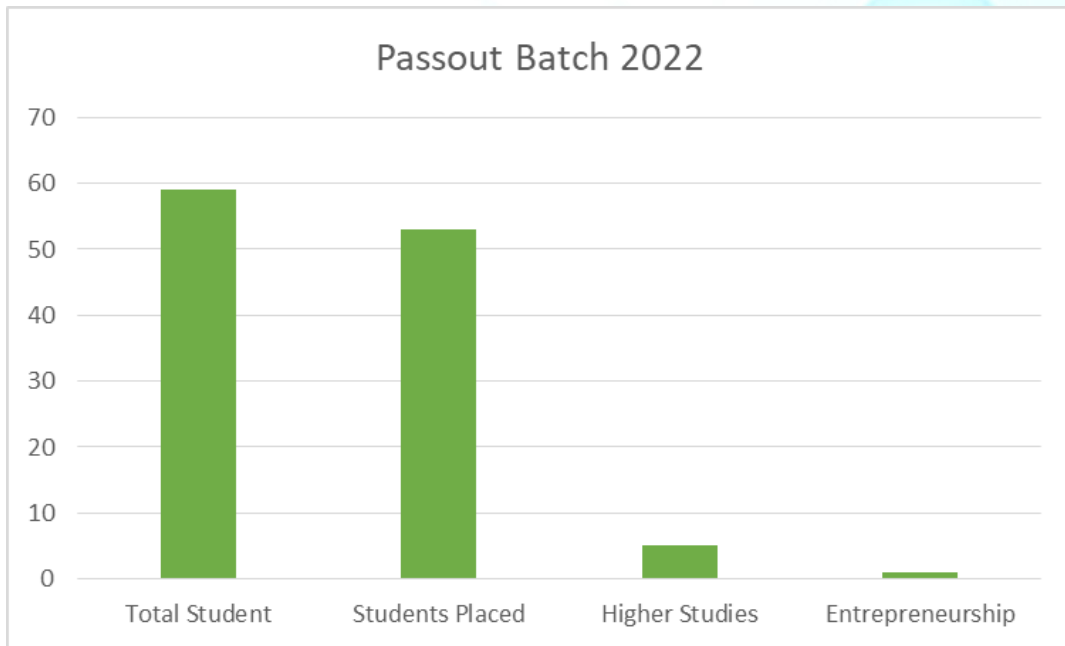
SGPA-wise Result Analysis (IT 3RD YEAR)



SGPA-wise Result Analysis (IT 4TH YEAR)



Placement and higher studies (Bar chart)



GURU NANAK INSTITUTE OF TECHNOLOGY

Department
of
Food Technology

ANNUAL REPORT

2021-22

Department of Food Technology

Name of the Department: Food Technology

Vision of the department

To become a nationally and internationally recognized institution of Food Technology by producing competent food technologists with respect to industry, research and entrepreneurship leading towards sustainable growth of the nation and imparting service to the society.

Mission of the department

To achieve its own vision the Department of Food Technology is committed to

- * DM-1: To facilitate high quality teaching to produce graduate of international standard
- * DM-2: To prepare students to face challenges in their professional life through skill development
- * DM-3: To promote interdisciplinary work culture to acquire knowledge through research activities and interaction with industries
- * DM-4: To motivate students towards sustainable development of the nation and society through professionalism, proper education, research and social service.

PEO

- * PEO 1: Graduates will apply the knowledge of engineering to design product and process by analyzing and interpreting experimental data.
- * PEO 2: Graduates will use modern techniques, skills and engineering tools necessary in food processing sectors for sustainable development.
- * PEO 3: Graduates will impart knowledge of professional and ethical responsibilities toward the society.
- * PEO 4: Graduates will work in multi-disciplinary fields as a teamplayer or a teamleader.
- * PEO 5: Graduates will pursue higher education, research and other creative and innovative efforts in food technology domain through life-long learning.

Program Outcomes

- * **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- * **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- * **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- * **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- * **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- * **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- * **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

- * **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- * **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- * **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- * **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- * **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcomes (PSOs)

- * PSO 1: Graduates will be able to comprehend the concepts of Food Technology and to apply them in various areas like food processing, preservation, packaging, analysis, quality control etc.
- * PSO 2: Graduates will be able to use modern computing technology, analytical skills and engineering tools necessary in food technology and innovation in global and social context.
- * PSO 3: Graduates will have a successful career and to support devotion for real-world applications using optimal resources as an Entrepreneur in the field of Food Technology.

Brief overview of the department

Food Technology is the application of food science to the selection, preservation, processing, packaging and distribution of food. This is used to ensure that a safe, nutritious and wholesome food is made available to the consumer. Food Technologists study the physical, microbiological, and chemical composition of food as well as to develop food process technologies, its characterizations, preservation, packaging and storage of food, according to industry and government specifications and regulations.

The Department has the following laboratories:

Food Processing Lab, Food Analysis and Quality Control Lab, Food Microbiology and Microbial Technology Lab, Food Chemistry Lab, Unit Operation of Chemical Engineering Lab, Sophisticated R&D Lab.

All are studded with various sophisticated equipment like:

Freeze Drier, Cold Centrifuge, Deep Freezer (-23OC), UV-Vis Spectrophotometer, Spectroflurimeter (Perkin Elmer), Gerber Centrifuge, Brookfield Viscometer, Laminar Air Flow Table, BOD Shaker Incubator, Autoclave, Tray Drier, Plate Freezer, Ice cream Churner, Pulper, Fluidized Bed Drier, Spray Drier, Baking Oven, Canning Unit, Homogenizer, Rotary Vacuum Evaporator, Single Screw Extruder, Jaw Crusher and Ball Mill, Heat Exchanger, Packed Bed Distillation Column, Steam

Jacketed Kettle, Reynold's Apparatus, Digital Microscope etc.

Future Scope

Placement:

There is a huge job opportunities of B. Tech. Food Technology in both government and private sectors.

In Govt. Sector:

Lecturer in Govt. Diploma Colleges, Food Inspector, Agricultural Marketing Officer, Jobs in FCI, FSSAI, MOFPI; Agriculture Officer in Govt. Banks, Food Testing Laboratories of Govt. of India, Agricultural Associate in SBI, DRDO, ICAR research institutes, Indian Army etc.

In Private Sector:

ITC Food Division, Britannia Industries Ltd., PepsiCo (India) Holdings Pvt. Ltd, Bengal Beverage (Coco Cola), Keventer Agro, EFRAC, Greenfizz Beverage Pvt. Ltd, Jubilant Food Works, India Dairy Products (AMUL), Red Cow Dairy, Thacker Dairy, Bisk Farm (Saj Food Products Pvt. Ltd.), Almarai (UAE), Don-Limon (Germany), Nestle India Ltd., Sudha Dairy Dairy, Patanjali Ayurved Limited, Parle, Priya, Raja Biscuit, Purti Vanaspati, Jubilant Foodworks Ltd., Gujarat Cooperative Milk Marketing Federation Ltd., Anmol Biscuits, Ganesh Food Products, Bisleri International Pvt. Ltd., ELMAC Foods, Vitarich Agro Food (Ind. Ltd.), Urban Feast, Shalimar Group, Dream Bake Pvt. Ltd.

Higher studies:

Students after passing B.Tech pursued higher studies in the following Universities/Institutes: M. Tech from Jadavpur University, IIT Kharagpur, University of Calcutta, M. S. In University of Dresden, Germany, M. Tech from NIFTEM, SLIET Punjab, IICPT Thanjavur, ICT Mumbai, MBA from IISWBM, Kolkata, MBA from Symbiosis, Pune, NIT Durgapur, ISB Hyderabad.

Entrepreneurship:

The scope to become an entrepreneur in Food Processing Sectors is getting exponentially higher day by day. Our students are showing great interests to set up their own business related to Food

HOD Message

It is really a matter of great pleasure to welcome you in the Department of Food Technology of Guru Nanak Institute of Technology has sustainably emerged as one of the premier educational institute in the field of Food Technology in West Bengal. The department has NBA accreditation since 2014. Since its inception in 2006 with an intake of 60 students the department has undergone continual improvement by organizing several EDP, Seminar, conference, workshop, and symposium. We offer a blended learning management system to bring together the progressive sustainable management & technical skills of the industry along with academic expertise of highly experienced and Ph. D. faculty members to disseminate knowledge on the various newer advances and developments in the Food Processing Sector and to emphasize on the different Processing Technologies and its relevance not only to the state level but also to the national and international level. Furthermore students of the department published research papers in different reputed National and International journals, presented Research paper in National/International seminar/ conferences, workshop, and symposium with the guidance of faculty members and awarded also in different oral/poster/ quiz/ Competition held in IIT-KGP, CU, JU, BHU, FOSET, etc.

Dr. Kakali Bandhapadhyay
HOD
Food Technology

Departmental achievements:

A. Student's achievements:

- Srishti Mandal , Purnasha Paul Joyita Khan (The green beam) Guided by Ms. Shairee Ganguly secured 3rd position in AICTE Chhatra Viswakarma Award 2020 on 5th September 2021.
- Sk. Adiba Masud, Sukanya Ray, Priyanka Majumdar secured the 3rd position in Debate Competition on the topic "Sustainable Agro-Food Industry Solutions", organized by Association of Food Scientists and Technologists-INDIA (AFSTI) , on 16th October 2021.
- Debarpita Sen, secured the 3rd position in Poster Competition on the topic "Sustainable Agro-Food Industry Solutions", organized by Association of Food Scientists and Technologists-INDIA (AFSTI) , on 16th October 2021.
- Varsha Singh, achieved runner up in Brain Freezer event of Food Envision, organized by Food Technology dept. of GNIT.
- Mariya Mukherjee received Kriti Award for scoring Above 9 YGPA.
- Ayushi Nandy, received 1. Kriti Award for scoring Above 9 YGPA in 2nd year, 2. Kriti Award for scoring Above 9 YGPA in 3rd year, 3. Kriti Award for getting Elite in NPTEL Course (Ethics in Engineering Practice), 4. Kriti Award for securing Top Position with 5% in NPTEL Course (Dairy and Food Process and Products Technology).
- Suditi Jana, Anisha Das, Shalini Chanda write a book entitle "Entrepreneurship 4.0: The digital Inclination".
- Ishon Mollick Successfully Published Patent on "Multi-fortified milk powder: an immune-boosting mix loaded with bio-active compounds to fortify dairy based food vehicles." In January 2022.
- Sharmeen Naaz Secured 2nd position in OUTLOOK Competition in TESSERACT×FELICIFIC Tech Fest in March 2022.
- Sharmeen Naaz acquired Elite & Gold in NPTEL Courses on "Enhancing Soft Skills and Personality" and "Strategic Performance Management" in April 2022.
- Shalini Chanda acquired Elite & Gold in NPTEL Courses on "Education for Sustainable Development" and "The Joy of Computing Using Python" April 2022.
- Arka Chakraborty Secured 1st position in group Drama in "Rangmanch Zindegi Ka", JIS Spirit, 2022.
- Purnasha Paul recurred 2nd position in group dance in "Feet Beat", JIS Spirit, 2022 .



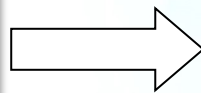
The Team “The green beam”,
who secured 3rd position in
AICTE Chhatra Viswakarma
Award 2020

B. Faculty's achievements

- Department received extension of NBA Accreditation up to June 2022.
- Department received the certification from Nikhil Bharat Shiksha Parisad (NBSP) for the departmental student chapter.
- Dr. Kakali Bandyopadhyay has acted as convener of CCNMT-2022 International Conference Sponsored by AICTE.
- Dr. Kakali Bandyopadhyay has Received MODROB project fund from AICTE.
- Dr. Kakali Bandyopadhyay, received Dr. S. Radhakrishnan Bharat Shiksha Award for outstanding Teaching & Learning on Teacher's Day, 5th September, 2021.
- Dr. Kakali Bandyopadhyay, received I2OR National Award 2021 as Distinguished Teacher, I2OR™ is Registered MSME with Ministry of MSME, Govt. of India (UDYAM-PB-20-0002405).
- Dr. Kakali Bandyopadhyay, received Nikhil Bharat Shiksha Parisad Eminent Researcher Award 2021.
- Dr. Kakali Bandyopadhyay, received Nikhil Bharat Shiksha Parisad World Students' Day Award of Excellence for being an “Enthusiastic Teacher – 2021”.
- Mr. Saikat Mazumder, received research excellence Award 2021 by Institute of Scholars (Unit of SDPL).
- Dr. Dolanchapa Sikdar, Dr. Kakali Bandyopadhyay and Ms. Monika Paul have successfully Published Patent on “Multi-fortified milk powder: an immune-boosting mix loaded with bio-active compounds to fortify dairy based food vehicles.” In January 2022.
- Dr. Dolanchapa Sikdar awarded with PhD degree from Jadavpur University in February 2022.

Department of Food Technology

- Ms. Shairee Ganguly, Asst. Prof., FT, Acted as mentor of team “The green beam”, who secured 3rd position in AICTE Chhatra Viswakarma Award 2020 on 5th September 2021.
- Ms. Shairee Ganguly has secured 2nd Position in oral presentation in an International Conference, organized by Oil Technologist Association of India in June, 2022.
- Dr. Souptik Bhattacharya, awarded with PhD degree from Jadavpur University in October 2021.
- Dr. Souptik Bhattacharya delivered invited talk on “Foodology The Nutri Talk Show” organized by KONTHO- The Voice of Empowerment on 18th September 2021.
- Dr. Souptik Bhattacharya has Selected as reviewer for the Journal Of Clinical Pharmacy And Therapeutics Of Wiley publication.
- Mr. Saikat Mazumder, completed Quality Management Systems ISO 9001:2015 Lead auditor training course, TÜV SÜD South Asia Pvt. Ltd. (CQI & IRCA accredited course).
- Mr. Saikat Mazumder, selected as Reviewer for International Journal of Basic and Applied Sciences.



Dr. Kakali Bandyopadhyay received **Nikhil Bharat Shiksha Parisad World Students' Day Award of Excellence** for being an “**Enthusiastic Teacher - 2021**”



IZOR National Award 2021 for Distinguished Teacher

Departmental events (for e.g., Industry visit, Industry mentor meet, BOS meeting pic, seminar, conference work, PTM, sports, wall magazine, newsletter and others)

Organized:

Industry-Visit:

- 3rd year students visited at Bhagwati Foods Private Limited (Franchise of Parle Biscuit) on 29.11.2021 with faculty members.
- 2nd year students visited at Allied Blenders And Distillers Pvt. Ltd. On 10th June, 2022 with faculty members.



Industry visited at Allied Blenders And Distillers Pvt. Ltd.

BOS Meeting:

- Departmental BOS Meeting was held on 29.07.2021 and 13.05.2022 in online mode.

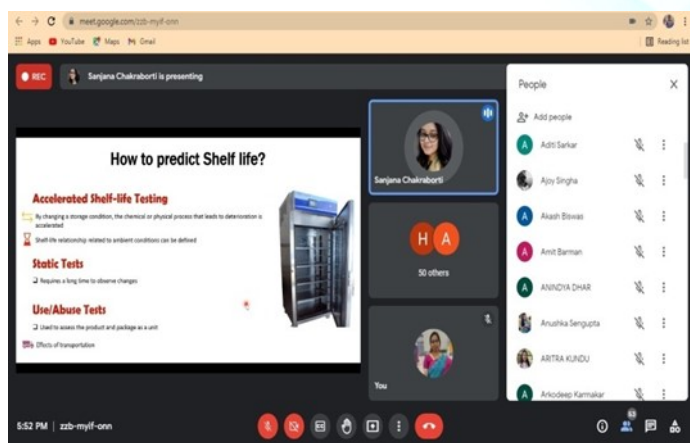
Seminar/Workshop/Invited Talk (Organized by Faculty & Staff):

- Webinar on "Orientation Towards Customer relationship with Food Safety in Industry 4.0" on 24.07.2021.
- Webinar on "New Food Development: How R & D works in Food Industries" on 31.7.2021.
- Workshop on "Entrepreneurship as carrier opportunity" on 26th November 2021.
- Workshop on "Entrepreneurship life-motivational session" on 27th November 2021.
- Workshop on "Introduction to Food Technology" on 25th September, 2021.
- Seminar on Entrepreneurship Development Talk series "Consumer Behavior: A lead to

Department of Food Technology

Problem Solving in Entrepreneurship” on 3rd December 2021.

- Seminar on “Design Thinking in Product Development” on 6th December, 2021.
- FDP on "Curriculum development and outcome mapping" on 17th January to 31st January, 2022.
- Seminar on "Build Your Future, Be Smart about Money" on 22nd March, 2022.
- Webinar on “Safe Food, Better Health” on 7th June, 2022.



Webinar on “New Food Development: How R & D works in Food Industries” on 31.7.2021



Seminar on Entrepreneurship Development Talk series “Consumer Behaviour: A lead to Problem Solving in Entrepreneurship”

Seminar/Workshop/Invited Talk/MOOCs (Participated):

i. faculty & staff

- Workshop on “Best practices for teaching online” on 04.07.2021, organized by ABP Education.
- Workshop/FDP on “Entrepreneurship-Innovation-IPR-Startup from 28.6.2021 to 3.7.2021.
- Workshop on Innovation Ambassador training (Foundation Level), organised by MoE's Innovation Cell & AICTE from 30.6.2021 to 30.7.2021.
- FDP on “Food Processing, preservation and cold storage” organized by ATAL, AICTE from

4.7.2021 to 8.7.2021.

- Workshop on "Prospects and Functioning of Commodity Markets in India" organized by Centre for Agricultural Market Intelligence, Anand from 17.9.2021 to 18.9.2021.
- SDP On "Academic & Non-academic Workplace Evolution" organized by Narula Institute of Technology, Agarpara from 20.9.2021 to 21.9.2021.
- FDP on "Non-Thermal Processing of Food Products" organized by ATAL, AICTE, from 29.6.2021 to 3.7.2021.
- FDP on "Recent Research Trends of AI/ML and Data Science" organized by JIS, Kalyani from 5.7.2021 to 10.7.2021.
- 2nd International Webinar Series on the occasion of National Nutrition Month 2021, organized by Department of Home Science, University of Calcutta from 1.9.2021 to 7.9.2021.
- One-Day Seminar on Women Empowerment through Skill Development organized by VIIT, Pune and JIS University on 24.12.2021.
- Webinar series on "High-End International Workshop (Karyashala) on Technologies for Increasing the Shelf-Life of Perishable Foods", organized by Dept. of Food Process Engineering, NIT, Rourkela, from 20.12.2021 to 25.12.2021.
- AICTE Approved FDP on "STUDENT INDUCTION PROGRAMME" , organized by Deptat of Chemical Engineering, NIT, Agartala, from 20.12.2021 to 25.12.2021.
- "FDP on CO-PO mapping and teaching methodology, organized by JIS University from 27.12.2021 to 31.12.2021.
- Webinar on My Story - Motivational Session by Successful Innovators, organized by NDLI Club on 22.12.2021.
- FDP on "Curriculum development and outcome mapping", organized by GNIT on 17.1.2022 to 31.1.2022.
- FDP on "Recent Updates on Nutrition: Focus on Metabolic Disorders", organized by Center for Nanoscience and Nanotechnology, Sathyabama Institute of Science and Technology, Chennai from 3.1.2022 to 7.1.2022.
- STTP on "National Education Policy (NEP) 2020 – Reforms in Higher Education (ICT252)", organized by NITTTR, Kolkata, from 10.1.2022 to 14.1.2022.
- International conference International Conference, organized by Oil Technologist Association, on 24.6.2022 to 25.6.2022.
- All faculty members have completed MOOCS courses of Coursera.

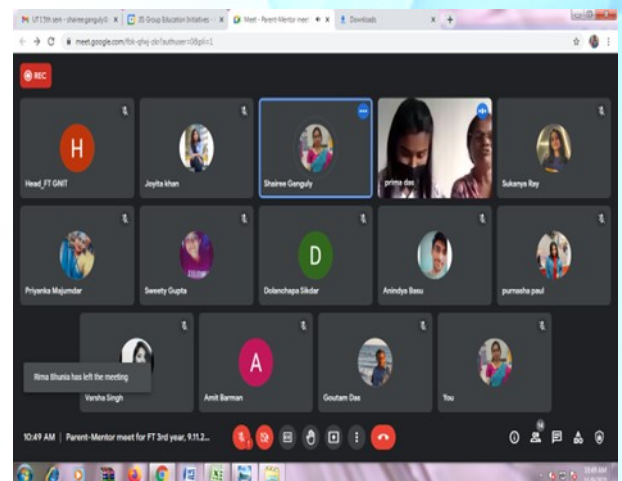
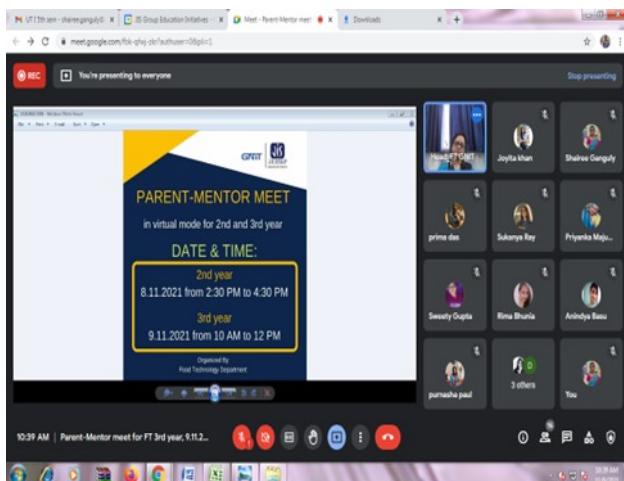
Seminar/Workshop/Invited Talk (Participated):

ii. Students

- Workshop on “Best practices for teaching online” on 04.07.2021, organized by ABP Education.
- Webinar on “New Food Development: How R & D works in Food Industries” on 31.7.2021.
- Workshop on “Entrepreneurship as carrier opportunity” on 26th November 2021.
- Workshop on “Entrepreneurship life-motivational session” on 27th November 2021.
- Seminar on “Design Thinking in Product Development” on 6th December, 2021.
- Seminar on “Build your Future; Be smart about Money” 22.3.2022, organized by GNIT.
- Food-Tech Fest “Food Envision” on 9.9.2022.
- 4th National webinar series on NEP 2020 - EAST EDITION, on 24.5.2022.

Parent- Teacher Meet (Organized by Faculty & Staff):

Parent teacher meet was organized on 8.11.2021 and 9.11.2021 for even sem and 27.5.2022 for odd sem of 2nd, 3rd, 4th year students.



Publication

Faculty and staff

Journal: 8

Conference/Seminar: 9

Student:

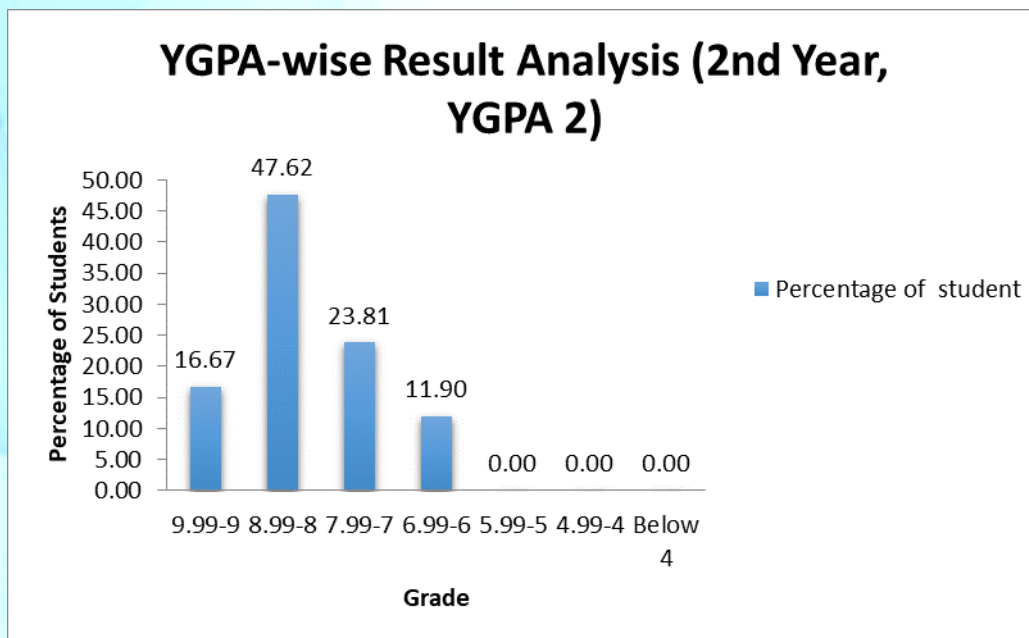
Journal: 7

Conference/Seminar: 8

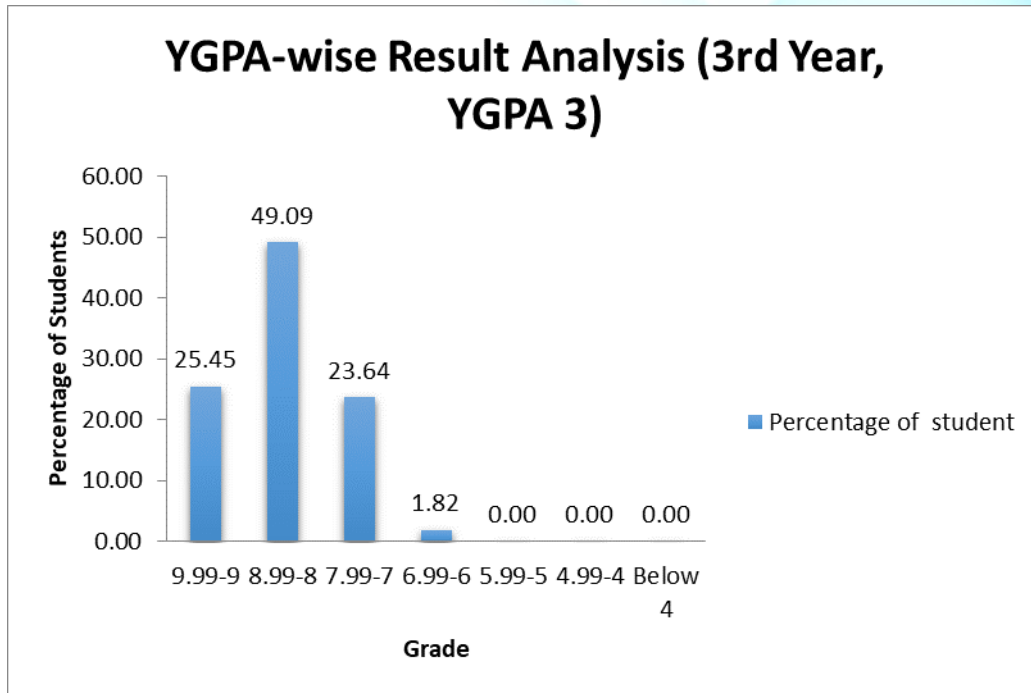
Result (Bar chart): (2nd, 3rd and 4th Year):

YGPA WISE RESULT ANALYSIS (FT) AY 2021-22:

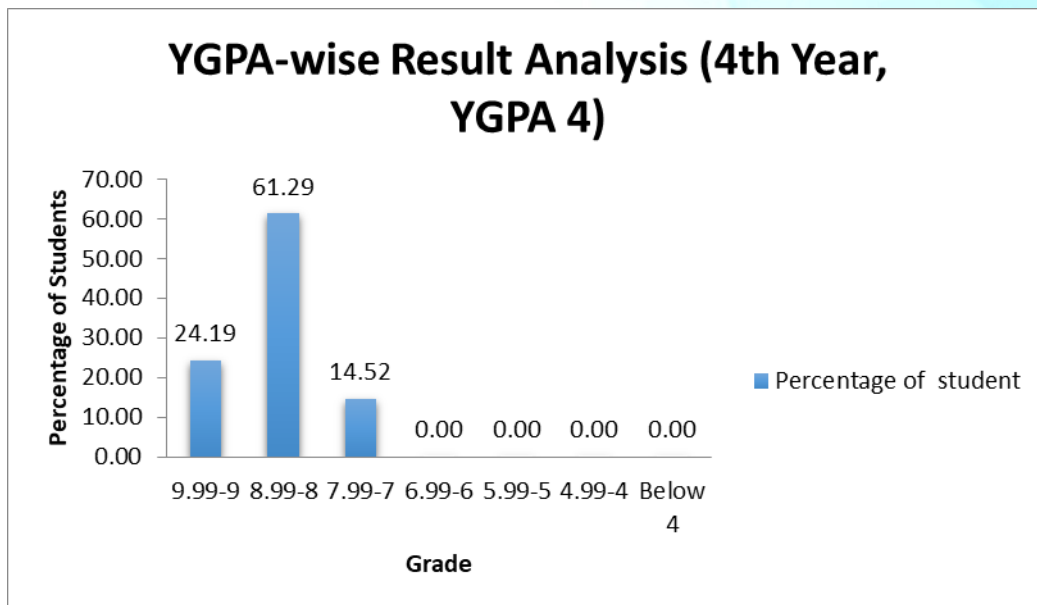
YGPA-wise Result Analysis (FT 2nd YEAR)



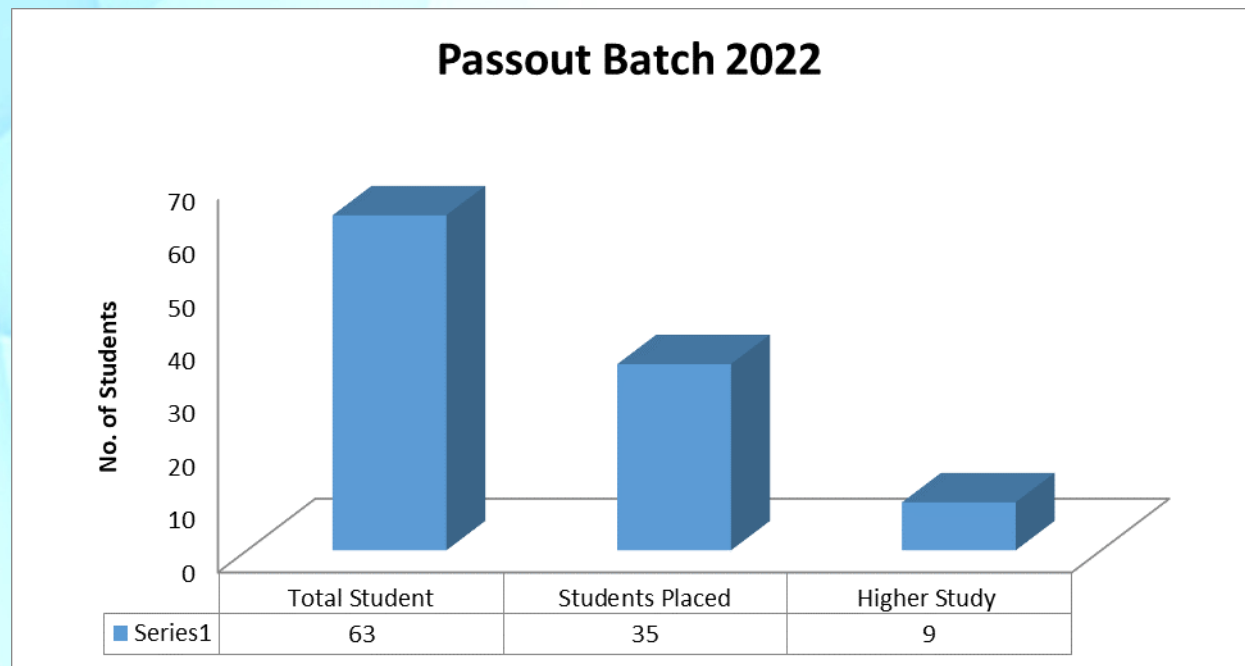
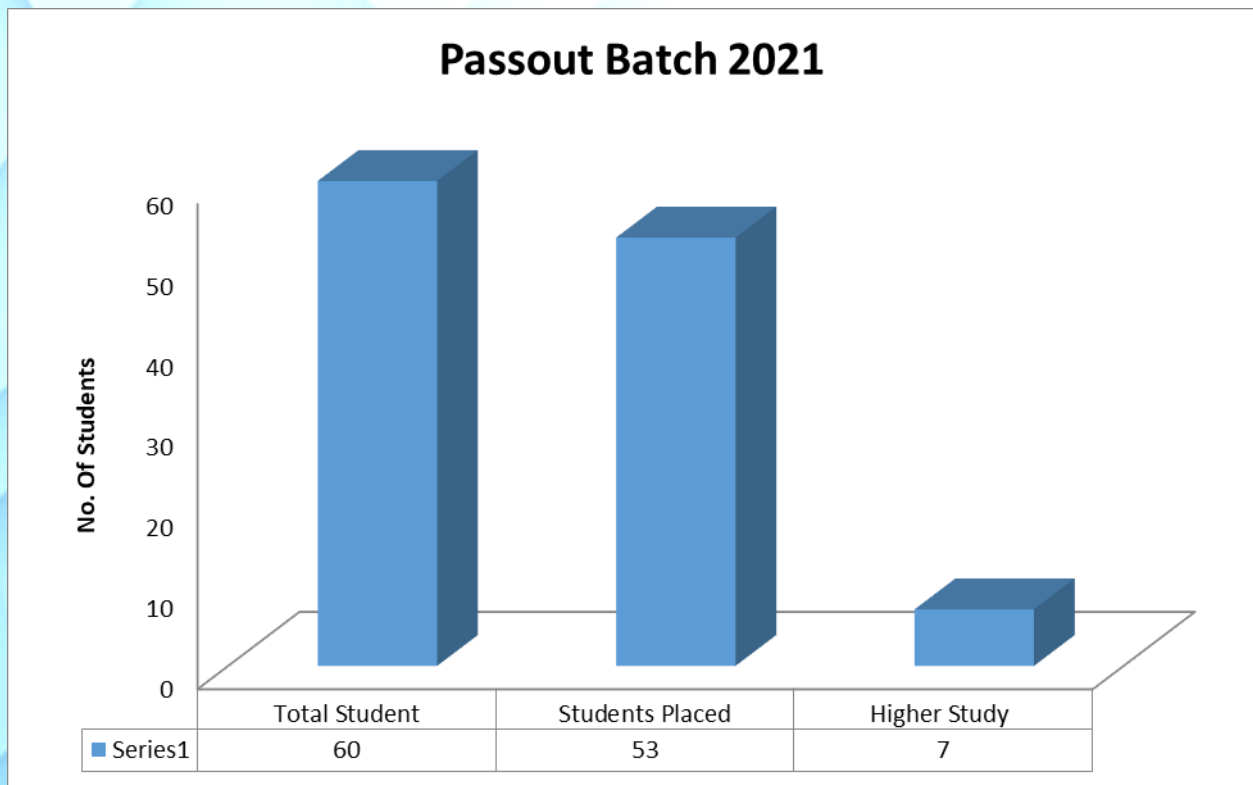
YGPA-wise Result Analysis (FT 3rd YEAR)



YGPA-wise Result Analysis (FT 4th YEAR)



Placement and higher studies (Bar chart):



GURU NANAK INSTITUTE OF TECHNOLOGY

Department
of
Applied Science & Humanities

ANNUAL REPORT

2021-22

Name of the Department: Applied Science & Humanities

Vision of the department

To nurture students through intellectual, moral and value based education, enabling them to contribute innovatively toward Science and Technology to become future leaders in their profession and responsible citizens

Mission of the department

- * Enabling the smooth transition of a 12th passed out student towards a successful career in engineering by bridging the gap between science and technology.
- * Creating a teaching - learning environment conducive to the pursuit of higher knowledge, relevant skills and experience.
- * Training them in the basic ethical values of profession.
- * Enabling awareness on ecological and environmental issues, sensitizing on current socio-economic issues.
- * Providing exposure to basic principles of management and business economics needed by the present day professionals.
- * Providing awareness building on language use by technical professionals and corporate behavior and etiquette through aptitude and soft skill training.
- * Creating a conducive research environment leading to consultancy and extension activities and making them industry ready.

Program Outcomes

- * **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- * **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- * **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- * **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- * **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- * **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- * **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

- * **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- * **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- * **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- * **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- * **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Core Strengths:

The Dept of ASHU is a service department catering to the teaching of several important and basic subjects in all the core engineering departments in the college, not only in the 1st Year but also in several other years and semesters of the four-year B. Tech course. The Departments and courses catered to by this Department include the following:

B. Tech in Computer Science & Engineering, Applied Electronics & Instrumentation, Electrical Engineering, Electronics and Communication Engineering, Food Technology, and Information Technology.

M.Tech in Computer Science & Engineering, Electronics and Communication Engineering, Food Technology.

Master in Computer Applications

The Dept is quite multi-faceted in its composition, and includes five collateral Sections, each with a separate set-up and a Section-in-Charge. These include:

Physics

Chemistry

Mathematics

English

Mechanical Science

Each Section has well-equipped and state-of-the-art laboratories under it, where students get hands-on practice in subject areas by performing live experiments under teacher supervision.

Some of the chief strengths of the Dept include:

- Research-active faculty members, with 8 Ph Ds, with expertise in various subjects ranging from Mathematics, Pure and Applied Sciences, Mechanical Engineering and languages, literature, and the liberal arts.
- Special programs on Aptitude and Training for the students, in Quantitative and Verbal Ability, Autocad and other areas.
- Well-equipped state-of-the-art laboratories in different subject areas.
- Development of ICT and Blended Learning.

- Flexibility in running online and traditional courses.

HOD's Message

After coping with the exigencies of lockdown and online activities, the ASHU Department again in 2021-22 resumed classes and other activities in the physical mode. Teaching and academic seminars and webinars continued. There were a variety of activities on ecological consciousness and conservation of nature and wildlife, spearheaded by the GNIT ECO Club in close association with the Department. The Chemistry Section continued to produce organic sanitizer and floor cleaner in continuation of its lockdown initiative. Students continued to be trailblazers, successfully completing NPTEL and Coursera MOOCs, distinguishing themselves in sports, social outreach, and cultural activities. The Departmental Faculty presented papers at conferences and symposia, conducted workshops, brought out publications. Growing from strength to strength, the Department looks forward to meeting newer challenges in the coming years.

Dr. Sucharita Chakrabarti

HOD,

Applied Science & Humanities

Departmental Achievements:

a) Students' Achievements:

Students showcased their talents in diverse fields:

- Prathit Bandyopadhyay (EE 1st year) **successfully completed Microsoft AI Classroom Series test program aired Internationally.**
- Soumyadeep Ghosh (ECE 1st year) **successfully secured Women with Disabilities Champion (Open Positions - 1000) internship at Atypical Advantage through Internshala.**
- Sayan Ghosh (ECE 1st Year), **Secured 5th position in Technology Quiz 2021, organized by JIS University and The Bengal Chamber of Commerce and received cash money Rs 3000/-.**
- Raka Basu (IT 1st Year) secured 70% marks in NPTEL Course on "Effective Writing" and Abhishek Kumar Jha (IT 1st Year) secured 70% marks in NPTEL Course on "Programming in C++".
- Suditi Jana, Santanu Dutta, also successfully completed NPTEL courses.
- 143 B. Tech 1st Year students all successfully completed COURSERA courses.
- Piyush Kumar (CSE2 1st Year) completed LinkedIn courses on "Learning JAVA" and "Learning Data Analytics: Foundation1".
- Paramita Dolui has successfully completed the 10 Days Quiz in "Data Base Management Systems".
- Nikita Pandit (CSE2 1st Year) participated in IP Awareness/Training program (NIPAM) and Donation for village adoption/tree plantation project.
- Priyashri Batabyal (CSE2 1st Year) got 100 M Girls Race 4th Position Certificate; was Badminton (Doubles) 1st Runner Up; got JIS ATHLETICS MEET BBIT Volleyball Winner Certificate.
- Aditya Kumar, Tanmoy Paul, and Sumona Maity (IT 1st Year) participated in a training program under NIPAM, GOI.
- Vishal Shaw (IT1 1st Year) was certified for participation in online quiz "Data Structure Using C" by College of Engineering, Nashik.
- Nanadini Sawdagar (ECE1 1st Year) was certified for social work and blogging under Makaut student council held on 12th December 2021.
- Abhisek (ECE1 1st Year) was awarded the Fair Play Pledge Certificate by the National Sports and Physical Fitness Board.
- Kaushik Maji and Sarnava Mallick (EE 1st Year) was awarded a certificate for participating in an awareness program on gender equality in March 2022.
- Bristidev Burman (CSE1 1st Year) was awarded a certificate for participation in LET NO POOR SLEEP HUNGRY CAMPAIGN, CALCUTTA VIEWFINDER.
- Deblina Chakraborty (CSE1 1st Year) won a prize as CodeGolf, SuperCoder, Smart India Hackathon.
- Soham Das (CSE3 1st Year) participated in "Cyber Security & Ethical Hacking" from 05th Dec 2021 to 20th Jan 2022.
- Swastika Maity and Sayan Sarkar (CSE3 1st Year) won a certificate for social services from the Helping Hand Welfare Society.
- Aditya Kumar Jha (CSE3 1st Year) won a certificate of achievement for successful completion of The Fundamentals of Digital Marketing exam by Google Digital Unlocked.

- Saikat Pan (CSE3 1st Year) won a prize in Online Quiz on National Cyber Security Awareness, ISEA Project, Phase-2, Ministry of Electronics Information Technology, GOI.

b) Faculty Achievements:

MOOC s completed:

- Mr. Sourav Majumdar completed NPTEL Course on "Machining Science" **Topper-86% Marks (Elite+Silver)**.
- Mr. Sourav Majumdar completed COURSERA course "Introduction to Advanced Vibrations" (KAIST).
- Dr. Sucharita Bhattacharyya completed COURSERA course on "Science and Engineering of Climate Change" (Jan-Feb 2022).
- Dr. Sucharita Chakrabarti completed 2 COURSERA courses on "Matrix Algebra for Engineers" (Hong Kong University of Science & Technology) (April 2022).
- Dr. Mainak Debnath got **ELITE in NPTEL** course on "Basics in Inorganic Chemistry".
- Dr. Sreyasree Basu got **ELITE** in NPTEL course on "Reaction Intermediate- Carbene and Nitrene".
- Dr. Indrajit Bhattacharyya got **ELITE + SILVER** in NPTEL Course on "Fundamentals of Spectroscopy".
- Dr. Indrajit Bhattacharyya completed COURSERA course on "Introduction to Molecular Spectroscopy" (University of Manchester).
- Dr Indrajit Bose got **ELITE + SILVER** in NPTEL Course on "Design Thinking: A Primer" (4 weeks) (July-August).
- Dr. Indrajit Bose completed 2 COURSERA courses on "Creative Writing: The Craft of Character" and "Creative Writing: The Craft of Plot" (Wesleyan University) (April-May 2022).
- Ms. Soumi Patra qualified **SWAYAM-NPTEL** course in Laser: Fundamentals and Applications with **Elite Silver**.
- Dr. Anup Kr Thander completed NPTEL course on NBA accreditation and Teaching - Learning in Engineering with **Elite**.
- Dr. Anup Kr Thander completed NPTEL course on Patent Drafting for beginners with **Elite**.
- Dr. Anup Kr Thander completed NPTEL course on Programming Data Structure and Algorithm using Python with **Elite**.
- Mr Sanjay Biswas completed 2 COURSERA courses on "Matrix Algebra for Engineers" (Hong Kong University of Science & Technology) & "Introduction to Ordinary Differential Equations" (Korea Advanced Institute of Science & Technology KAIST) (May 2022).
- Ms Namrata Chakraborty completed COURSERA course on "Instructional Design Foundations & Applications" (University of Illinois at Urbana-Champaign) (June 2022).

Publications:

- Dr. Sucharita Bhattacharyya & Dr. Anup Kumar Thander Published in Journal of Physics (Conference Series) – SCOPUS-indexed. ISSN 17426596 1797 (2021).
- Dr. Sucharita Bhattacharyya, 11th ICON SWM (Scopus-indexed).
- Dr. Sucharita Bhattacharyya, Acta Scientific Pharmaceutical Sciences (ISSN: 2581-5423).

- Dr. Sucharita Bhattacharyya-Book Chapter in **Advances in Communication, Networking & Devices** (LNEE) Print ISBN 978-981-16-2910-5 & in **Sustainable Society: Gender Equality & Women Empowerment**.
- Dr. Sucharita Bhattacharyya & Dr Anup Kumar Thander. "Higher Order Compact Finite Difference Method in the study of Slab Waveguide Communication". **Proceedings of CCNMT 2022** (8-9 July, 2022), by NOVA Science Publisher (ISBN : 978-93-5593-089-7).
- Dr. Mainak Debnath, Dr. Sreyasree Basu, Dr. Indrajit Bhattacharyya and Mr. Chandan Bhattacharyya. Published in **The Pharma Innovation Journal**,2020; SP-9(12): 86-92 – NAAS Rating.
- Dr. Mainak Debnath, Dr. Sreyasree Basu, Dr. Indrajit Bhattacharyya and Oindrilla Mazumder. published in **The Pharma Innovation Journal 2022**; SP-11(5): 1704-1710 – NAAS Rating.
- Mr. Sourav Majumdar. International Journal for Multiscale Computational Engineering. Web of Science. 2020.
- Ms. Namrata Chakraborty. Turkish Online Journal of Qualitative Inquiry (TOJQI). SCOPUS-indexed.
- Dr. Anup Kumar Thander & Dr.Sucharita Bhattacharyya – to be LNEE, Springer (SCOPUS) database.
- Mr. Sourav Majumdar. Computer Methods in **Biomechanics and Biomedical Engineering**. Web of Science. 2022.
- Dr. Sucharita Chakrabarti, Sanjoy Biswas, S. Bhattacharya and H. Dasgupta, *Applications of m-Dense Sets in m-Spac* **International Conference on Communication, Computing and Nano Microwave Technologies**, Conference Proceedings of AICTE-sponsored (CCNMT-2022) 2022, Organized by Department of ECE and FT, GNIT 08-09th July 2022, page 224-229, ISBN:978-93-5593-089-7.
- Dr. Indrajit Bose, article in Proceedings of the **International Conference on the Future of Women in Technology (FOWT) 2021**. Ideal International E-Publication, 2022. ISBN: 978-93-89817-64-5.
- Shantanu Chakravarty, Anisha Das, Sharmistha Basu, "Holding Lens on Technology-based Learning," **English Language & Literature in the Pedagogical Perspective: Embracing the Landscape Shift through Innovative Practices (ICELLP 2022)**.

Departmental Publication:

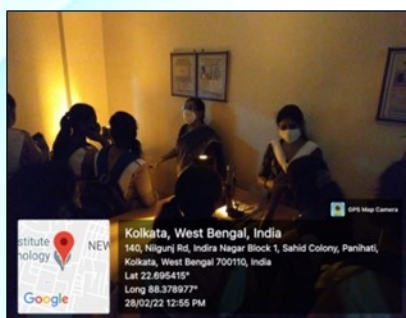
- Proceedings of ICESD-2021 27th-28th February 2021 published by GNIT, 2021 with ISBN 978-93-5566-138-8 in November 2021.
- Including 20 papers by faculty and students presented at the February conference was the first ever departmental publication by ASHU Dept, GNIT.

Seminar/Conference/Workshop Organized by the Dept:

- Webinar on "Strategizing Model for Panihati Water Management & River Rejuvenation", organized by ASHU Dept, GNIT on 30th January 2022.the veteran Water Activitist Prof (Dr) Snehal Donde, Chairperson Jaynayak YASHADA, Govt. of Maharastra, was the Resource Person.
- FDP on Curriculum Development and Outcome Mapping, Organized by ASHU Dept, Guru Nanak Institute of Technology (27th-31st January 2022).Facilitators were Mr Goutam Mandal,

Dr Indrajit Bhattacharjee and Mr Sanjoy Biswas.

- National Science Day – ASHU celebrated National Science Day on February 28, 2022 with daylong activities on Science, Maths and Language skills with 28 schoolchildren of Class XI from 3 neighbouring schools – Panihati Balika Vidyalaya, Sodepur Chandrachur Vidyapith for Girls and Panihati Trananath High School for Boys – on the GNIT campus. A Spell Bee competition, Science Quiz & lecture demo on Mathematics were held.
- Industry Visit – The ASHU Department organized a one day Industrial Visit to Central Glass & Ceramic Research Institute (CGCRI) Kolkata, a premier R & D unit of CSIR, Govt of India, on 2nd June 2022 with 30 1st Year B. Tech students. Dr Sucharita Bhattacharyya, coordinated the program.



Webinar on water treatment by Dr. Snehal Donde and school children at GNIT on National Science Day, 2022.

Products developed by the Dept:

Team Chemistry, GNIT, comprising of Dr Sreyasree Basu, Dr Mainak Debnath, Dr Indrajit Bhattacharjee and Mr Chandan Bhattacharyya, came up with their hand sanitizer (WHO-recommended) and a new organically developed floor cleaner, "Safe Touch."



Team Chemistry Members with their organic sanitizer and floor cleaner

Social Awareness & Environmental Awareness Programs:

Dept students and faculty have been continuously involved in social awareness and environmental conservation activities.

- Program on Waste Management – GNIT ECO Club, in association with ASHU Department

organized a program on “Management of Residential Solid Waste for a Sustainable Future” by Dr Sudipto Bhattacharjee, noted environmental activist and a Plastic Segregation Unit (PSU) was also inaugurated.

- Earth Day Celebration-- GEC in association with the Dept of Applied Science & Humanities, GNIT and NSS Unit, GNIT, organized a Plastic Collection Drive and Awareness Rally by students on the occasion of World Earth Day, 22nd April 2022.
- Wildlife Conservation Webinar-- “Paw Tales: Wildlife Conservation Initiatives”, a webinar was organized by ECO Club in association with ASHU Department on 7th May 2022, with Ms Anisha Iyer, Conservation & Education Officer, Wildlife SOS, Bangalore.
- Save Soil program-- A program on “Save Soil” was held on 27th May in association with Conscious Planet and Isha Foundation.
- World Environment Day program-- World Environment Day was celebrated through a Nature Study Camp on 28th May and Ghat Cleaning Activity off campus. Tree plantation on campus was held on 6th June and a talk on 27th Ramsar Site in India – the Sundarbans was given by Dr Mainak Debnath.
- International Women’s Day-- International Women’s Day 2022 was celebrated by the NSS Unit (SFU), GNIT, in association with ASHU Department members, during 8th -11th March 2022, with a host of activities including a seminar, pamphlet distribution, an awareness rally, poster competition and street play.
- GNIT NSS Unit celebrated 8th International Yoga Day in collaboration with the Isha Foundation on 21st June 2022.



Vignettes from the activities on World Environment Day and World Earth Day celebrated by GNIT ECO Club in association with ASHU Department in April and May-June 2022

Seminars/Workshops/Programs attended by Faculty members:

ATAL-FDPs (5 days):

- Dr Sreyasree Basu, Dr Mainak Debnath & Dr Indrajit Bhattacharjee completed AICTE Atal FDP on Green Technology and Sustainability in Chemistry 2nd-6th August 2021.
- Dr Soma Mukherjee completed ATAL FDP on "Wastewater Treatment, Recycle and Reuse" 6th

-10th September 2021.

- Dr Indrajit Bose completed ATAL FDP on “Research Methodology & Design Thinking” 21st – 25th September 2021.
- Mr Sourav Majumdar completed the ATAL FDP on "Advances in Micro Manufacturing, 21st-25th September 2021.
- Mr Sourav Majumdar completed the AICTE ATAL FDP on “Nonlinear Problems in Mechanical and Physical Systems” 7th-11th June 2021 & “Elements of FEM” 26th-30th June 2021.
- Ms Namrata Chakraborty completed ATAL FDP on "Stress Management", 26th-30th July 2021.

Seminars/Workshops/Webinars attended:

- Dr. Indrajit Bose, Assistant Professor of English, ASHU attended the Webinar: Essential Skills for the New Digital Era, with Sophia Mavridi & Daniel Xerri by Express Publishing, U.K on 22.01.2022.
- Ms Namrata Chakraborty, Assistant Professor of English, ASHU attended FDP on Curriculum Development and Outcome Mapping, Organized by Guru Nanak Institute of Technology on 27/01/2022.
- Ms Namrata Chakraborty attended Webinar for Teachers, "Best practices for Teaching with Video Synchronously" by Sensations English on 6.7.2021.
- Ms Namrata Chakraborty attended FDP on "Exploring Globalised Space(s): Contemporary Trends in Literature and Language" Organized by Amity Institute of English Studies and Research, Kolkata between 12.07.2021 to 16.07.2021.
- Ms Namrata Chakraborty attended FDP on ‘Mental and Behavioural Health of Students: Bridging the Teacher Student Gap’ Organized by Amity Institute of Behavioural Health and Allied Sciences, Amity University Kolkata from 12.07.2021 to 16.07.2021.
- Ms Namrata Chakraborty attended Webinar - "Reimagining English Assessment" Organised by Penang English Language Learning & Teaching Association(PELLTA), Malaysia on 23.07.2021.
- Ms Namrata Chakraborty attended FDP on “Exploring the New Paradigms of Communication and Pedagogical Innovation in the Pandemic Driven World” Organized by Department of Basic Science and Humanities, IEM Kolkata from 3.08.2021 to 7.08.2021.
- Goutam Mandal, Assistant Professor, ASHu(Mathematics) attended STTP on "LABVIEW & MATLAB Applications in Engineering (ICT247)" organized by Organized by NITTTR Kolkata,

Coordinated by Dr. Soumitra Kumar Mandal on 03/01/2022.

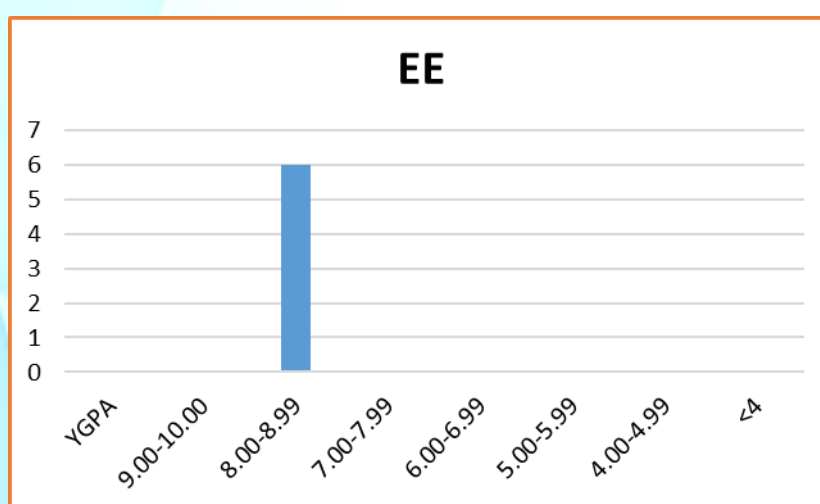
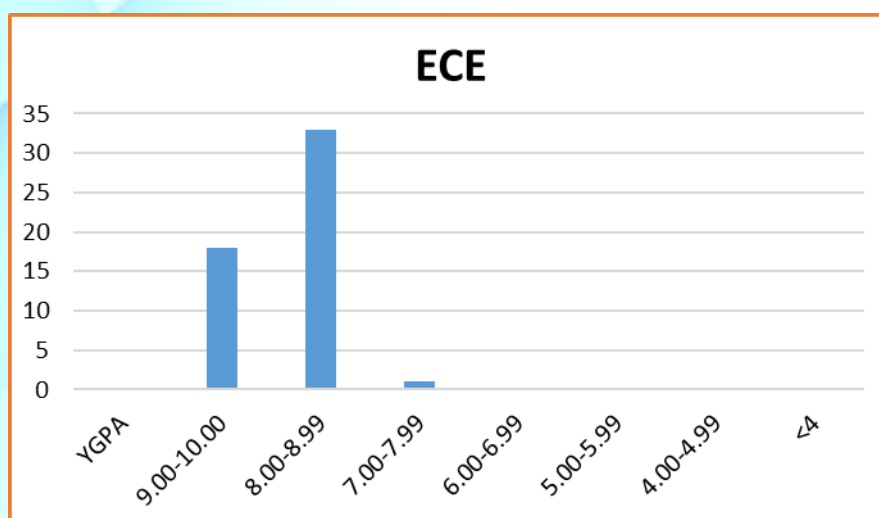
- Goutam Mandal attended STTP on "Probability and Statistics (ICT260)" organized by Organized by NITTTR Kolkata, Coordinated by Prof. Dr. Chandan Chakraborty on 17/01/2022.
- Mr. Sourav Majumdar, Assistant Professor of Mechanical Engineering, ASHU attended a Webinar on "Materials and Manufacturing at Micro-Nano Scale" Organized by Dept. of Mechanical Engg., MIT Bishnupur on 6.8.2021.
- Mr. Sourav Majumdar, Assistant Professor of Mechanical Engineering, ASHU attended FDP on "Application of Different Computational Techniques in The Field of Engineering" organized by Dept. of EE, Gargi Memorial Institute of Technology with IEEE-FPS, Kolkata Section on 25.01.2022 – 29.01.22.
- Mr. Sourav Majumdar attended FDP on "Emerging Topics in Computing: Quantum, Microfluidics, Memristors" Organized by Dept. of CSE in association with IQAC, JIS University from 9.8.2021 to 13.08.2021.
- Mr. Sourav Majumdar attended AICTE Sponsored STTP on "Advanced Technology to Bridge the Gap between Medical Science and Engineering for the Benifit of Mankind" Organized by Dept. of Biomedical Engg, JISCE Kalyani from 13.08.2021 to 28.08.2021.
- Mr. Sourav Majumdar attended ATAL FDP on "Advances in Micro Manufacturing" Organized by Dept. of Mechanical Engg, Bundelkhand Institute of Engineering and Technology, Jhansi between 21.9.2021 to 25.09.2021.
- Mr. Sourav Majumdar attended Online Workshop on "ANALYTICAL AND NUMERICAL METHODS FOR NON-LINEAR VIBRATIONS" Organized by the Design Division, Dept. of Mechanical Engg, SRM Institute of Science and Technology, Kattankulathur, Chennai between 23.09.2021 to 25.09.2021.
- Ms Soumi Patra, Assistant Professor of Physics, completed an FDP on "Smart Materials & Systems for Sustainable Development" 28th June-3rd July 2021 organized by Dept. of Mechanical Engg., JISCE, Kalyani.
- Mr Sanjoy Biswas completed QIP on Implementation of Numerical Methods using MATLAB from Dept of Mathematics, IIT, Indore (3/01/22 – 8/01/22), FDP on Mathematical Foundation of Computer Science (ICT253) from NITTR, Kolkata (10/01/22 to 21/01/22).
- Mr Sourav Majumdar attended FDP on "Application of Different Computational Techniques in The Field of Engineering" from GMIT, Kolkata (25/01/22 to 29/01/2022) and STTP on "MATLAB in Mechanical Engineering Applications" (25th & 26th March) by NITTR, Kolkata and IP Awareness Training Program under National Intellectual Property Awareness

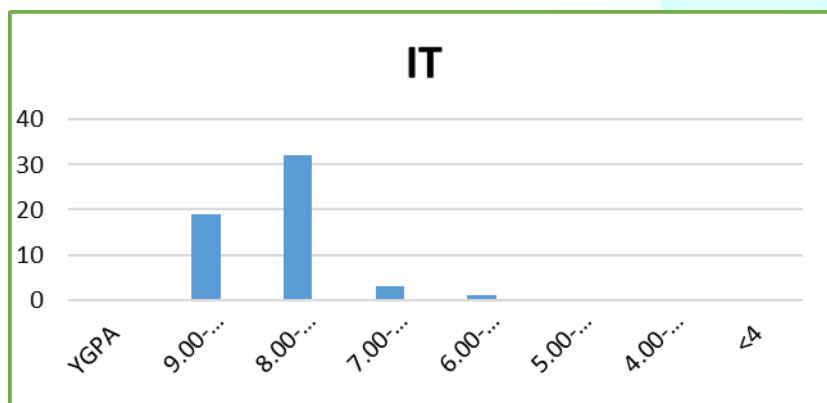
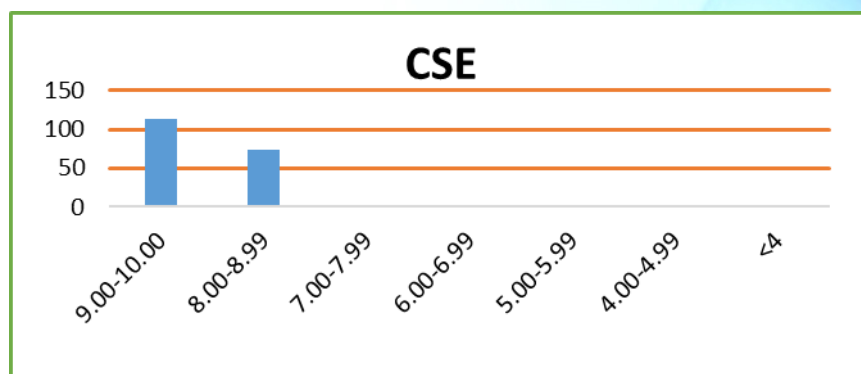
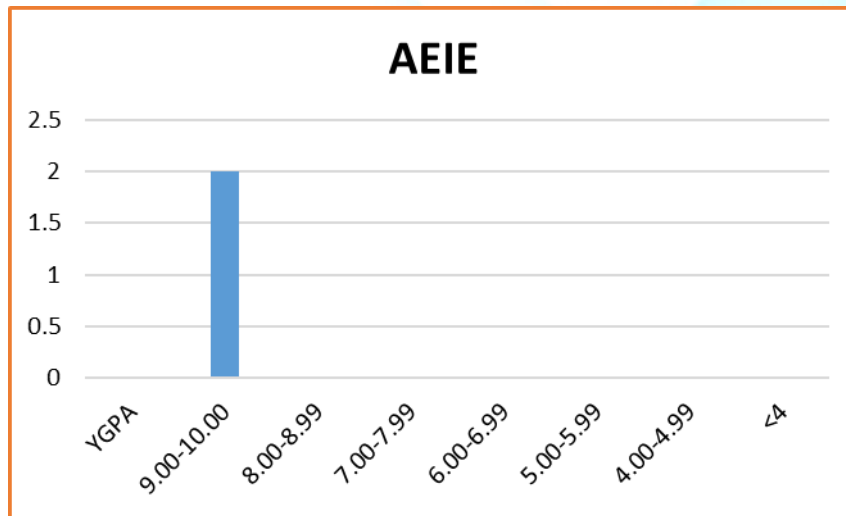
Mission, IPR, New Delhi.

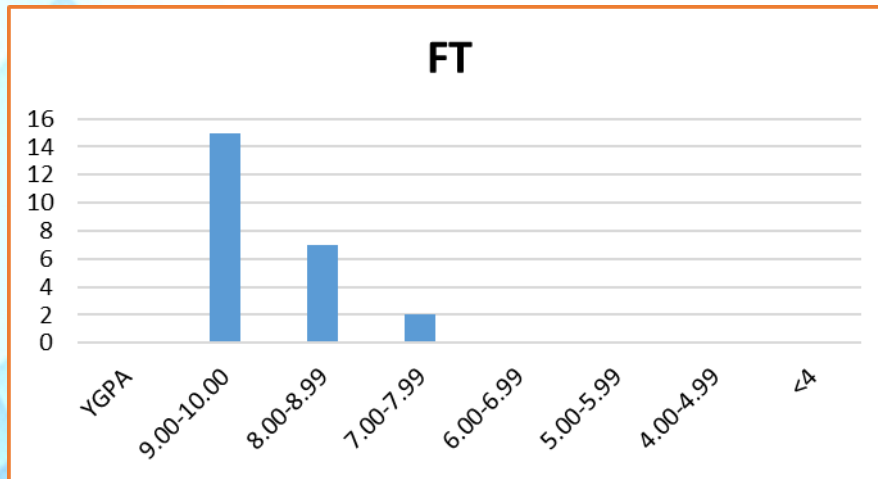
- Dr Indrajit Bose presented a paper at the National Conference on "Discourse Oriented Pedagogy for the Language Classroom" (25th-26th February) by HUMPIETR, Vallabh Vidyanagar, Anand, Gujarat.
- Dr Sucharita Chakrabarti gave an invited lecture on "History behind Pi" to Greater Kolkata College of Engineering and Management on the occasion of "Pi Day" on 14.03.2022.
- Mr Gautam Mandal was awarded a certificate for presenting an "Idea of Developing Compost Fertilizer with Home Remedies for Use of Home Garden" by JIS Group Idea-O-Meter in May 2022.

Result (Bar chart)

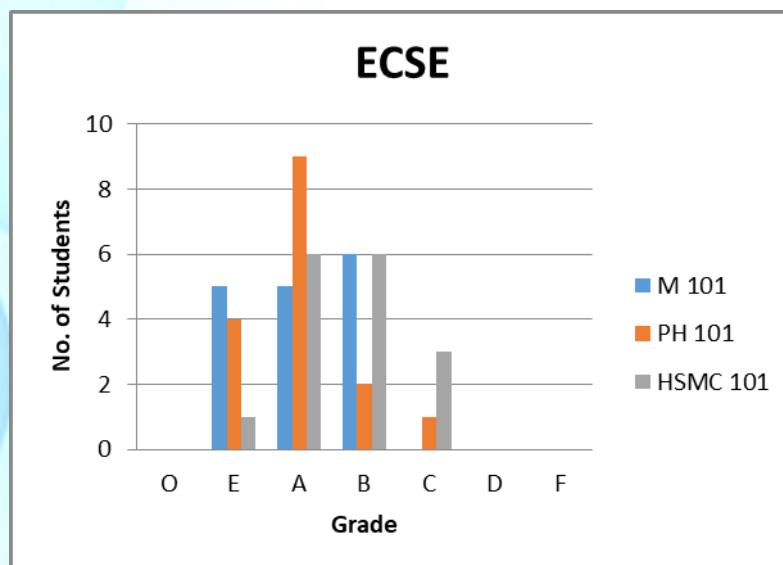
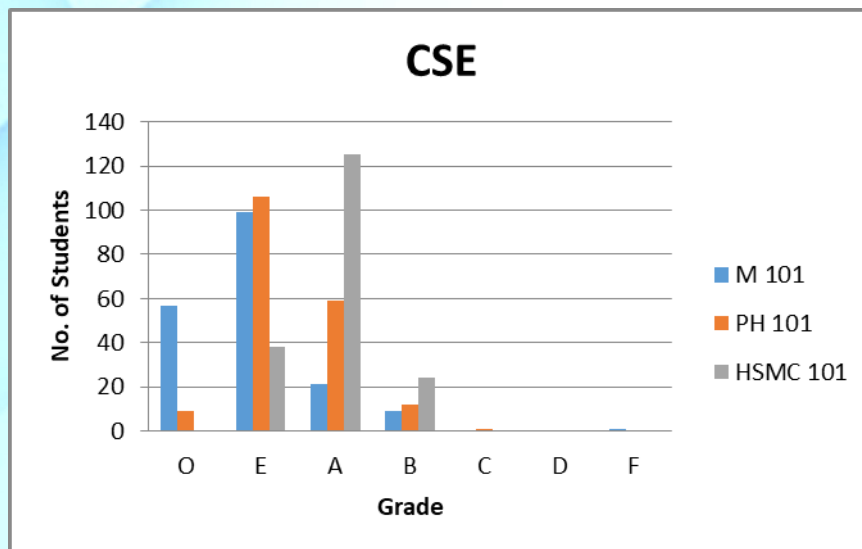
The result analysis (Stream-wise) for all the 1st Year B. Tech batches (2020-21) was as follows:

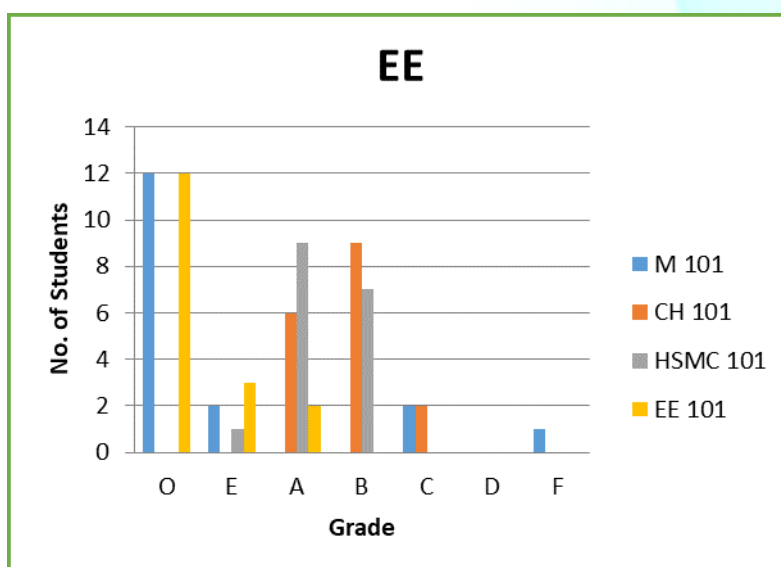
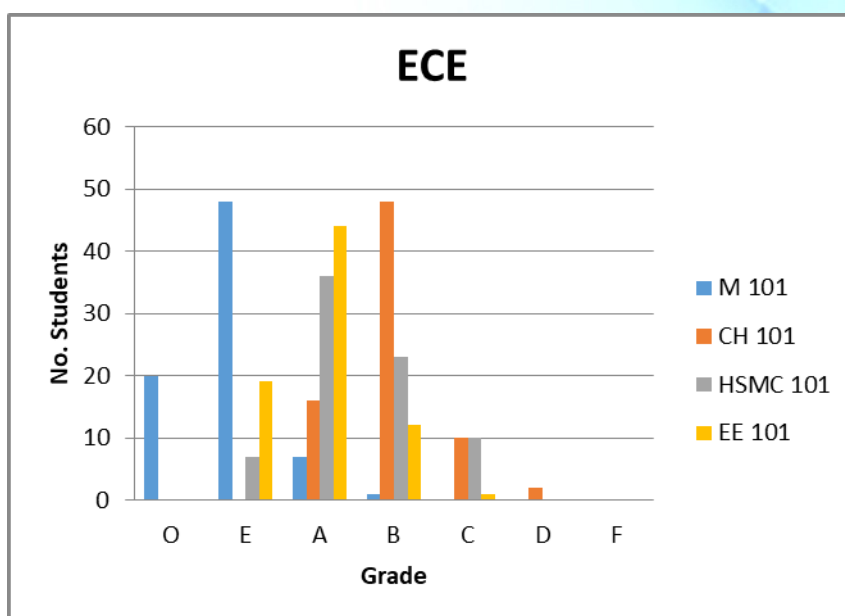
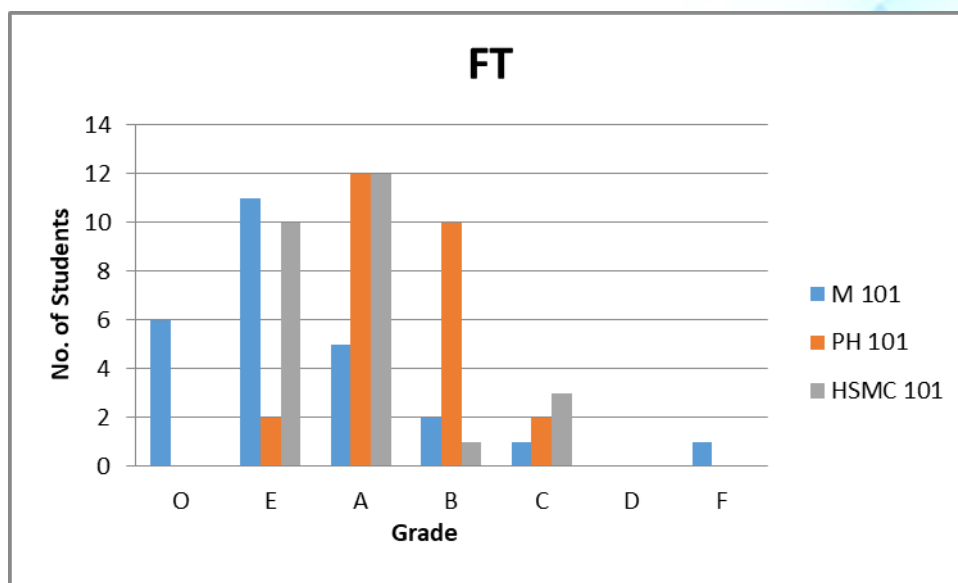


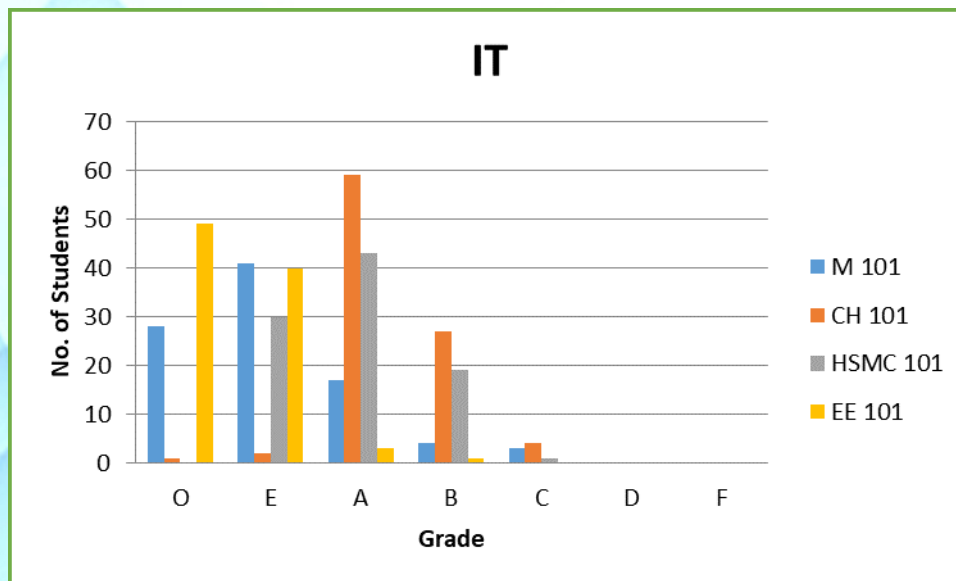




The result analysis (Stream-wise) for all the 1st Year B. Tech batches (2021-22) was as follows:







Conclusion:

The entire academic year witnessed a diversity of academic, cultural, environmental initiatives. Students acquired knowledge, training and empowerment through learning and training programs. Faculty members provided guidance in innovative learning pathways and moved on the road to professional development. On the whole, the academic year witnessed positive growth and progress.

GURU NANAK INSTITUTE OF TECHNOLOGY

Department
of
Applied Electronics and
Instrumentation Engineering

ANNUAL REPORT

2021-22

Name of the Department: Applied Electronics and Instrumentation Engineering

Vision of the department

The Vision of the department is to create Electronics & Instrumentation engineers with outstanding technical competency acceptable worldwide to impart research aptitude for societal benefit.

Mission of the department

- * M1: To provide high quality technical education and training in response to the changing needs of industries and society through an innovative learning process related to Applied Electronics and Instrumentation Engineering.
- * M2: To develop employable and competent Electronics and Instrumentation Engineers with high academic credentials and to inspire them to take up higher studies and research.
- * M3: To contribute towards the betterment of society by imparting practical skills and technical knowledge to the students.
- * M4: To make engineers with high professional ethics, social and human values and responsive to community needs.

PEO

PEO1: Graduates of Applied Electronics and Instrumentation Engineering program will be able to incorporate their knowledge to excel in professional career and also use the fundamental knowledge to enhance the power of invention, innovation & entrepreneurship.

PEO2: Graduates of Applied Electronics and Instrumentation Engineering program will have strong foundation in mathematical, scientific and engineering fundamentals necessary to formulate, solve and analyze engineering problems related to industry and research through lifelong learning.

PEO3: Graduates of Applied Electronics and Instrumentation Engineering program will be able to inculcate the professional and ethical code of conduct, communication skills, and team work so as to use technology for the progress to the society..

Program Outcomes

- * **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- * **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- * **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- * **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- * **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- * **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- * **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

- * **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- * **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- * **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- * **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- * **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcomes (PSOs)

PSO 1: Apply their knowledge related to design, installation & operation of the basic instrumentation systems used in industrial environments.

PSO 2: Use scientific & engineering fundamentals, skills & tools to formulate, solve & analyze instrumentation problems related to industry & research.

Brief overview of the Department

The department of EIE was established in the year 2003. This department emphasizes to create technical professionals who are keen to take engineering responsibilities with a vast knowledge of entire process, medical instrumentation and power plants – a specialization that has grown leaps and bounds in the recent years. The department is equipped with state-of-the-art laboratories to impart technical skill to the students to make them proficient engineers. Instrumentation engineers work for industries with automated processes, such as chemical or manufacturing plants, with the goal of improving system productivity, reliability, safety, optimization and stability. They find jobs in various sectors including R&D units of public and private sector companies, heavy industries such as thermal power stations, steel plants, refineries, cement and fertilizer plants etc. like DRDO, ISRO, NTPC, DVC, SAIL, TATA Steel, Jindal Group of Industries, GAIL, IOCL, HPCL, BHEL, WBTL. They have a multidisciplinary role to play. One may choose to move sideways into other areas like Software (IBM, Infosys, TCS, CTS, Capgemini etc.), Banking (SBI, UBI etc.), Education (Different degree & Diploma Engineering Institutions), Biomedical Instrumentation etc. Biomedical Engineering under EIE Dept. has excellent job prospects as demand for sophisticated medical devices has been increasing. This branch also deals with developing and

manufacturing medical equipment, diagnostic devices. The department also encourages students to engage in different extra-curricular & co-curricular activities to develop personal & professional ethics and management.

Courses Offered:

4 years B.Tech in Applied Electronics and Instrumentation Engineering.

CORE STRENGTH:

Computers being used in almost every aspect of life: Automobile Engines, Electronic Devices, Microwave Ovens, Telephones, Medical Diagnostic Equipment, Commercial Aircraft, and Orbital Satellites that deliver cable signals around the world, this area of specialization is one of the fastest growing segments of industry and changing areas of technology. Engineering graduates with degrees in Computer Science and Engineering might find themselves in a variety of environments –Academia and Research (pursuing M.Tech or Phd.), Software Industry (Companies like IBM, TCS, CTS, Capgemini, Tech Mahindra, ITC Infotech), Government Organizations (like DRDO, ISRO, BHEL, BAARC), and PSU (like SAIL, ONGC, Indian Oil, SBI). The department is a life institutional member of ISCTE and Institute of Engineers (India).

HOD's Message

The department of AEIE was established with the vision to create technical professionals who are keen to take engineering responsibilities with a vast knowledge of entire process, medical instrumentation and power plants – a specialization that has grown leaps and bounds in the recent years. The department is equipped with state-of-the-art laboratories to impart technical skill to the students to make them proficient engineers. The department also encourages students to engage in different extra-curricular & co-curricular activities to develop personal & professional ethics and management.

Mrs. Bapita Roy
HOD

Electronics and Instrumentation Engineering

Departmental achievements:

a. Student's achievements:

- Shilpita Hazra successfully completed COURSERA COURSE on Introduction to the Internet of Things and Embedded Systems in July-Dec 2021.
- Chandrika Bhattacharyya successfully completed COURSERA COURSE on Introduction to the Internet of Things and Embedded Systems in July-Dec 2021.
- Sampreet Dey successfully completed COURSERA COURSE on Introduction to the Internet of Things and Embedded Systems in July-Dec 2021.
- Sonali Das successfully completed COURSERA COURSE on Introduction to the Internet of Things and Embedded Systems in July-Dec 2021.
- Souvik Das successfully completed COURSERA COURSE on Introduction to the Internet of Things and Embedded Systems in July-Dec 2021.
- SAYANI DEY successfully completed COURSERA COURSE on Introduction to the Internet of Things and Embedded Systems in July-Dec 2021.
- Sakya Mridha successfully completed COURSERA COURSE on Introduction to the Internet of Things and Embedded Systems in July-Dec 2021.
- Rahul Sarkar successfully completed COURSERA COURSE on Introduction to the Internet of Things and Embedded Systems in July-Dec 2021.

- Swagat Das successfully completed COURSERA COURSE on Introduction to the Internet of Things and Embedded Systems in July-Dec 2021.
- ROHIT BHATTACHARJEE successfully completed COURSERA COURSE on Introduction to the Internet of Things and Embedded Systems in July-Dec 2021.
- Tamasha Paul successfully completed COURSERA COURSE on Introduction to the Internet of Things and Embedded Systems in July-Dec 2021.
- ARGHA MAJUMDER successfully completed COURSERA COURSE on Introduction to the Internet of Things and Embedded Systems in July-Dec 2021.
- NABANITA SARDAR successfully completed COURSERA COURSE on Introduction to the Internet of Things and Embedded Systems in July-Dec 2021.
- Manasijo Ganguly successfully completed COURSERA COURSE on Introduction to Electronics in July-Dec 2021.
- Kunal Maity successfully completed COURSERA COURSE on Introduction to Electronics in July-Dec 2021.
- Shilpita Hazra Successfully completed NPTEL online certification on The Joy of Computing using Python with 74% score, Elite Category.
- Shilpita Hazra Successfully completed NPTEL online certification on Digital Circuits with 61% score.
- Shilpita Hazra Successfully completed NPTEL online certification on The Joy of Computing using Python with 74% score, Elite Category.
- Shilpita Hazra Successfully completed NPTEL online certification on Digital Circuits with 61% score.
- Shilpita Hazra published a patent on "A SMART IRRIGATION SYSTEM WITH CONTROLLED POLLUTANTS PRESENT IN THE AIR IN RURAL AND INDUSTRIAL AREA".

b. Faculty's achievements:

- Dr. Paramita Banerjee selected as Faculty with highest number of publication- Only Indexed Journal will be considered at JIS Samman-2021.
- Dr. Paramita Banerjee selected as MOOC Course Developer: Subject Matter Expert Group (SMEG) of Nikhil Bharat Council for Massive Open Online Course. Objective: NBC-MOOC Free of Cost Training for Students for Socio - Economic Development.
- Bapita Roy published a patent on "A SMART IRRIGATION SYSTEM WITH CONTROLLED

POLLUTANTS PRESENT IN THE AIR IN RURAL AND INDUSTRIAL AREA”.

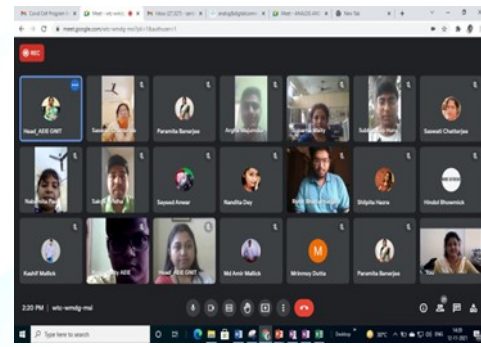
- Bapita Roy published a patent on “BIOMEDICAL DATA INTEGRATION SYSTEM”.
- Bapita Roy completed NPTEL Course on “Introduction to Internet of Things”.
- Bapita Roy is selected as MOOC Course Developer: Member of Subject Matter Expert Group (SMEG) of Nikhil Bharat Council for Massive Open Online Course. Program Designed:: Industrial Instrumentation: Pressure & Flow measurement.
- Bapita Roy acted as the Coordinator of IIRS/ ISRO outreach network being the representative of GNIT (Network Institute of IIRS) and participate in the conduction of the Course ‘Satellite Photogrammetry and its application”. Two students under her mentorship qualified this course with a good marks in all India basis.
- Suparna Maity is enrolled for PhD program in the department of Electronics & Instrumentation Engineering at National Institute of Technology, Silchar.
- Suparna Maity is MOOC Course Developer: Member of Subject Matter Expert Group(SMEG) of Nikhil Bharat Council for Massive Open Online Course. Program Designed: Essentials of Process Control Part 1.
- Santana Das is MOOC Course Developer: Subject Matter Expert Group(SMEG) of Nikhil Bharat Council for Massive Open Online Course. Objective: NBC-MOOC Free of Cost Training for Students for Socio - Economic Development. Program Designed: Essentials of Control System: Part1.
- Santana Das published Patent “Agro photovoltaic system (APV) - A promising solution of land Employment along with the Renewable Energy provided by the Agricultural Division” published.
- Santana Das selected as a reviewer by International Journal of Robust and Nonlinear Control (an SCI-indexed journal published by Willy).

Departmental events (for e.g., Industry visit, Industry mentor meet, BOS meeting pic, seminar, conference work, PTM, sports, wall magazine, newsletter and others):

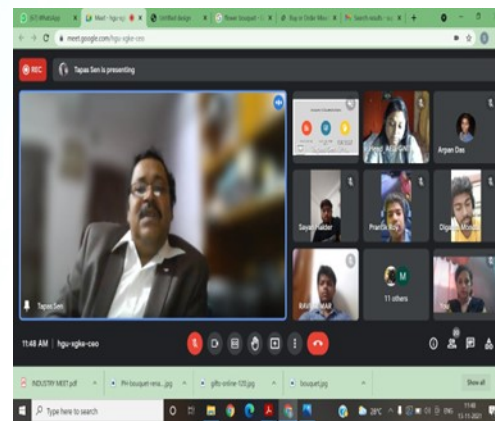
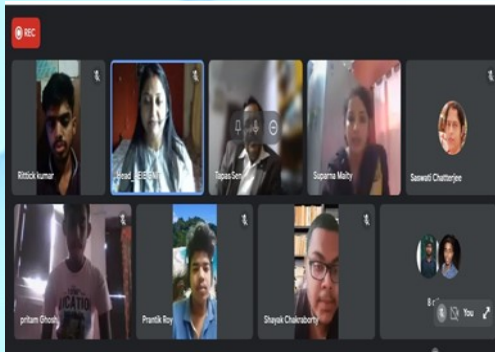
a. Organized:

- “COVID 19 Awareness Programme” for the students of B.Tech, AEIE & ECSE organized by AEIE Department on 12th November, 2021 where the facilitator Ms Bapita Roy, Head of the Department, briefed the history, causes, symptoms and measures to prevent Covid-19.

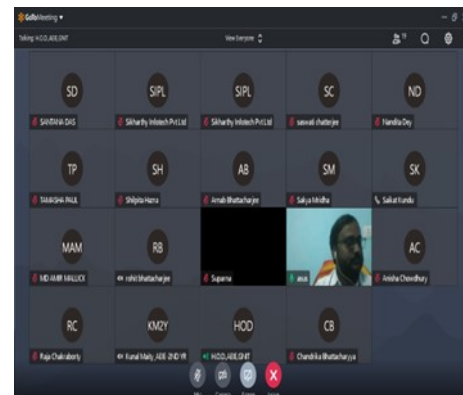
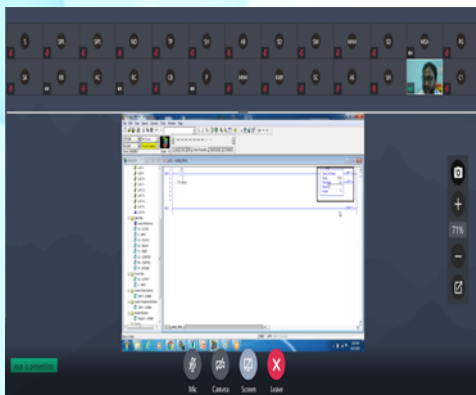
Applied Electronics and Instrumentation Engineering



- "Industry-Mentor Meet" for the students of 1st year as a part of Student Induction Program-2021 organized by AEIE Department where Mr Tapas Kumar Sen, CEO, TNS ; facilitator of the session, discussed professional skills which students should have as an engineer, career opportunities, and so on.

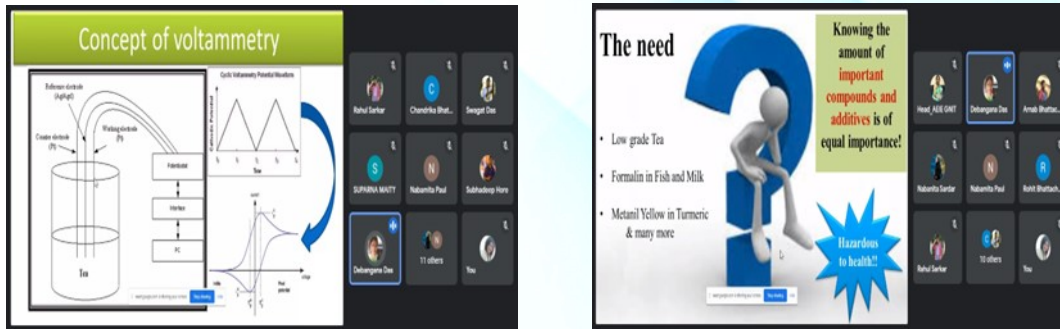


- A one day "Online Technical Workshop on PLC & SCADA" in collaboration with Sikharthy Infotech Pvt. Ltd." 2021 organized by AEIE Department on 1st Oct 2021, for students of the departments where The facilitator of the programme, Mr Ashish Jha, PLC expert, Ntronics Technology Pvt. Ltd, discussed different aspects of PLC & SCADA.

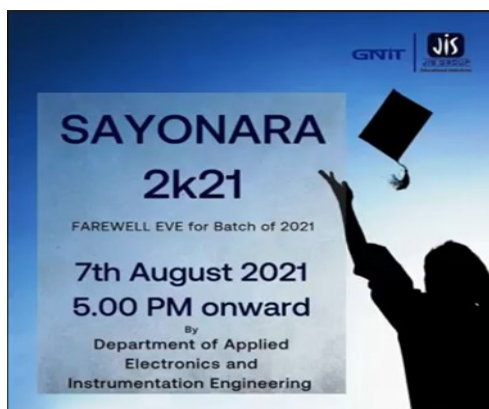


Applied Electronics and Instrumentation Engineering

- A Webinar on a Webinar on “Qualitative Assessment of Health Beneficial Agro-Products using Molecular Imprinting Polymer (MIP) Based Sensors” organized by AEIE Department on 10th September 2021, on Google Meet. where Ms Debangana Das, Senior Research Fellow in the Department of Instrumentation and Electronics Engineering, Jadavpur University, Kolkata; and esteemed Alumna of AEIE Department delivered lecture.

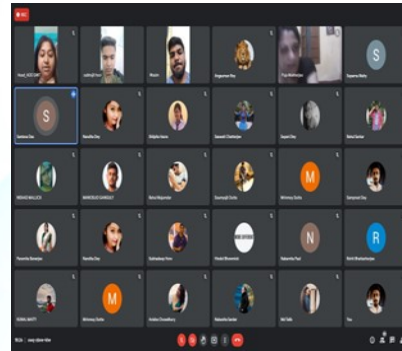


- A online Mock Interview is organized for the Final Year students of the Department on 24th August, 2021. This interview session was conducted by Ms Bapita Roy, Head of the Department; and Ms Santana Das, Assistant Professor, Department of Applied Electronics and Instrumentation Engineering.
- A virtual “Orientation Programme” is organized by Department of Electronics & Computer Science Engineering @ GNIT for the first year students of B.Tech, ECSE is on 8th October, 2021. At the outset, Ms Bapita Roy, Head of the Department, ECSE, welcomed the students in presence of Registrar, GNIT, and owed special thanks and gratitude in absentia to Hon’ble and Respected Sh. Taranjit Singh Sir, Managing Director, JIS Group and to Prof(Dr) Santanu Kr Sen, Respected Principal, GNIT, for their valuable support and motivation in all facets of academics.
- A Departmental farewell SAYONARA 2K21 for 2021 graduation batch is organized by AEIE Department on 7th August, 2021.



Applied Electronics and Instrumentation Engineering

- A Virtual Teachers' Day Programme "Tributo 2k21" is organized by AEIE Department for reverencing their Teachers on 7th September 2021.



- A session on "ACHIEVING PROBLEM SOLUTION FIT & PRODUCT MARKET FIT" is organized by AEIE Department on 13th March 2022 where Mr. Ripan Kumar Saha Administrator, Bhagirathi Neotia Woman and Child Care Centre delivered lecture.

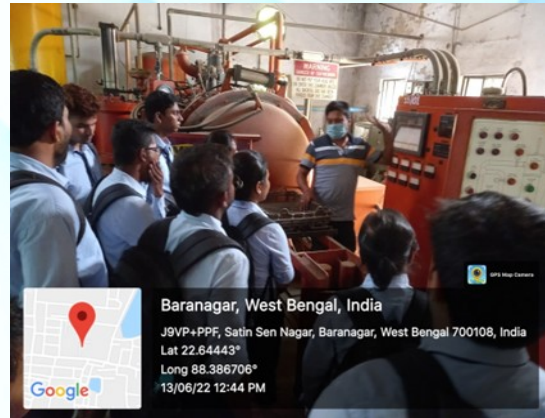
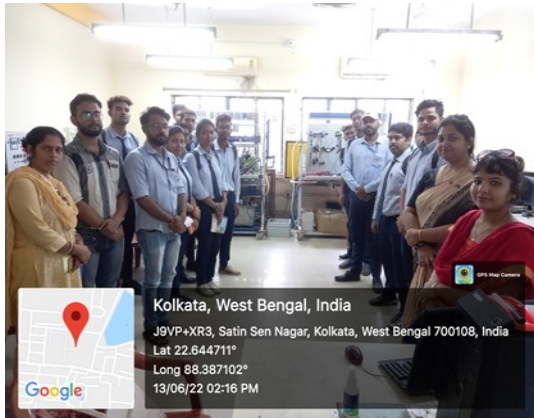


- A one week workshop on "Electronics Circuit Design -2022" -was organized by IE Students Chapter of the Department of Applied Electronics and Instrumentation Engineering @ GNIT from 16/03/2022 to 23/03/2022. The workshop were facilitated by all the Technical Assistants @ AEIE under the guidance of the senior faculty members.



Applied Electronics and Instrumentation Engineering

- An Industry Visit at MSME TOOL ROOM, Kolkata is organized by The Department of Applied Electronics & Instrumentation Engineering on 13th June 2022 for 3rd Year and 4th Year students of the department in collaboration with the Department of Electronics and Computer Science Engineering.



- An International Workshop on “*Intellectual Property Rights (IPRs) And IP Management for Start Up*” was organized by the Department of Applied Electronics and Instrumentation Engineering and the Department of Electronics and Computer Science Engineering in collaboration with the Institution Innovation Council @ Guru Nanak Institute of Technology on 24th June, 2022. At the starting of the program, the Head of the Department facilitated Dr. Biswarup Ghosh, Senior Research investigator - University of Pennsylvania, Philadelphia, US. He is also a Neuroscientist, Biochemist, Science communicator & Founder of Neucrad Health Hub in Philadelphia. Co- Founder at Neucrad Health Hub India LLP & Neucrad Agri Farm Health LLP, WB, India.



"WORKSHOP ON INTELLECTUAL PROPERTY RIGHTS (IPRS) AND IP MANAGEMENT FOR START-UP"

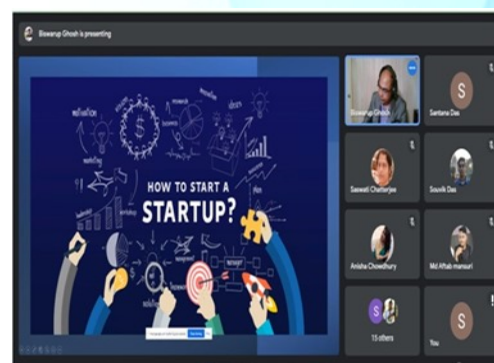
Facilitator:
DR. BISWARUP GHOSH
Neuroscientist & Biochemist
Science Communicator
Founder @ Neucrad Health Hub

Organized By:
Electronics & Computer Science Engineering in collaboration with Institution's Innovation Council
Guru Nanak Institute of Technology

Coordinators:
Ms. Santana Das, AP@ECSE
Ms. Saswati Catterjee, TA@ECSE

Even Date: 24TH JUNE, 2022
Time: 4:00 PM Onwards

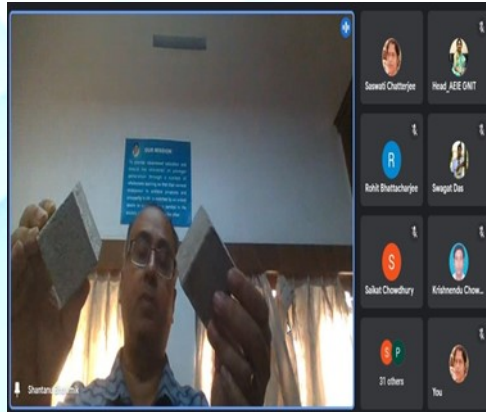
www.gnit.ac.in | www.jisgroup.org



- An online Webinar on " Recycling of Plastic Waste to Plastic Composite Products" is organized by Department of Electronics & Computer Science Engineering and Department of Electronics & Instrumentation Engineering @GNIT on 25th February 2022 in collaboration with School of Engineering, Amrita Vishwa Vidyapeetham, Coimbatore Campus. Dr. Shantanu

Applied Electronics and Instrumentation Engineering

Bhowmik Professor at the Department of Aerospace Engineering addressed the need for Recycling of Plastic Waste to Plastic Composite Products and implementations.



- A Technical Seminar on JAVA is organized by Department of Electronics & Computer Science Engineering and Department of Electronics & Instrumentation Engineering @GNIT on 26.04.2022 where Mr. Partho Koley, Senior Faculty, Euphoria GenX delivered lectures.



b. Seminar/workshop Participated: **i) faculty:**

- Ms. Bapita Roy attended AICTE Training and Learning (ATAL) Academy Online Elementary FDP on "A Pedagogy for Effective use of 5G Communication Network for Cloud Applications" from 13.7.21 to 17.7.21, organized by AICTE.
- Ms. Bapita Roy attended Online Faculty Development Programme on Advanced Optimization Techniques and hands-on with MATLAB/SCILAB FROM 6.09.21 TO 15.09.21, organized by Ministry of Electronics and Information Technology (MeitY) Electronics & ICT Academies MNIT Jaipur, NIT Patna, IIITDM Jabalpur & IIT Guwahati.
- Ms. Bapita Roy attended webinar on "NDLI awareness program" on 02.11.21, organized by NDLI, IIT.
- Dr. Paramita Banerjee attended Online Faculty Development Programme from 6.09.21 to 15.09.21, organized by Ministry of Electronics and Information Technology on Advanced Optimization Techniques and hands-on with MATLAB/SCILAB.

- Dr. Paramita Banerjee attended Online Elementary FDP on “Artificial intelligence in biomedical engineering: Current trends and future from 05.7.21 to 9,07.21, organized by AICTE Training and Learning (ATAL) Academy.
- Ms. Santana Das attended Online Faculty Development Programme on Advanced Optimization Techniques and hands-on with MATLAB/SCILAB from 6.09.21 TO 15.09.21, organized by Ministry of Electronics and Information Technology.
- Ms. Santana Das attended attended webinar on " NDLI awareness program" on 02.11.21, organized by NDLI, IIT.
- Ms. Santana Das attended attended Webinar on Post Vaccination awareness on 24.09.21, organized by GNIT.
- Ms. Santana Das attended Webinar on " Qualitative Assessment of Health Beneficial Agro-Products using Molecular Imprinting Polymer (MIP) Based Sensors" ON 10/09/21 organized by GNIT.
- Ms. Suparna Maity attended IEEE International Workshop on Optimization and Intelligence in Electronics Engineering Applications (IEEE OIEEA-202) from 26.07.22 to 30.07.22 by Department of Electronics and Communication Engineering, National Institute of Technology Silchar, India.
- Ms. Suparna Maity attended webinar on " NDLI awareness program" on 02.11.21, organized by NDLI, IIT.
- Ms. Suparna Maity attended Webinar on Post Vaccination awareness on 24.09.21, organized by GNIT.
- Ms. Suparna Maity attended Online Elementary FDP on "Emerging Techniques and Applications in IoT" from 09.08.21 to 13.08.21 organised by AICTE Training and Learning (ATAL) Academy.
- Ms. Suparna Maity attended Online Elementary FDP on "Industrial Applications of Machine Learning and Artificial Intelligence" organized by AICTE Training and Learning (ATAL) Academy from 06.09.21 to 10.09.21.

ii. Technical staff:

- Ms. Saswati Chatterjee attended Hands-on Training on IoT based Project on 03.07.21 organized by AEIE Department, GNIT.
- Ms. Saswati Chatterjee attended a “Qualitative Assessment of Health Beneficial Agro-Products using Molecular Imprinting Polymer (MIP) Based Sensors" on 10/09/21 organized by AEIE Department, GNIT.
- Ms. Saswati Chatterjee attended a webinar on Online Technical Workshop on PLC & SCADA on 01/10/21 organized by AEIE Department, GNIT.
- Ms. Saswati Chatterjee attended an International Workshop on “Intellectual Property Rights (IPRs) And IP Management for Start Up” by the Department of Applied Electronics and Instrumentation Engineering and the Department of Electronics and Computer Science Engineering in collaboration with the Institution Innovation Council @ Guru Nanak Institute of Technology on 24th June 2022.
- Ms. Saswati Chatterjee attended an online Webinar on " Recycling of Plastic Waste to Plastic Composite Products" organized by Department of Electronics & Computer Science Engineering and Department of Electronics & Instrumentation Engineering @GNIT on 25th February

2022 in collaboration with School of Engineering, Amrita Vishwa Vidyapeetham, Coimbatore Campus.

- Ms. Saswati Chatterjee attended a Technical Seminar on JAVA organized by Department of Electronics & Computer Science Engineering and Department of Electronics & Instrumentation Engineering @GNIT on 26.04.2022.
- Ms. Nabamita Paul attended Hands-on Training on IoT based Project on 03.07.21 organized by AEIE Department, GNIT.
- Ms. Nabamita Paul attended a "Qualitative Assessment of Health Beneficial Agro-Products using Molecular Imprinting Polymer (MIP) Based Sensors" on 10/09/21 organized by AEIE Department, GNIT.
- Ms. Nabamita Paul attended a webinar on Online Technical Workshop on PLC & SCADA on 01/10/21 organized by AEIE Department, GNIT.
- Ms. Nabamita Paul attended an International Workshop on "Intellectual Property Rights (IPRs) And IP Management for Start Up" by the Department of Applied Electronics and Instrumentation Engineering and the Department of Electronics and Computer Science Engineering in collaboration with the Institution Innovation Council @ Guru Nanak Institute of Technology on 24th June 2022.
- Ms. Nabamita Paul attended an online Webinar on " Recycling of Plastic Waste to Plastic Composite Products" organized by Department of Electronics & Computer Science Engineering and Department of Electronics & Instrumentation Engineering @GNIT on 25th February 2022 in collaboration with School of Engineering, Amrita Vishwa Vidyapeetham, Coimbatore Campus.
- Ms. Nabamita Paul attended a Technical Seminar on JAVA organized by Department of Electronics & Computer Science Engineering and Department of Electronics & Instrumentation Engineering @GNIT on 26.04.2022.
- Mr. Mrinmoy Dutta attended Hands-on Training on IoT based Project on 03.07.21 organized by AEIE Department, GNIT.
- Mr. Mrinmoy Dutta attended a "Qualitative Assessment of Health Beneficial Agro-Products using Molecular Imprinting Polymer (MIP) Based Sensors" on 10/09/21 organized by AEIE Department, GNIT.
- Mr. Mrinmoy Dutta attended a webinar on Online Technical Workshop on PLC & SCADA on 01/10/21 organized by AEIE Department, GNIT.
- Mr. Mrinmoy Dutta attended an International Workshop on "Intellectual Property Rights (IPRs) And IP Management for Start Up" by the Department of Applied Electronics and Instrumentation Engineering and the Department of Electronics and Computer Science Engineering in collaboration with the Institution Innovation Council @ Guru Nanak Institute of Technology on 24th June 2022.
- Mr. Mrinmoy Dutta attended an online Webinar on " Recycling of Plastic Waste to Plastic Composite Products" organized by Department of Electronics & Computer Science Engineering and Department of Electronics & Instrumentation Engineering @GNIT on 25th February 2022 in collaboration with School of Engineering, Amrita Vishwa Vidyapeetham, Coimbatore Campus.
- Mr. Mrinmoy Dutta attended a Technical Seminar on JAVA organized by Department of Electronics & Computer Science Engineering and Department of Electronics & Instrumentation Engineering @GNIT on 26.04.2022.

Publication:

Faculty and staff:

International Journal: 1

Student:

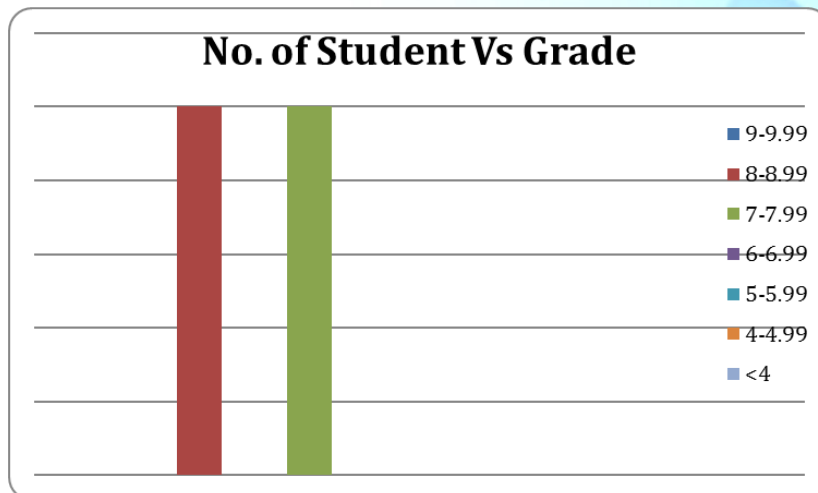
International Journal: 1

Result (Bar Chart):

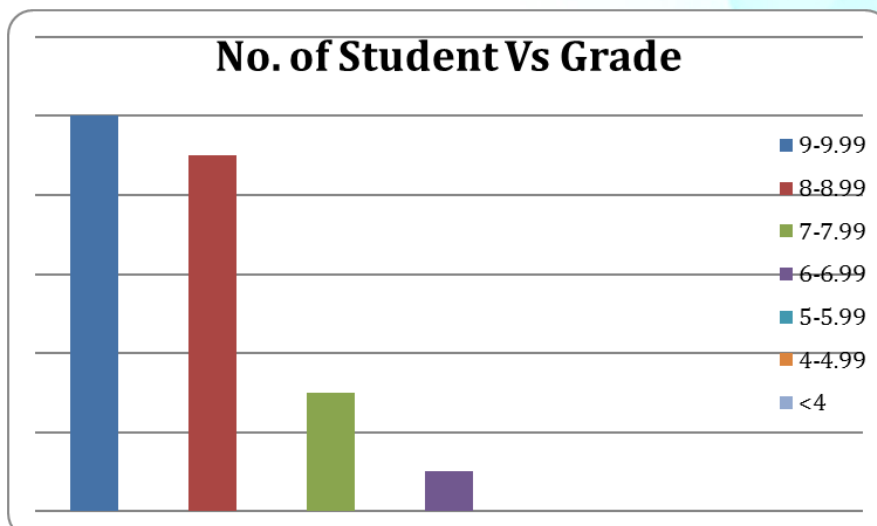
SGPA WISE RESULT ANALYSIS (AEIE) AY 2021-22

2021-22 ODD SEM:

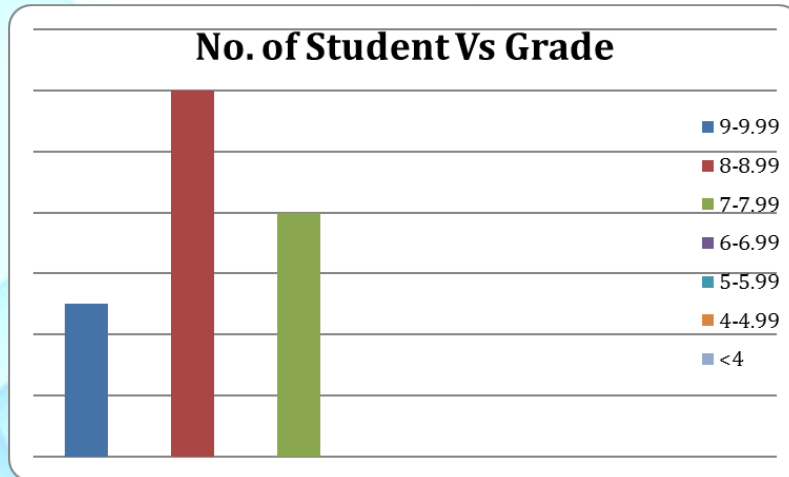
3rd Semester:



5th Semester:

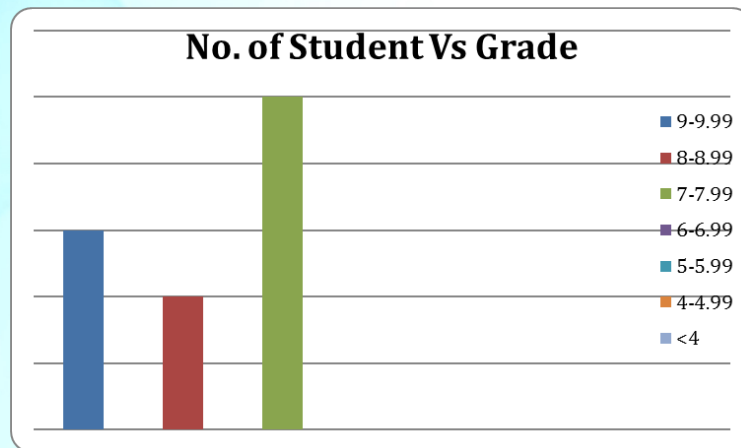


7th Semester:

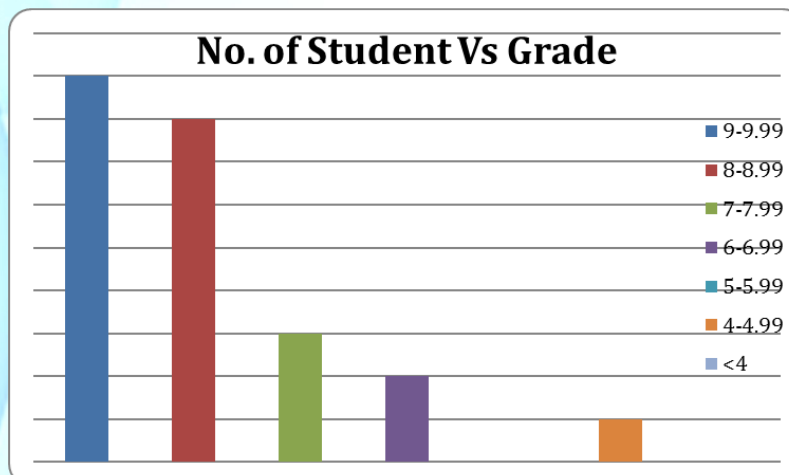


2021-22 EVEN SEM:

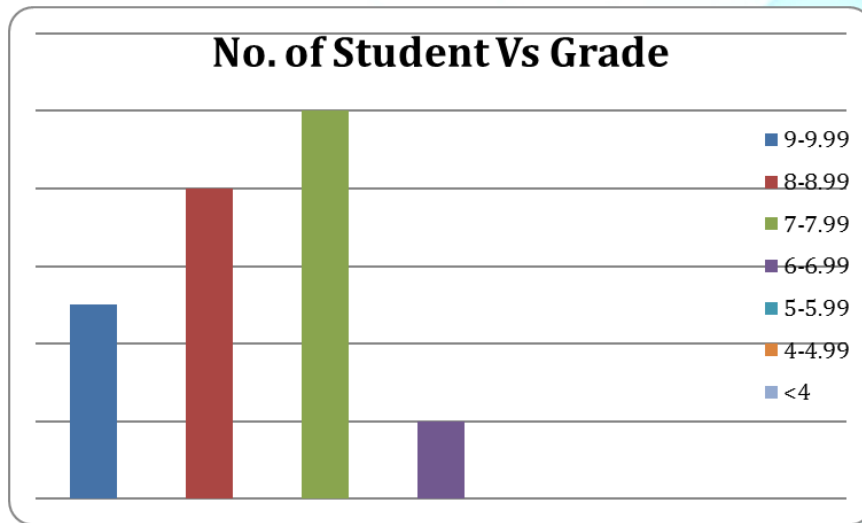
4th Semester:



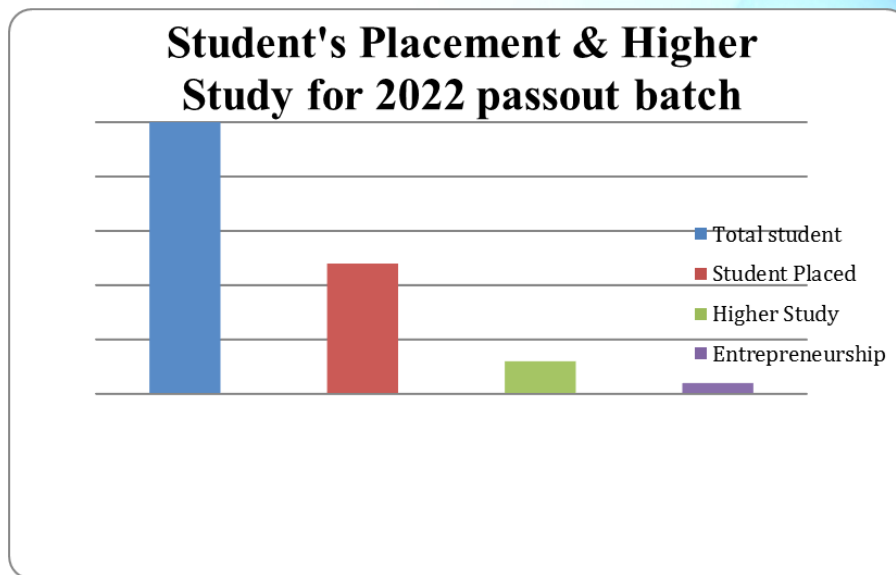
6th Semester:



8th Semester:



2021-22- Placement and higher studies (Bar chart):-



Total student	Student Placed	Higher Study	Entrepreneurship
25	12	3	1

GURU NANAK INSTITUTE OF TECHNOLOGY

Department
of
Computer Applications

ANNUAL REPORT

2021-22

Department of Computer Applications

Name of the Department: Computer Applications

Vision of the Department:

The Department of Computer Applications aims to produce technically competent, skilled IT professionals, researchers and entrepreneurs with the ability to apply their knowledge in IT industry, research & development or in entrepreneurial arena and they can fight the challenges in modern IT industry.

Mission of the Department:

- * Knowledge based academic environment
- * Excellence in teaching-learning, Research and Development
- * Enable students to solve s/w related problems
- * Bridge the gap between industry and academia
- * Grooming the students with effective communication skills
- * Ensure that students are groomed and mentored as a true human being & successful professional

PEO:

- * PEO-1: Graduates will have the expertise to be successful professionals in industry, government, academic research, entrepreneurial pursuit and consulting firms.
- * PEO-2: Graduates will achieve peer-recognition, as an individual or as a team member through demonstration of good analytical, design, coding, testing, implementation and professional skills.
- * PEO-3: Graduates will be capable of pursuing higher studies in computing or related disciplines and to work in the fields of teaching and research.
- * PEO-4: Graduates will excel in problem solving and programming skills in IT industries as well as in research institutions.

Program Outcomes:

- * **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- * **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- * **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- * **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- * **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- * **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- * **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- * **Ethics:** Apply ethical principles and commit to professional ethics and responsi-

bilities and norms of the engineering practice.

- * **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- * **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- * **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- * **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcomes (PSOs):

PSO-1: Globally expertise the technological planning and development of software applications in the usage of the modern era.

PSO-2: Expertise to communicate in both oral and written forms, demonstrating the practice of professional ethics and the concerns for social welfare.

PSO-3: Ability to enhance and develop techniques for independent and lifelong learning in computer application.

PSO-4: Acquiring In-depth knowledge & sustained learning leading to innovation,

Department of Computer Applications

permutation, modernization and research to fulfil global interest.

Brief Overview of the Department:

Department of Computer Applications is devoted to study and research. It runs MCA (under Autonomy) under MAKAUT. The combination of competent and vibrant faculty members, modern infrastructure and technical resources give an edge to the young technocrats.



Courses Offered:

Master in Computer Application

HOD's Message:

The Department of Computer Applications started its journey in the year 2007 with MCA stream. We are fortunate to be the choice of most of the stake holders. The Department of CA believes in excellence in education and innovation. It gives best possible placement to students. Teacher-student relationship is a matter of pride for us. Different Seminars, Workshops, Webinars, Extra-curricular and Co-curricular activities are performed throughout the year. This helps the young minds grow in diverse dimensions beyond their academics. I wish all the success to each and every student and their very bright future.

Mr. Chiranjeeb Dutta
HOD
Computer Application

Departmental achievements:

a. Student's achievements:

- Karnapali Mukhopadhyay Selected and Performed as Anchor in Pashchim Banga Bangla Academy Sabhaghar in 4th June, 2022.
- Chandrani Adhikary Selected and Performed as Anchor in Pashchim Banga Bangla Academy Sabhaghar in 4th June, 2022.
- Arka Das Secured 3rd position in Solo Singing at GNIPST in 14th June, 2022.
- Chandrani Adhikary Secured 2nd position in Model Competition at Konnagar Bigyan Mela in 11th -13th February, 2022.
- Karnapali Mukhopadhyay Secured 2nd position in Model Competition at Konnagar Bigyan Mela in 11th – 13th February, 2022.
- Ayon Ghosh Secured Best Poet of the year in Bangastika Sanskritik Sanmela, 2022 in 9th January, 2022.
- Nishant Kr Choudhary Secured 2nd position in Inter- College Cricket Tournament- BBIT Champion Trophy, 2022 Organized by Budge Budge Institute Of Technology in 12th March - 15th March, 2022.
- Arnab Kumar Singha Secured 3rd position in in Inter- College Volleyball Tournament- MAGNUS, 2022 Organized by Budge Budge Institute of Technology & Jaganath Gupta Institute of Medical Science & Hospital in 25th March – 27th March, 2022.
- Pradipta Das Acknowledged and awarded by OnePlus for reporting security vulnerabilities related to their web app.
- Rahul Dev Sarkar Speaker in International World camp Meet at Nepal.
- Amrik Ghosh Selected as ISP-21 (Internshala appointed Student Representative) from GNIT by Internshala.
- Siddhant Shukla successfully completed NPTEL course on “Global Marketing Management” and awarded with completion certificate.
- Poushali Das Recognized as writer of the Books (Bengali Literature) “Hasnuhana” and “MeghaMallar”.
- Dibyajyoti Mukherjee Received certificate in Great Learning Quiz Competition.
- Snigdha Sengupta Received certificate in Information security education awareness, project phase-2 quiz competition.
- POLY DAS, NEHA VISHWAKARMA, ARINDAM PAL, DEBANJANA SINHA, ANUSKA DAS, SWARNASHREE KUNDU, ATREYI CHATTOPADHYAY-All are Departmental topper in terms of YGPA.

b. Faculty's achievements:

Mr. Chiranjib Dutta:

- Received appreciation certificate & memento from NPTEL for being the SPOC and coordinator for the course “Embedded System Design (noc21_ee58)”.

Department of Computer Applications

- Successfully completed Innovation Ambassador training (Advanced Level) conducted by MoE's Innovation Cell & AICTE.
- Mr Chiranjib Dutta Designing of Smart city using IoT Manufacturing and Quality Engineering: Industrial Perspective.
- Mr Chiranjib Dutta Adaptation of Future Intelligent City Environment Using the Application of Osmotic Blockchain Technology 1st Eastern India Student Conclave of Institution of Engineers in association with GNIT during 29-30 Oct 2021.
- Designed an Online Course for NBSP and Awarded with Certificate of Recognition for being member of Subject Matter Expert Group (SMEG) of Nikhil Bharat Council for Massive Open Online Courses.



Dr. Ananjan Maiti:

- **Ph.D. Award** received in Convocation in **February 2022**.
- **Young Researcher Award** from INSC professional body in **April 2022**.
- Building of an edge enabled drone network ecosystem for bird species identification N Das, N Padhy, N Dey, A Mukherjee, A Maiti Ecological Informatics 68, 101540.
- Skin Cancer Classification Through Quantized Color Features and Generative Adversarial Network A Maiti, B Chatterjee, KC Santosh International Journal of Ambient Computing and Intelligence (IJACI)

Mrs. Dola Saha:

- Awarded with **CERTIFICATE OF APPRECIATION IN ACADEMIC EXCELLENCE** by Nikhil Bharat Siksha Parisad.

Department of Computer Applications

- Mrs. Dola Saha 1st Eastern India Student Conclave of Institution of Engineers in association with GNIT A Learning Approach for Neural Networks using Deep Learning during 29-30 Oct 2021.
- Mrs. Dola Saha 1st Eastern India Student Conclave of Institution of Engineers in association with GNIT Bengali-English Transliteration: Deep Belief Network Approach during 29-30 Oct 2021.
- Mrs. Dola Saha 1st Eastern India Student Conclave of Institution of Engineers in association with GNIT Review of security in smart grid during 29-30 Oct 2021.

Mrs. Somalina Chowdhury:

- Successfully completed One week ATAL course on "Cyber Security and Cyber Forensics".
- Successfully completed One week ATAL course on "IOT in 5G Technology".
- Mrs Somalina Chowdhury published in Journal of International Journal of Engineering and Advanced Technology (IJEAT).

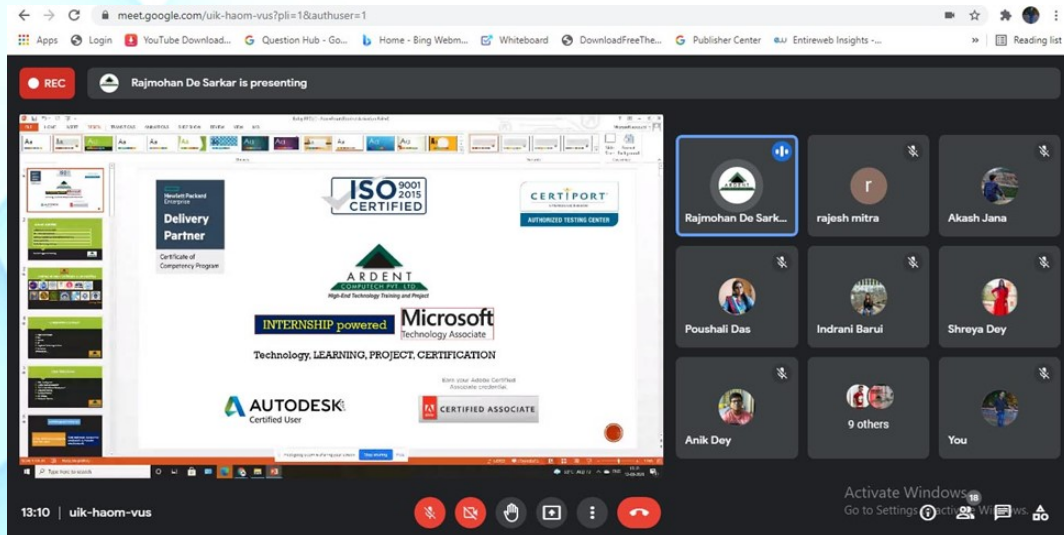


Departmental events (for e.g., Industry visit, Industry mentor meet, BOS meeting pic, seminar, conference work, PTM, sports, wall magazine, newsletter and others):

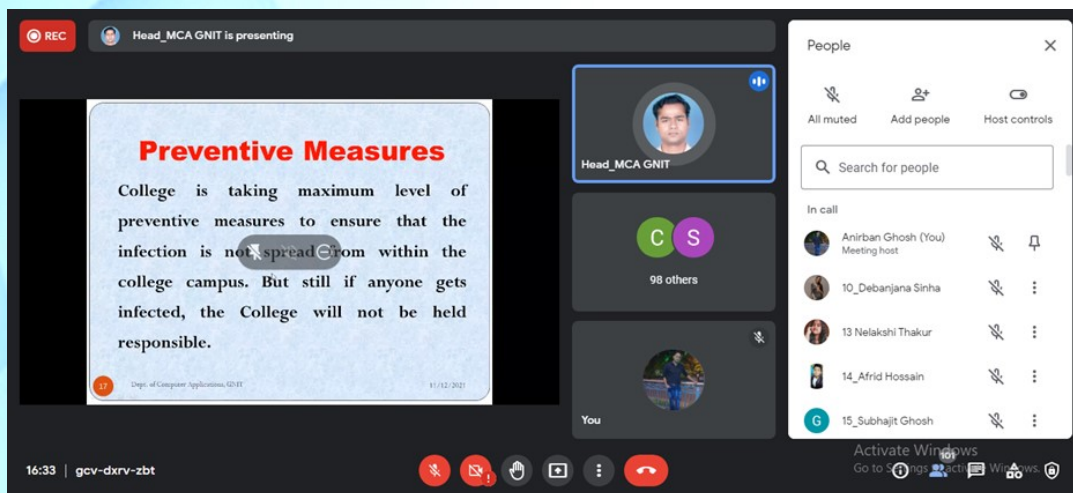
a. Organized:

- Department of Computer Applications has organized a One Day online Industry Expert Meet for students of MCA on 12.08.2021.

Department of Computer Applications



- “COVID 19 Awareness Programme” for the students of MCA organized by CA Department on 12th November, 2021 where the facilitator Mr. Chiranjib Dutta, Head of the Depart-



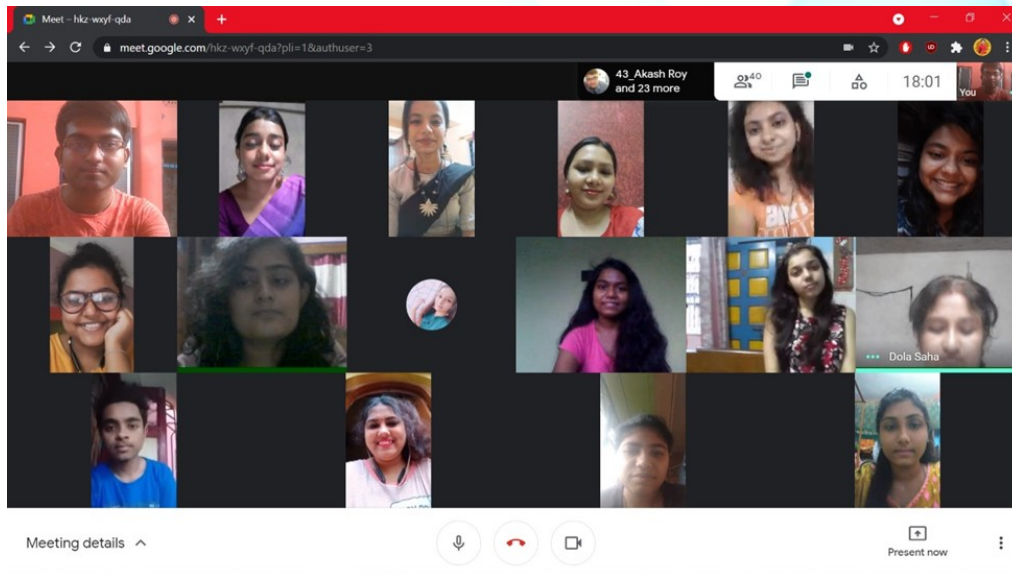
causes, symptoms and 19.



ment, briefed the history, measures to prevent Covid-

Department of Computer Applications

- Department of Computer Applications has organized UJAN 2021 and SAMPAN 2021” – A virtual Teachers day and Fresher’s Welcome.



- “Workshop on Internships through intershala” by CA Dept on 24th DEC,2021 for the students of MCA ,Mr. Chiranjib Dutta ,HOD of Computer Application facilitator of the session, discussed professional skills which students should have as an engineer, career opportunities, and so on.

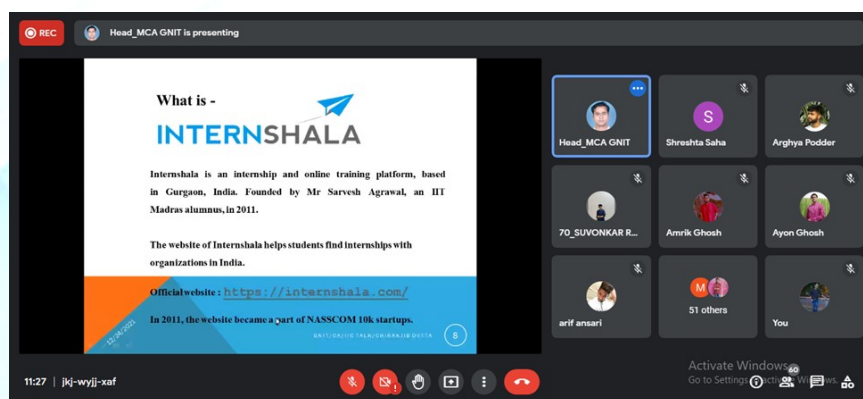
Department of Computer Applications

Innovation Ambassador Talk Series
Workshop on Internships through Internshala

Facilitator:
Mr. Chiranjib Dutta
HOD@CA
Innovation Ambassador
IIC@GNIT

24th December 2021
11:00 AM onward

Organized By:
Institution Innovation Council @ GNIT
Computer Application Department



- **Farewell:** The MCA students of the Department celebrated Farewell for the passing year students on 31.08.2021 online mode.

GNIT **IIC** **JIS GROUP**

Farewell

The day to celebrate a new beginning...

Organized by -
Department of Computer Applications
Guru Nanak Institute of Technology

Date : 31-08-2021 (Tuesday)
Time : 6:00 pm
Platform : Google Meet (ONLINE)
Registration : No Registration Needed Join Directly through the link
Link will be provided through WhatsApp / email

The Bonds that can Never be Broken...

Department of Computer Applications, GNIT

Contact : Somalina Chowdhury, 98745 64589

- Department of Computer Applications has organized a One Day online Industry Expert Meet of Full Stack Development Using PHP for students of MCA 4th Semester on 03.06 .2022. Speaker - Joyjit Guha Biswas .

Department of Computer Applications



- Department of Computer Applications has organized a Workshop on Entrepreneurship skill, Attitude and Behaviour Development for students of MCA on 10.03.2022. Speaker - Dr. Amartya Neogi, Assistant Professor, B.C. Roy Engineering College.



- Department of Computer Applications has organized a Seminar on Python Web Application for students of MCA on 08.04.2022.



Department of Computer Applications

- Department of Computer Applications has organized a Virtual Industry Visit: An Exposure to recent trends in IT Industry for the students of MCA on 10.01.2022.



b. Seminar/workshop Participated:

Faculty:

- Mr Chiranjib Dutta, Asst. Prof, HOD, Dept of CA, GNIT attended Online FDP on "MACHINE LEARNING AND OPTIMIZATION" from 17/05/2021 to 22/05/2021 Organized by Ahalia School of Engineering and Technology Palakkad.
- Mr Chiranjib Dutta, Asst. Prof, HOD, Dept of CA, GNIT attended Harnessing the Knowledge of Addition Network in Food Technology from 08.06.2021 to 12.06.2021 Organized by GNIT.
- Mrs Somalina Chowdhury, Asst. Prof, Dept of CA, GNIT Attended One week ATAL course on "IOT in 5G Technology from 21.06.2021 to 25.06.2021 organized by AICTE.
- Mr Chiranjib Dutta, Asst. Prof, HOD, Dept of CA, GNIT Attended QIP Short Term Course on Software Defined Networks and its Applications from 22.06.2021 to 02.07.2021 organized by IIT Bhubaneswar.
- Mr Chiranjib Dutta, Asst. Prof, HOD, Dept of CA, GNIT Attended Morphology and its Applications in Digital Image Processing from 30.06.2021 to 30.06.2021 organized by STCET.
- Mr Chiranjib Dutta, Asst. Prof, HOD, Dept of CA, GNIT attended Innovation Ambassador Training (Advance Level) from 30.06.2021 to 30.07.2021 organized by MoE's Innovation Cell, AICTE.
- Mrs Somalina Chowdhury, Asst. Prof, Dept of CA, GNIT Attended One week ATAL course on "Cyber Security and Cyber Forensics" 05.07.2021 to 09.07.2021 organized by AICTE.
- Mr Chiranjib Dutta, Asst. Prof, HOD, Dept of CA, Attended Recent Research Trends in AI/ ML and Data Science from 05.07.2021 to 10.07.2021 organized by JISCE.
- Mr Chiranjib Dutta, Asst. Prof, HOD, Dept of CA, Attended Online FDP on Multi-Technology from 28.09.2021 to 30.09.2021 organized by GMR Institute of Technology, Rajam.

Department of Computer Applications

Publication:

Faculty and staff:

International Journal: 5

Student:

International Journal: 5

Co-curricular Activities:

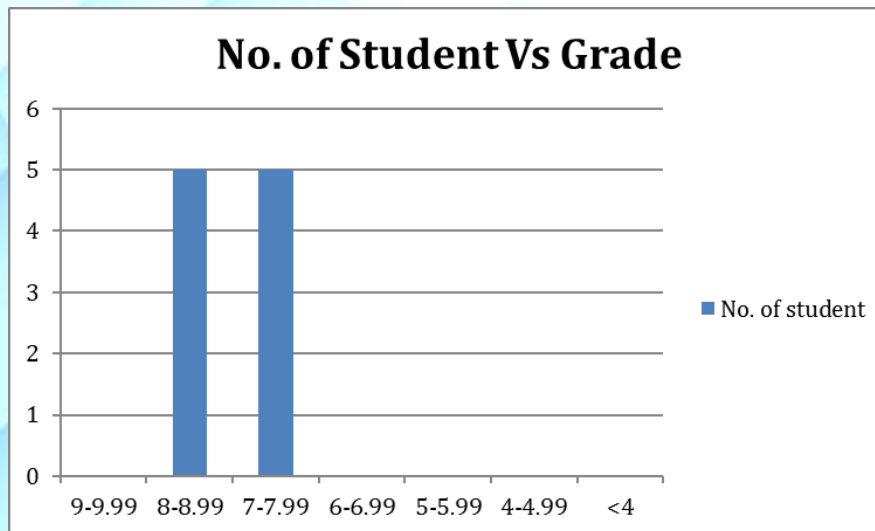
Sl. No.	Name of the Activity	Date	Participants	Organized By
1	Farewell 2021	31.08.2021	Students of MCA	Dept of CA, GNIT with Admission Cell, GNIT
2	Meet your Seniors - 2021	21.09.2021	Students of MCA	Dept of CA, GNIT with Admission Cell, GNIT
3	ENTREPRENEUR MEET	30.09.2021	Students of MCA	Dept of CA, GNIT
4	Talent Hunt	01.10.2021	Students of MCA	Dept of CA, GNIT
5	Fire pawya saradiyar din	15.11.2021	Students of MCA	Dept of CA, GNIT

Result (Bar Chart):

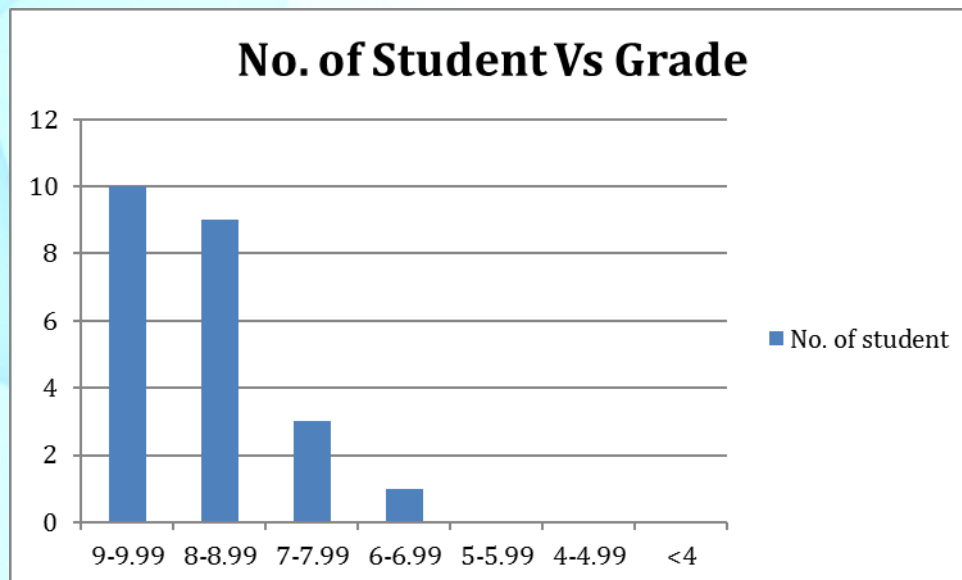
SGPA WISE RESULT ANALYSIS (CA) AY 2021-22:

2021-22 ODD SEM:

3rd Semester:

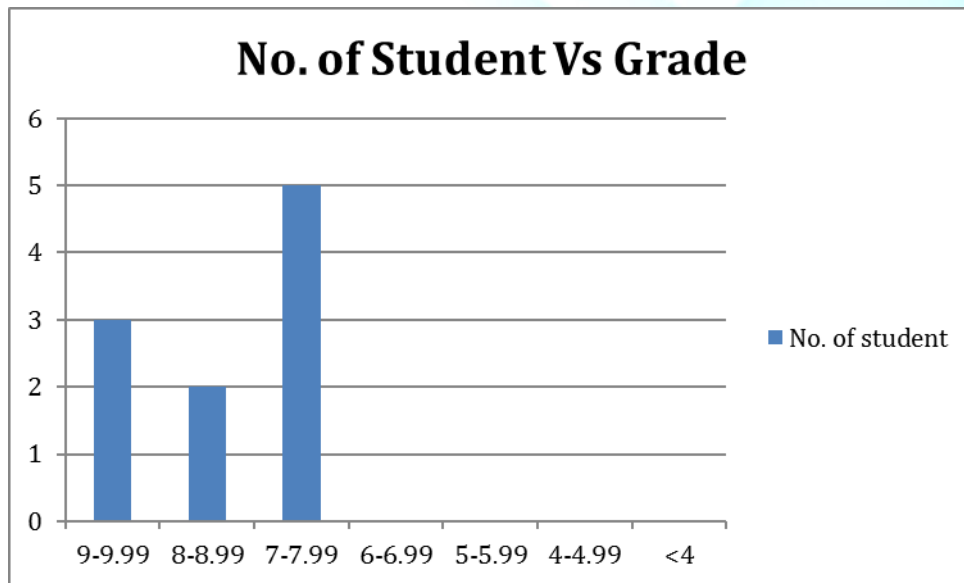


5th Semester:

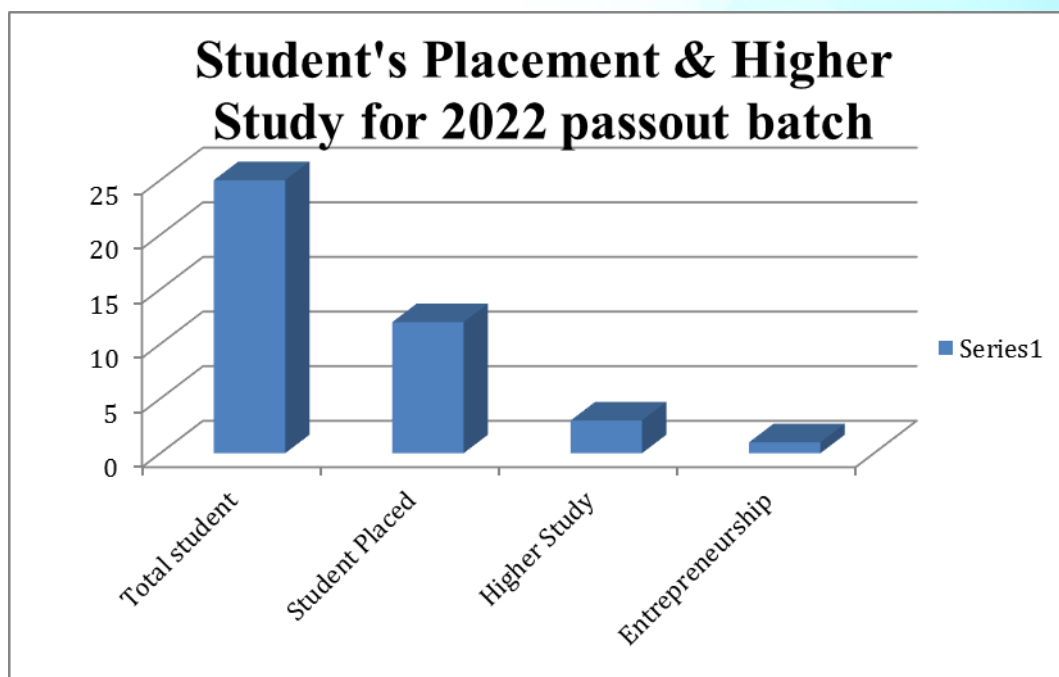


2021-22 EVEN SEM:

4th Semester:



Placement and higher studies (2021-22):



GURU NANAK INSTITUTE OF TECHNOLOGY

Research & Publications

ANNUAL REPORT

2021-22

Grants Received & Applied

Grant Received:

Name of the Project	Department	Funding Agency	PI/Co-PI	AICTE/Other Project Status
FIST Level 0	ECE & ASHU	DST	Dr. Sunipa Roy (PI) Dr. Sucharita Bhattacharyya (Co-PI) Dr. Sreyasree Basu (Co-PI)	i) Rs. 29 lakh received in Feb. 2020, Status: Ongoing as on date (5 yrs.) (Equipment purchased and are being installed. ii) Rs. 30 lakh more received in March 2021, procurement is under process
Modernization of Lab for Microwave education and research	ECE	AICTE MODROB	Dr. Sunipa Roy (PI)	Status: Utilization Certificate submitted on 25th May 2022.
GOC	ECE & FT	AQIS, AICTE	Dr. Sunipa Roy (PI), Dr. Kakali Bandyopadhyay (Co-PI)	Rs. 4 Lakh, Grant sanctioned (partially received)
MODROB	FT	AICTE	Dr. Kakali Bandyopadhyay	Rs. 18 lakh (Rs. 14 lakh received in the month of February, 2022)
STTP on Recent Trends in Image Processing	IT	DST, Govt. of WB	Ms. Suparna Karmakar	Rs. 50000 (received)
MODROB for Polytechnic scheme "INTRODUCTION TO ELECTRIC GENERATION SYSTEMS LAB (EEPC203)"	EE	AICTE	Dr. Barnali Kundu & Dr. Debasree Saha (PI)	Rs. 12.3 lakh received in March 2022
Received R & D project grant entitled : "SMART ECONOMICAL IRRIGATION AND AIR POLLUTION CONTROL AND MONITORING SYSTEM FOR RURAL AND INDUSTRIAL AREA"	AEIE	IE	Mrs. Bapita Roy, the project supervisor & Ms. Shilpita Hazra, the Student	Received Rs. 23,000 (partially from the sanctioned amount) on 14th June 2022

Grants Received & Applied

Grant Applied:

Dept	Particulars
CSE Conference 2021-22	Dr. Amrut Ranjan Jena got technical sponsorship from AIP Publishing, USA for conducting 2nd International Conference on Innovations in Software Architecture and Computational Systems (ISACS 2022), to be conducted from 21-22nd July 2022
CSE DST 2021-22	Dr. Mahamuda Sultana(PI), Dr. Rupak Chakraborty (Co-PI), Dr. Suman Bhattacharya (Co-PI) has submitted a project titled “Detecting changes of density of forest in mangrove area of India using remotely sensed images” to Indo-Australia Scheme of DST of budget Rs.77.26 lakh /- on 30.08.2021
EE DST	Applied in a scheme for Young Scientists & Technologist (SYST) under DST amount : Rs. 49 Lac 57 thousands PI - Mr. Suman Ghosh, Mentor: Dr. Barnali Kundu

Patent filed

Patents Filed (ECE)

Date of Billing	Title	Status
25-09-2021	A NOVEL MULTI SLOTTED PATCH ANTENNA FOR WIRELESS APPLICATION	Filed
25-09-2021	SMART TRAFFIC LAW MAINTENANCE ASSISTANT	Filed
25-09-2021	INEXPENSIVE GREEN PRODUCTION OF NANO-SILVER USING COUCH GRASS	Filed
25-09-2021	POLYINDOLE/POLYPYRROLE BASED ELECTRONIC SKIN DEVICES	Filed
25-09-2021	ML (MACHINE LEARNING)-DRIVEN INTELLIGENT TRAFFIC MANAGEMENT SYSTEM	Filed
25-09-2021	CONTROLLING RAILWAY GATES USING AUTOMATA BASED INTELLIGENT CONTROLLER	Filed
25-09-2021	HEALTHCARE, EDUCATION AND GOVERNANCE APPLICATION AND WEBSITE	Filed
25-09-2021	DEVELOPMENT OF AN OBSTACLE AVOIDING AUTONOMOUS ROBOT IMPLEMENTED BY FUZZY LOGIC	Filed
25-09-2021	AI BASED SURROUNDING DETECTION GOGGLES	Filed
25-09-2021	SWEAT POWERED BLUETOOTH HEADPHONE WITH NECKBAND	Filed

Patent Publication by Faculty Members (FT)

Sl. No.	Faculty Name	Title of Patent	Patent Status	Application no.
1.	Dr. Kakali Bandyopadhyay, Ms. Shairee Ganguly	Corn Pith: A potential source of polyphenols and dietary fibre in food fortification	Patent Published	201931049920
2.	Dr. Kakali Bandyopadhyay, Rosalin Nath (Visiting Faculty)	Phyto-Pearls: Microencapsulated starch beads enriched in natural antioxidants	Patent Published	201931049921
3.	Ms. Dolanchapa Sikdar, Mr. Shiladitya Ghosh, Dr. Kakali Bandyopadhyay, Ms. Monika Paul	Multi-fortified milk powder: an immune-boosting mix loaded with bio-active compounds to fortify dairy based food vehicles.	Submitted to R. & D cell	-

Patent filed

Patent Publication by Students (FT)

Sl. No.	Student's Name	Title of Patent	Patent Status	Application no.
1.	Ms. Saurjaynee Biswas , Ms. Nibedita Chowdhury , Ms. Deborima Bera	Corn Pith: A potential source of polyphenols and dietary fibre in food fortification	Patent Published	201931049920
2.	Ms. Avisikta Ghosh Dastidar, Ms. Swagatalakshmi Chakraborty, Mr. Arnab Saha, Ms. Quazi Farheen Zaman	Phyto-Pearls: Microencapsulated starch beads enriched in natural antioxidants	Patent Published	201931049921
3.	Mr. Ishon Mollick	Multi-fortified milk powder: an immune-boosting mix loaded with bio-active compounds to fortify dairy based food vehicles.	Submitted to R & D cell	-

Patent Publication by Faculty Members (ECE)

SL No.	Faculty Name	Title of Patent	Patent Status	Application no.
1.	Swagata Bhattacharya, Dr. Suparna Biswas, Dyuti Nandi	A SWEAT-POWERED HEADPHONE	Patent Published on (21.01.2022)	202131060815
2.	Dr. Suparna Biswas, Palasri Dhar, Swagata Bhattacharya	A MACHINE LEARNING BASED INTELLIGENT TRAFFIC MANAGEMENT SYSTEM AND ITS METHOD THEREOF."	Patent Published on (21.01.2022)	202131058066
3.	Dr. Kaushik Roy & Dr. Soumik Podder	A GREEN METHOD FOR SYNTHESIS OF SILVER NANOPARTICLES	Patent Published on (21.01.2022)	202131057430
4.	Antara Ghosal, Anurima Majumdar Dr. Avali Banerjee	A MULTI SLOTTED PATCH ANTENNA FOR WIRELESS APPLICATION	Published on (21.01.2022)	20213105718-
5.	Dr. Avali Banerjee, Ms. Antara Ghosal, Ms. Anurima Majumdar	A SYSTEM FOR MAINTAINING TRAFFIC RULES FOR ASSISTING THE DRIVERS	Patent Published on (21.01.2022)	201931049920
6.	Dr. Soumik Podder Dr. Surajit Basak Dr. Kaushik Roy Dr. Sumipa Roy	MULTI WALLED CARBON NANOTUBE BASED PRESSURE SENSOR FOR ELECTRONIC SKIN AND METHOD OF FABRICATION OF PRESSURE SENSOR	Patent Published on (21.01.2022)	202131057425
7.	SAYAN ROY CHAUDHURI	A NETWORKED MONITORING GARBAGE BIN FOR SMART CITY	Published on (21.01.2022)	202131056937
8.	PALASRI DHAR DR. SUNIPA ROY DR. SUPARNA BISWAS	A METHOD AND SYSTEM FOR MANAGING HEALTHCARE, EDUCATION AND GOVERNANCE ACTIONS FOR RURAL CITIZENS	Published on (21.01.2022)	202131060908

Patent filed

Patents Published (From December 2021) (EE)

Application No.	Date of Publish	Inventor/s Name	Title	Published
202131057753	21-01-2022	MR. SHYAMAL KUMAR ROY, DR. BARNALI KUNDU, MR. SUMAN GHOSH, MS. MADHUMITA CHAKRABORTY	CARBON NANOTUBES MEMBRANES: APPLICATION IN WATER PURIFICATION	YES
202131057754	21-01-2022	MR. SUMAN GHOSH, MR. SHYAMAL KUMAR ROY, DR. AVEEK CHATTOPADHYAYA	ARDUINO BASED SMART IRRIGATION SYSTEM USING IOT	YES
202131057629	21-01-2022	Rikta Majumder , Dr Debasree Saha, Susovan Dutta , Priyanka Dutta, Amit Debnath, Subhajit Dutta	AUTOMATIC FOREST FOSTER ROBOT-AFFRO-BOT	YES
202131057431	21-01-2022	Ms. Priyanka Dutta, Dr. Debasree Saha, Ms. Madhumita Chakraborty, Mr. Amit Debnath	SINGLE PHASE TRANSFORMERLESS GRID CONNECTED SOLAR PHOTOVOLTAIC (PV) SYSTEM WITH AUTO-SYNCHRONIZER	YES
202131055782	21-01-2022	MS. MADHUMITA CHAKRABORTY , DR. BARNALI KUNDU, MR. SHYAMAL KUMAR ROY, MS. PRIYANKA DUTTA	Impact of Electric Spring for improvement in power quality and stability of Power System	YES
IN202231018076	22-04-2022	Mr. Suman Ghosh	Cosmetics Processing Device	YES

Patent Publication by Faculty Members (CSE)

Sl. No.	Name of the Faculty	Title of Patent	Status	Application No.
1.	Dr. Suman Bhattacharya, Dr. Mahamuda Saltuna, Dr. Amrut Ranjan Jena	Deep CNN based Automatic Bengal Tiger Detection and Identification	Published	202131054636
2.	Dr. Suman Bhattacharya, Dr. Mahamuda Saltuna, Mr. Sourish Mitra	Quick Accident Detection and Response System (Go Safe)	Published	202131054365
3.	Mr. Sourish Mitra	IOT Based Solar Powered Multipurpose Vehicle used for Cricket Ground's Dew Soaking, Moisture Drying and Pitch Covering Technique	Published	202131056501
4.	Ms. Mandira Banik	Cargo Ship Navigation And Traffic Control System Using Petri Net	Published	202131056253
5.	Mr. Moloy Dhar	A method and system for determining direction by an autonomous robot	Published	202131060883
6.	Mr. Nirupam Saha, Mr. Moloy Dhar, Dr. Rupak Chakraborty, Mr. Rafiqul Islam, Mr. Pallabi Das,	Performance optimization of Internet of Robotic Arm (IORA) operated remotely using Deep Learning Approach for socially challenging people.	Published	202131056286
7.	Dr. Rupak Chakraborty, Dr. Sangeeta Bhattacharya	Deep Learning Based Automated Agricultural Crop Disease Identification and Solution Providing Model Aided with IoT	Published	202131055786

Patent filed

Patent Publication by Faculty Members (CSE (contd.), AEIE, & FT)

Sl. No.	Faculty Name	Title of Patent	Patent Status	Application no.
8.	Mr. Moloy Dhar, Ms. Bidyutmala Saha (CSE)	Eco-basket driven by Solar cell	Published	202131056937
9.	Mr. Moloy Dhar (CSE)	Development of An Obstacle Avoiding Autonomous Robot Implemented by Fuzzy Logic	Published	202131056501
1.	Ms. Bapita Roy (AEIE)	A smart irrigation system with controlled pollutants present in the air in rural and industrial area	Patent Published on 21.02.2022	202131058308
2.	Ms. Bapita Roy, Dr. Paramita Banerjee (AEIE)	Biomedical data integration system	Patent Published on 21.01.2022	202131058321
1.	Dr. Dolanchapa Sikdar, Dr. Kakali Bandyopadhyay, Monika Paul (FT)	Multi-Fortified Milk Powder: An Immune-Boosting Mix Loaded With Bioactive Compounds to Fortify Dairy Based Food Vehicles	Patent Published on 21.02.2022	202131058069

Patent Publication by Faculty Members (IT)

Sl. No.	Faculty Name	Title of Patent	Patent Status	Application no.
1.	1)Trishita Ghosh 2)Tridib Chakraborty 3)Suapna Karmakar 4)Md. Mizan 5)Dr. Santanu Kumar Sen	AIR-WRITING CHARACTER RECOGNITION SYSTEM	Patent Published on (21.01.2022)	202131058839
2.	1)Ms. Suparna Karmakar 2)Mr. Tridib Chakraborty 3)Mr. Sudeep Ghosh 4)Mrs. Trishita Ghosh 5)Dr. Santanu Kumar Sen	ROBOT FOR EXTINGUISHING A FIRE	Patent Published on (21.01.2022)	202131058583
3.	1)Mr.Tridib Chakraborty 2)Mr. Sudeep Ghosh 3)Dr. Santanu Kumar Sen	CAMFECTING DETECTION SYSTEM FOR IP SURVEILLANCE CAMERA	Patent Published on (21.01.2022)	202131059233

Patent filed

Patents Filed (December 21- June 22) (ASHU)

Date of Submission	Title	Status
15.06.2022	MULTIPURPOSE UTILITY TOOL	Filed

Patent Publication by the Students

Sl. No.	Student's Name	Title of Patent	Patent Status	Application no.
1.	Mr. Soumyadipta Basu (IT)	CAMFECTING DETECTION SYSTEM FOR IP SURVEILLANCE CAMERA	Patent Published	202131059233
2.	Jayita Pramanik, Poushali Paul, Sneha Baidya, Tias Ghosh (ECE)	METHOD OF ACCURATLY ESTIMATING DISTANCE BETWEEN TRAIN AND NEAREST RAILWAY GATE AND SYSTEM THEREOF	Patent Published	202131060819
3.	AYUSHA BISWAS (ECE)	A METHOD AND SYSTEM FOR MANAGING HEALTHCARE, EDUCATION AND GOVERNANCE ACTIONS FOR RURAL CITIZENS	Patent Published	202131060908
4.	Sayan Majumder Sayan Mondal Satish Singh (ECE)	A METHOD AND SYSTEM FOR DETERMINING DIRECTION BY AN AUTONOMOUS ROBOT	Patent Published	202131060883
5.	Sayan Majumder Sayan Bhattacharjee (ECE)	A SWEAT-POWERED HEADPHONE	Patent Published	202131060815
6.	Mamata Singh Atrayee Gayen Deepak Pandey (ECE)	A MACHINE LEARNING BASED INTELLIGENT TRAFFIC MANAGEMENT SYSTEM AND ITS METHOD THEREOF."	Patent Published	202131058066
7.	Deepak Kumar, Mamata Singh, Atrayee Gayen (ECE)	A SYSTEM FOR MAINTAINING TRAFFIC RULES FOR ASSISTING THE DRIVERS	Patent Published	202131057188
8.	Subhajit Dutta (EE)	AUTOMATIC FOREST FOSTER ROBOT- AFFRO-BOT	Patent Published	202131057629

Patent filed

Patent Publication by Students

Sl. No.	Student's Name	Title of Patent	Patent Status	Application no.
9.	Mr. Ishon Mollick (FT)	Multi-fortified milk powder: an immune-boosting mix loaded with bio-active compounds to fortify dairy based food vehicles.	Published	202131058069
10.	Sandip Kumar Karmakar (CSE)	IOT Based Solar Powered Multipurpose Vehicle used for Cricket Ground's Dew Soaking, Moisture Drying and Pitch Covering Technique	Published	202131056501
11.	Soumak Das (CSE)	Performance optimization of Internet of Robotic Arm (IORA) operated remotely using Deep Learning Approach for socially challenging people.	Published	202131056286
12.	Ashes Roy Choudhury, Ankan Goswami (CSE)	Deep Learning Based Automated Agricultural Crop Disease Identification and Solution Providing Model Aided with IoT	Published	202131055786
13.	Subhajit Sanyal, Raktim Chatterjee (CSE)	Ecobasket driven by Solar cell	Published	202131056937
14.	Anirban Saha (AEIE)	Biomedical data integration system	Published	202131058321 A
15.	Ms Shilpita Hazra, Sampreet Dey Sakya Mridha (AEIE)	A smart irrigation system with controlled pollutants present in the air in rural and industrial area	Published	202131058308 A

PUBLICATIONS

FACULTY PUBLICATION

FACULTY PUBLICATION SUMMARY BREAKUP (2021 TO 2022)

Academic Year	Dept	National Journal	National Seminar/ Conference	International Journal	International Seminar/ Conference	Total
2021-22	CSE	0	0	15	9	24
	ECE	0	8	25	2	35
	AEIE	0	0	0	2	2
	EE	0	2	10	8	20
	FT	1	0	8	3	12
	IT	0	0	2	6	8
	ASH	0	0	6	0	6
	CA	0	0	0	2	2
		1	10	66	32	109

DEPARTMENT: CSE

International Journal

- **Ipsita Saha**, Tatiana S. Smirnova, Vladimir A. Maryev, "Implementation of Eco-Industrial Park for Effectual Establishment of Circular Economy in Russia", Nature Environment and Pollution Technology, Vol. 20, No.5 (October, 2021), pp. 2031-2040.(Scopus Indexed)
- **Amrut Ranjan Jena**, Raja Das, D. P. Acharjya, " An Integrated Approach for Prediction of Radial Overcut in Electro Discharge Machining using Fuzzy Graph Recurrent Neural Network", Int. J. Embedded Systems , Vol. 4, No. 4, 2021. (SCOPUS & WoS, IF-1.2)
- **Mrs. Srabani Biswas**, "Real Time Event Area Localization and Estimation in Smart Environments Based on A Realistic Sensing Model", International Journal of Communication Networks and Distributed Systems, Accepted (SCOPUS).
- **Suman Bhattacharya**, Mahamuda Sultana, "A Comprehensive Survey on Bird Species Identification Models" International Journal of Computer Information Systems and Industrial Management Applications. Scopus (2021) ISSN: 2150-7988.2021
- **Suman Bhattacharya**, Mahamuda Sultana, Bikramjit Das, Biplab Roy, "A Deep Neural Network Framework for Detection and Identification of Bengal Tigers" Innovations in Systems and Software Engineering, Scopus, ESCI (Springer) (2022) ISSN: 1614-5046
- **Dr. Ananjan Maiti**. "Building of an edge enabled drone network ecosystem for bird species identification." Ecological Informatics 68 (2022): 101540.
- **Amrut Ranjan Jena**, "An integrated approach for prediction of radial overcut in electro discharge machining using fuzzy graph recurrent neural network." published in *International Journal of Embedded Systems*, 14(4), pp.345-354, 2021
- **Amrut Ranjan jena**, Madhusmita Mishra, **Rantadeep Mazumder** "A Framework for Emotion Detection using Open Source Computer Vision and Convolutional Neural Network" Vol. 12 -

PUBLICATIONS

No. 4 (April 2022), International Journal of Engineering Research and Applications, ISSN: 2248-9622.

- **Sourish Mitra, Pallabi Das, Nilimesh Chakraborty, Sounak Majumdar, Tiyasa Barman, Poulomi Das, Riya Pahan, Tiyas Ghosh, "IoT Based Saplings Protection System against Unsuitable Natural Climate"**, published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, May-2022, DOI: 10.22214/ijraset.2022.43526, Impact factor-7.538.
- **Sourish Mitra, Subhaditya Banerji, Reshmi Das, Sayan Sarkar, Pallabi Das, Bidyutmala Saha, Rafiqul Islam, Rupak Chakraborty "Virtual Reality (VR) and Augmented Reality (AR) Based 360 Degree Panoramic Environment Generator for Virtual Tour"**, published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, May-2022, DOI: <https://doi.org/10.22214/ijraset.2022.43632>, Impact factor-7.538.
- Prithviraj Biswas, Rohan Chakraborty, Tathagata Mallik, Rohan Chakraborty, Sk Imran Uddin, Shreya Saha, **Pallabi Das, Sourish Mitra, "Flight Price Prediction: A Case Study"**, published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, June-2022, DOI: <https://doi.org/10.22214/ijraset.2022.43666>, Impact factor-7.538.
- Amlan Dutta, Abhijit Pal, Mriganka Bhadra, Md. Akram Khan, **Rupak Chakraborty, Sourish Mitra, Rafiqul Islam, Nirupam Saha, "Object Detection Technique using a fast R-CNN based Technique"**, published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, June-2022, DOI: <https://doi.org/10.22214/ijraset.2022.44112>, Impact factor-7.538.
- Neela Chattyopadhyay, Hrittika Maity, Bipsa Debnath, Debanjana Ghosh, **Rupak Chakraborty, Sourish Mitra, Rafiqul Islam, Nirupam Saha, "Classification of MNIST Image Dataset Using Improved Convolutional Neural Network"**, published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, June-2022, DOI: <https://doi.org/10.22214/ijraset.2022.44111>, Impact factor-7.538.
- **Moloy Dhar, Paromita Saha, Nirupam Saha, Sourish Mitra, Bidyutmala Saha, Pallabi Das, Rafiqul Islam, Sutapa Sarkar, "Object Detection using Deep Learning Approach"**, published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, June-2022, Impact factor-7.538.
- Arindam Dutta, Ekta Sardar, Sarbani Dutta, Sushmita Saha, **Rupak Chakraborty, Moloy Dhar, Sourish Mitra, Biswajit ChakiChoudhury, "Identification of Cancerous Cell from Noisy Images"**, published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, June-2022, Impact factor-7.538.

International Conference

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- **Moloy Dhar, "A Video based Uncertainty Technique for Human Action Recognition - A Deep Learning Approach"**, 3rd International Conference of Communication, Devices and Computing (ICDC 2021), Springer, (SCOPUS Indexed).
- **Pallabi Das, "Agile Methodology vs. Traditional Waterfall SDLC: A Case Study on Quality Assurance Process in Software Industry"**, 2021 5th International Conference on Electronics, Materials Engineering & Nano-Technology (IEMENTech).
- **Mandira Banik, S. Ghosh, Amrut Ranjan Jena, Chakraborty, T., Ghosh, T. and Gupta, A., 2022. Approximate computing: Error Tolerant Adder. In Applications of Networks, Sensors and Autonomous Systems Analytics** (pp. 113-123). Springer, Singapore.
- **Rupak Chakraborty, Ashesh Roy Choudhuri, Barnali Guha Thakurata, Bipsa Debnath, Debanjana Ghosh, Hrittika Maity, Neela Chattopadhyay, "MNIST Image Classification using Convolutional Neural Networks"**, International Conference on Modeling, Simulation and Optimization (CoMSO 2021), Springer, NIT Silchar, December 116-18, 2021.
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- **Sunipa Roy**, Technological Development of Graphene and Graphene-Nanocomposite-Based Supercapacitor Electrode, Low-Dimensional Nanoelectronic Devices Theoretical Analysis and Cutting-Edge Research, Book Chapter, Apple academic press ISBN: 9781774638668.29th September 2021.
- **Sunipa Roy**, Sensing Using Memristive Approach, Governing Physics, and Instrumentation Challenges, Low-Dimensional Nanoelectronic Devices Theoretical Analysis and Cutting-Edge Research, Book Chapter, Apple academic press. ISBN: 9781774638668. 29th September 2021.
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- **Soumik Podder**, **Light Responsive Nanomaterials with Pro-oxidant and Anti-oxidant Activity, Emergent Materials** (WoS, SCOPUS), vol. 5, issue 2, pp 455-475, March 2022, ISSN 2522-5731.
- **Suparna Biswas, Sayan Roy Chaudhuri, Avali Banerjee, et. al.** “**Automated Vacant Bed System using Robot Framework to Combat with COVID-19**”, in International Journal of Innovative Research in Computer and Communication Engineering(IJIRCCE), e-ISSN 2320-9801, Volume 9, Issue 12, December 2021.
- **Sayan Roy Chaudhuri, Suparna Biswas et. al.** “**Internet Of Things (IOT) Based Smart Health Monitoring System**”, International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Volume 9 Issue VII July 2021.
- **Sayan Roy Chaudhuri, Antara Ghosal, Suparna Biswas et.al.** “**Trajectory Planning in Robotic**”, International Journal of All Research Education and Scientific Methods (IJARESM), ISSN: 2455-6211, Volume 9, Issue 7 July 2021
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- **Souman Bej, Sourjyadip Sarkar, Soumyajit Goswami, Sourav Paul, Avali Banerjee**, “**A Review on Core Infrastructures for Establishment of a Smart City**”, 5th International Conference

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- **Avali Banerjee, Mamata Singh, Deepak Pandey and Kashish Rani, "QuickDoc - Online Doctor Consultation and Queue Management of Pharmacies",** First Eastern Regional Conclave of Student's Chapter of The Institution of Engineers (India) in association with All India Student's Committee at GNIT Kolkata, 29th - 30th October 2021.
- **Avali Banerjee, Shobhandeb Paul, Santanu Saha and Suvasish Paul, "IOT Based Smart Baby Monitoring System",** First Eastern Regional Conclave of Student's Chapter of The Institution of Engineers (India) in association with All India Student's Committee at GNIT Kolkata, 29th - 30th October 2021.
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- **Saikat Mazumder**, “Food and medicinal properties of hibiscus (*Hibiscus sabdariffa*; *Hibiscus rosasinensis*)”, (DOI: <https://doi.org/10.7770/safer-V12N1-art2528>), Sustainability, Agri, Food and Environmental Research (ISSN: 0719- 3726), Volume: 12, Published Online: Feb 17, 2022. UGC Care-I Journal.
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- **Saikat Mazumder**, Sustainable/Digital Entrepreneurship: An Accelerating Demand of 21st Century, ICSSR Sponsored International Conference on “Emerging New World Order in Post

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- **Katha Roy, Ishan Goswami, Jagyaseni Sengupta, Debashruti Das, Moumita Das, Sudeep Ghosh, Tridib Chakraborty, MD Mizan Chowdhury, Suparna Karmakar, Trishita Ghosh “Music Genre Interpretation Study using Machine Learning and Regression Analysis Approach”** AICTE Sponsored International Conference on Communication Computing Nano-Microwave Technology (CCNMT 2022), 8th-9 th July, 2022.
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- **Suman Ghosh, J. K. Das, Chandan Kr. Chanda, "Performance Analysis of Latency on Wide Area Monitoring And Control for A Smart Power Grid"**, Lecture Notes in Electrical Engineering (LNEE). (Accepted) (Book Chapter).
- **Debasree Saha, "Coordinated AC frequency versus DC voltage control in a PV-wind-battery based hybrid AC/DC microgrid"**, International Transactions on Electrical Energy Systems, August, 2021) (Wiley, SCI indexed, Impact factor: 2.86).
- **Debasree Saha, "Pyrolysis: An Evolution of Waste Management"**, International Journal of Engineering Research & Technology (IJERT), Vol. 9, no. 11, pp. 98-101, July 2021. (ISSN: 2278-0181), NCETER - 2021 Conference Proceedings, (Scopus, Impact Factor - 7.86).
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- **Rikta Majumder, Dr Debasree Saha, Dr Papun Biswas, Dr Aveek Chattopadhyaya "Modeling, Simulation and FFT Based Dynamic Performance Analysis of Three Phase Asynchronous Machine",** International Conference on Education and Technology (IC-ET-22) 12th June 2022 Kolkata, India.
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- **S. Datta, A. Chattopadhyaya, S. Chattopadhyay, A. Das, "Harmonic Distortion, inter-harmonic Group Magnitude and Discrete Wavelet Transform based Statistical Parameter Estimation for Line to Ground Fault Analysis in Microgrid System",** Published in IET Digital Library, DOI: 10.1049/icp.2021.1087, pp. 177 - 184, July 2021.
- **Sumangal Bhowmick, Aveek Chattopadhyaya, Jitendra Nath Bera, "Intelligent Assessment of Different Inverters Configuration in Grid Connected DC Microgrid",** International Conference on Industrial Electronics, Mechatronics, Electrical & Mechanical Power, IEM-POWER 2021, Kolkata, India, 26-28 November 2021, pp. 29 (Book of Abstract).
- **Amrita Chanda , Sagar Bera, Susovan Dutta, "A Brief Study of Designing A 10 KWp Grid Connected Photovoltaic System Using PVSYST",** ICACCES 2022, March.

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- **Bapita Roy, "Smart Economical Irrigation And Air Pollution Control And Monitoring System For Rural And Industrial Area"** Published in Symposium Institute of Engineers Students National Conclave 2021. 29th-30th Oct., 2021.
- **Ms. Santana Das "Automatic Coloured Object Sorting Using IoT"**, Published in National IE Conclave 2021. 29th-30th Oct., 2021.

DEPARTMENT: ASHU

International Journal

- **Anup Kumar Thander & Sucharita Bhattacharyya**, TM Mode Analysis in Optical Waveguide Study, Lect. Notes Electrical Eng. (LNEE), Vol. 776, Springer Nature, Advances in Communication, Devices and Networking, 978-981-16-2910-5, September 2021.
- **Masud Rana, Sourav Majumdar, Pushpdant Jain, Anindya Malas, Rururaja Pradhan, Sandeep Choudhury & Jayanta Kumar Biswas**, Evaluation and Analysis of Strain in the Screw Head for Lumbar Pedicle Screw Fixation: An Experimental and Finite Element Study, International Journal of Multiscale Computational Engineering, Vol. 19, No. 2, pp. 1-8, June 2021, DOI: 10.1615/IntJMultCompEng.2021039052 (SCI Indexed, Impact Factor: 1.508)
- **Anindya Malas, Masud Rana, Pushpdant Jain, Sourav Majumdar, Anupam Alok, Rururaja Pradhan & Jayanta Kumar Biswas**, Effect of Carbon Fiber Reinforced-Polyetheretherketone (CFR-PEEK) Composite Rod for Pedicle Screw-Rod Semi-rigid Fixation: A Finite Element Study, International Journal of Multiscale Computational Engineering, Vol. 19, No. 3, pp. 1-9, August 2021, DOI: 10.1615/IntJMultCompEng.2021039785 (SCI Indexed, Impact Factor: 1.508).
- **Dr. Debasish Batabyal, Mr. Pratim Chatterjee, Namrata Chakaborty, Dr. Shatrajit Goswami, Ms. Vandita Hajra, Revisiting Hotel Brands in West Bengal: An Assessment for Confidence Building of Leisure Tourists amidst COVID 19 Pandemic**, Turkish Online Journal of Qualitative Inquiry (TOJQI), Volume 12, Issue 6, July, 2021, 7480- 7491, (ISSN :1309-6591).
- **Jayanta Kumar Biswas, Anindya Malas, Sourav Majumdar, Masud Rana, A comparative finite element analysis of artificial intervertebral disc replacement and pedicle screw fixation of the lumbar spine**, Computer Methods in Biomechanics and Biomedical Engineering, Feb 2022, DOI: 10.1080/10255842.2022.2039130 (SCI Indexed, Impact Factor: 1.763).
- **Mainak Debnath, Sreyasree Basu, Indrajit Bhattachayya and Oindrila Mazumder, Edible food packages: An approach towards sustainable future**, The Pharma Innovation Journal 2022; SP-11(5): 1704-1710.

DEPARTMENT: CA

International Conference

- **Dibyajyoti Mukherjee, Souvik Samnta, Sangram Nandi, Debdeep Hazra, Somalina Chowdhury, Dola Saha, "A learning approach for Neural Networks using Deep Learning"**, published in First Eastern Regional conclave of students chapter on 30th oct, 2021.

PUBLICATIONS

- Indrani Barui, Sonali Mondal, Pritika Mukherjee, Swagata Mondal, **Somalina Chowdhury, Dola Saha**, "A review on security in Smart Grid", published in First Eastern Regional conclave of students chapter on 30th oct, 2021.

STUDENT PUBLICATION

Academic Year	Dept	National Journal	National Seminar/ Conference	International Journal	International Seminar/	Total
2021-22	FT	0	1	7	1	9
	AEIE	0	0	0	2	2
	IT	0	0	0	9	9
	CSE	0	0	9	8	17
	EE	0	0	7	4	11
	ECE	0	4	14	2	20
	ASHU	0	0	2	0	2
	CA	0	0	0	2	2
			0	5	40	28

DEPARTMENT: CSE

International Journal

- Suman Bhattacharya, Mahamuda Sultana, **Bikramjit Das, Biplab Roy**, "A Deep Neural Network Framework for Detection and Identification of Bengal Tigers" Innovations in Systems and Software Engineering, Scopus, ESCI (Springer) (2022) ISSN: 1614-5046
- Amrut Ranjan jena, Madhusmita Mishra, **Rantadeep Mazumder** "A Framework for Emotion Detection using Open Source Computer Vision and Convolutional Neural Network" Vol. 12 - No. 4 (April 2022), International Journal of Engineering Research and Applications, ISSN: 2248-9622.
- Sourish Mitra, Pallabi Das, **Nilimesh Chakraborty, Sounak Majumdar, Tiyasa Barman, Poulomi Das, Riya Pahan, Tiyas Ghosh**, "IoT Based Saplings Protection System against Un-suitable Natural Climate", published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, May-2022, DOI: 10.22214/ijraset.2022.43526, Impact factor-7.538.
- Sourish Mitra, **Subhaditya Banerji, Reshmi Das, Sayan Sarkar**, Pallabi Das, Bidyutmla Saha, Rafiqul Islam, Rupak Chakraborty "Virtual Reality (VR) and Augmented Reality (AR) Based 360 Degree Panoramic Environment Generator for Virtual Tour", published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, May-2022, DOI: <https://doi.org/10.22214/ijraset.2022.43632>, Impact factor-7.538.
- **Prithviraj Biswas, Rohan Chakraborty, Tathagata Mallik, Rohan Chakraborty, Sk Imran Uddin, Shreya Saha**, Pallabi Das, Sourish Mitra, "Flight Price Prediction: A Case Study", published in International Journal for Research in Applied Science & Engineering Technology

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- **Neela Chattopadhyay, Hrittika Maity, Bipsa Debnath, Debanjana Ghosh, Rupak Chakraborty, Sourish Mitra, Rafiqul Islam, Nirupam Saha, "Classification of MNIST Image Dataset Using Improved Convolutional Neural Network"**, published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, June-2022, DOI: <https://doi.org/10.22214/ijraset.2022.44111>, Impact factor-7.538.
- **Moloy Dhar, Paromita Saha, Nirupam Saha, Sourish Mitra, Bidyutmal Saha, Pallabi Das, Rafiqul Islam, Sutapa Sarkar, "Object Detection using Deep Learning Approach"**, published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, June-2022, Impact factor-7.538.
- **Arindam Dutta, Ekta Sardar, Sarbani Dutta, Sushmita Saha, Rupak Chakraborty, Moloy Dhar, Sourish Mitra, Biswajit ChakiChoudhury, "Identification of Cancerous Cell from Noisy Images"**, published in International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653, Vol-X, Issue-V, June-2022, Impact factor-7.538.

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- **Amlan Dutta, Abhijit Pal, Mriganka Bhadra, Md. Akram Khan, and Rupak Chakraborty, "An Improved K-Means Algorithm for Effective Medical Image Segmentation"**, Proceedings of International Conference on Innovations in Software Architecture and Computational Systems, Springer, India, Published on October 12, 2021 (SCOPUS Indexed).
- **Ankita Adhikari, Ashesh Roy Choudhuri, Debanjana Ghosh, Neela Chattopadhyay, and Rupak Chakraborty, "Breast Cancer Histopathological Image Classification using Convolutional Neural Networks"**, Proceedings of International Conference on Innovations in Software Architecture and Computational Systems, Springer, India, Published on October 12, 2021 (SCOPUS Indexed).
- **Subhajit Pati, Snehashis Chakraborty, Soumik Sarkar, Subarna Guin, Sourav Mallick, Amrut Ranjan Jena, and Santanu Sen, "A Framework for Predicting Placement of a Graduate using Machine Learning Techniques"**, Proceedings of International Conference on Innovations in Software Architecture and Computational Systems, Springer, India, Published on October 12, 2021 (SCOPUS Indexed).
- **Subhajit Sanyal, and Moloy Dhar, "A Video based Uncertainty Technique for Human Action Recognition - A Deep Learning Approach"**, 3rd International Conference of Communication, Devices and Computing (ICCDC 2021), Springer, India.
- **Swarnali Kar, Swagata Srimani, Payel Dey, Sohan Kumar Dutta, Sumana Garani, and**

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Srabani Kundu, "Healthcare Management System in COVID Scenario", Published in National IE Conclave Conclave 29-30 October, 2021.

- **Amlan Dutta, Mriganka Bhadra, Abhijit Pal, Md Akram Khan, and Rupak Chakraborty, "Medical Image Segmentation using Improved K-Means Algorithm",** Published in National IE Conclave 29-30 October, 2021.
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DEPARTMENT: FT

International Journal

- **Poulami Banerjee, Deblina Sen, Writtika Das "Review on Anthocyanin Extraction from Different Natural Sources and Their Fortification in Non Alcoholic Beverages",** International Journal for Modern Trends in Science and Technology (2021), 7, 0707032, pp. 63-67. <https://doi.org/10.46501/IJMTST0707011>, WOS Indexed.
- **Srijeeta Saha, "Fortification of tomato pomace powder in dairy Products",** International Journal of Advances in Engineering and Management (IJAEM) Volume 3, Issue 7 July 2021, pp: 1789-1797. DOI: 10.35629/5252-030717891797.
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- **Suprabha Dey, Avilash Roy, Ankit Paul, Neha Saha, Anupama Tarafdar, "Food and medicinal properties of hibiscus (Hibiscus sabdariffa & Hibiscus rosasinensis)",** (DOI: <https://doi.org/10.7770/safer-V12N1-art2528>), Sustainability, Agri, Food and Environmental Research (ISSN: 0719- 3726), Volume:12, Published Online: Feb 17, 2022. UGC Care-I Journal.
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- **Sayandeep Halder, Arkodeep Karmakar, Anushka Sengupta, Himon Das, Shrijit Paul, Sourav Das "A review of Improvement of the fried oil By Treatment with Activated Carbon and Silica, Magnesium Oxide, Activated Clay, and Aluminum Hydroxide Gel",** (DOI: <https://doi.org/10.37896/aj11.3/003>), ADALYA JOURNAL, Volume 11, Issue 3, 2022.

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International Conference

- **Suditi Jana, Santanu Dutta, Sustainable/Digital Entrepreneurship: An Accelerating Demand of 21st Century**,ICSSR Sponsored International Conference on **"Emerging New World Order in Post Pandemic Scenario"**, Organized by St Xavier's College, Jaipur, Affiliated to University of Rajasthan, Held on 18-19 February 2022.

National Conference

- **Supriti Manna, Consequence of Covid-19 on India's FMCG Sector; Digital Automation, Eastern Regional Conclave of Students' Chapters of The Institution of Engineers (India) on "Role of Budding Engineers in Smart and Sustainable Technologies "**, organized by Institution of Engineers (India), 29-30 October 2021.

DEPARTMENT: EE

International Journal

- **Meghna Sengupta, Arijit Das, Ramanuj Bhowmick, "Pyrolysis: An Evolution of Waste Management"**, International Journal of Engineering Research & Technology (IJERT), Vol. 9, no. 11, pp. 98-101, July 2021. (ISSN: 2278-0181), NCETER - 2021 Conference Proceedings, (Scopus, Impact Factor - 7.86)
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- **Pratap Hazra, Raj Kumar Saha, Subhajit Debnath, "Design of A Novel Power Boost Converter With Dual Coupled Inductors"**, International Journal of Engineering Research & Technology (IJERT), Vol. 9, no. 11, pp. 94 - 97, July 2021. (ISSN: 2278-0181), NCETER - 2021 Conference Proceedings, (Scopus, Impact Factor - 7.86).
- **Pratap Hazra Raj Kumar Saha , Subhajit Debnath , MD. Yusuf Yuhana , Shaoli Paul, "A high voltage dc railway system"**, First Eastern Regional Conclave of Students' Chapters of The Institution of Engineers (India) 2021-2022, 29th-30th Oct., 2021.
- **Amrita Chanda, Sagar Bera, Susovan Dutta, "Design and Simulation of 5KWp Grid Connected Photovoltaic system Using PVSYST"**, Lecture Notes on Electrical Engineering (LNEE)-SCOPUS Indexed(Springer-Nature Book Series). (Accepted), March 2022.
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- **Raj Kumar Saha, Pratap Hazra, Smriti Dutt, Suman Kumari, Poulami Das, Shilpa Dutta, Subhajit Debnath, Aweek Chattopadhyaya, Debasree Saha, "Design of a DC-DC-AC Power Boost Inverter"** , International Conference on Recent Advances in Engineering and Technology (ICRAET) in Siliguri, India during 18 May, 2022.
- **Amrita Chanda , Sagar Bera, Susovan Dutta, "A Brief Study of Designing A 5 KWp Grid-Connected Photovoltaic System Using PVSYST"**, IEEE Techithon 2021.
- **Amrita Chanda , Sagar Bera, Susovan Dutta, "A Brief Study of Designing A 10 KWp Grid Connected Photovoltaic System Using PVSYST"**, ICACCES 2022, March.

DEPARTMENT: AEIE

International Conference

- **Shilpita Hazra, Sakya Mridha, Sampreet Dey, Bapita Roy, "Smart Economical Irrigation And Air Pollution Control And Monitoring System For Rural And Industrial Area"** Published in Symposium Institute of Engineers Students National Conclave 2021. 29th-30th Oct., 2021.
- **Anisha Chowdhury, Nandita Das, Ms. Suparna Maity, Ms. Santana Das "Automatic Coloured Object Sorting Using IoT"**, Published in National IE Conclave 2021. 29th-30th Oct., 2021.

DEPARTMENT: ECE

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- **Internet Of Things (IOT) Based Smart Health Monitoring System-** Sougata Karmakar, Susmita Pallob, Subrata Dutta, Sayan Roy Chaudhuri, Suparna Biswas. International Journal for Research in Applied Science & Engineering Technology (IJRASET), ISSN: 2321-9653; IC Value: 45.98; Volume 9 Issue VII July 2021- Available at www.ijraset.com.
- **Koushik Pal, Souvik Das, Soumyadeep Sett, Subhojyoti Saha, Soumyadeep Saha, Soumyadeep Roychoudhury "A Novel Face Detection Technique Using Open CV"**, Inter-

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- **Koushik Pal, Anjali Kumari, Debabnjana Das, Debarati Roy, Mahuya Maity, Plaban Mal** “A New Type of Solar Energy Measurement System using PIC Controller”, International Journal for Research in Applied Science & Engineering Technology (IJRASET)ISSN: 2321-9653; Volume 9 Issue VI July 2021, page-5195-5199.
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- **Suchandra Roy, Shweta Roy , Indranil Dey Sarkar , Rajorsi Chatterjee, Swarna Kamal Pal, Adrija Sengupta** and Surajit Basak, “Design and Implementation of Drone with Jammer” , *International Journal of Engineering Science and Computing (IJESC)*, vol. 11, no. 7, pp. 28391-28395, July 2021. ISSN: 2321 3361.
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- **Partha Sarathi Dutta**, Surajit Basak and Kaushik Roy, “Cross-Layer Routing for Outage Minimization in Multi-hop Ad hoc Networks”, *International Journal for Research in Applied Science & Engineering Technology*, vol. 9, Issue VII, July 2021.
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- **Avali Banerjee, Deepak Pandey, Mamata Singh, Atrayee Gayen, Kashish Rani, Prafulla Kumar Sahani**, “Ayushi Jaiswal TechDoc - System for Queue Management of Pharmacies and Online Consultation of Doctors”, *International Journal for Modern Trends in Science and Technology (IJMTST)*, Volume 7, Issue 06, 2021. ISSN: 2455-3778. DOI: 10.46501/IJMTST0706006.
- **Avali Banerjee, Swrnila Nath, Rounak Ghosh, Srinjan Majhi, Sudipta Das, Mrinmoy Kar, Sreya Bhattacharya**, “Drone: The Solution to Delivery Problems”, *International Journal for Research in Applied Science & Engineering Technology (IJRASET)*, Volume 9 Issue V May 2021. ISSN: 2321-9653. DOI: 10.22214/ijraset.2021.34696.
- **Shobhandeb Paul, Santanu Saha, Suvasish Paul, Souradeep Kundu, Taniya Mitra**, **Avali Banerjee**, “Comparative Analysis on Stroke Prediction using various Supervised Machine Learning Techniques”, *International Journal for Research in Applied Science & Engineering*

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- **Koushik Pal, Sayantani Das, Souvik Mondal, Shirsendu Banerjee**, “A Novel Agronomical Technology for Polar Region's Cultivation During Winter Dark”, **5th International Conference on Electronics, Materials Engineering & Nano-Technology**, 24 to 26th September 2021, Kolkata.
- **Souman Bej, Sourjyadip Sarkar, Soumyajit Goswami, Sourav Paul, Avali Banerjee**, “A Review on Core Infrastructures for Establishment of a Smart City”, **5th International Conference on Electronics, Materials Engineering and Nano-Technology (IEMENTech -2021)**, Institute of Engineering & Management, Kolkata, 24-26th September 2021.

DEPARTMENT: IT

International Conference

- **Soumyadipta Basu** “**Repairing TSVs for 3D ICs using Redundant TSV**”, International Conference on Industrial Instrumentation & Control (ici2c-2021) organized by Applied Electronics & Instrumentation Engineering Department, RCC Institute of Information Technology, Kolkata, From 21st & 22nd August Conference Proceedings will be published in “Lecture Notes in Electrical Engineering” Springer ISSN: 1876-1100 (Scopus Indexed).
- **Debayan Roy, Sriparna Ghosh, Gourav Nandy, Sayani Sengupta, Roumita Singha, Pallab Nath** “ **Auto Colorization of Photographic Pictures:Image Colorization using Deep Learning**” Published in Symposium Institute of Engineers Students National Conclave 2021, 29th-30th Oct., 2021.
- **Suparna das, Katha Roy, Jagyaseni Sengupta, Ishan Goswami** , “**Interpreting Genres of Music using Machine Learning**” Published in Symposium Institute of Engineers Students National Conclave 2021. 29th-30th Oct., 2021.
- **Suparna Das, Raunak Seal**, “**Uses of Holography in Virtual meets**” Published in Symposium Institute of Engineers Students National Conclave 2021. 29th-30th Oct., 2021.
- **Koushik Halder, Raka Basu, Samarpitha Das, Aditya Manna**, “**Brief Study on Blockchain Technology**” Published in Symposium Institute of Engineers Students National Conclave 2021. 29th-30th Oct., 2021.
- **Suparna Das, Sayani Sengupta, Debayan Roy, Gourav Nandy, Roumita Singha, Pallab Nath, Sriparna Ghosh**, “**Image Colorization using Deep Learning**” AICTE Sponsored International Conference on Communication Computing Nano-Microwave Technology (CCNMT 2022), 8 th -9 th July, 2022.
- **Katha Roy, Ishan Goswami, Jagyaseni Sengupta, Debashruti Das**, “**Music Genre Interpretation Study using Machine Learning and Regression Analysis Approach**” AICTE Sponsored International Conference on Communication Computing Nano-Microwave Technology (CCNMT 2022), 8th-9th July, 2022.
- **Raunak Seal**, “**New frontiers of Cyber Warfare**” AICTE Sponsored International Conference on Communication Computing Nano-Microwave Technology (CCNMT 2022), 8th-9th July, 2022.

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- **Anurati Kar, Sougata Roy, Moumita Basak, "OCR based approach for Auto-Detection and Recognition of Vehicle Number Plate"** AICTE Sponsored International Conference on Communication Computing Nano-Microwave Technology (CCNMT 2022), 8th-9 th July, 2022.

DEPARTMENT: ASHU

International Journal

- **Masud Rana, Sourav Majumdar, Pushpdant Jain, Anindya Malas, Rururaja Pradhan, Sandeep Choudhury & Jayanta Kumar Biswas**, Evaluation and Analysis of Strain in the Screw Head for Lumbar Pedicle Screw Fixation: An Experimental and Finite Element Study, International Journal of Multiscale Computational Engineering, Vol. 19, No. 2, pp. 1-8, June 2021, DOI: 10.1615/IntJMultCompEng.2021039052 (SCI Indexed, Impact Factor: 1.508).
- **Anindya Malas, Masud Rana, Pushpdant Jain, Sourav Majumdar, Anupam Alok, Rururaja Pradhan & Jayanta Kumar Biswas**, Effect of Carbon Fiber Reinforced-Polyetheretherketone (CFR-PEEK) Composite Rod for Pedicle Screw-Rod Semi-rigid Fixation: A Finite Element Study, International Journal of Multiscale Computational Engineering, Vol. 19, No. 3, pp. 1-9, August 2021, DOI: 10.1615/IntJMultCompEng.2021039785 (SCI Indexed, Impact Factor: 1.508).

DEPARTMENT: CA

International Conference

- **Dibyajyoti Mukherjee, Souvik Samnta, Sangram Nandi, Debdip Hazra**, "A A learning approach for Neural Networks using Deep Learning", published in First Eastern Regional conclave of students chapter on 30th oct, 2021.
- **Indrani Barui, Sonali Mondal, Pritika Mukherjee, Swagata Mondal**, "A review on security in Smart Grid", published in First Eastern Regional conclave of students chapter on 30th oct, 2021.

Committee List

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Sl. No.	Name of Member of BOG	Position in the current engagements
1	Dr. S.M.Chatterjee	Chairman- Advisor, State Council of Technical Education, Former Vice-Chancellor Bengal Engineering & Science University
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4	Mr. Amrik Singh	Trustee Member
5	Mr. Harjyot Singh	Member, Nominated by Trust
6	Mr. Amanjyot Singh	Member, Nominated by Trust
7	Mr. Simarpreet Singh	Director, JIS Group Educational Initiative
8	Mr. U. S.Mukherjee	Dy. Director, JIS Group; Member, Nominated by Trust
9	Dr. Sourav Dutta	Industry representative (Chief Product Officer, Pay-Back, Gurgaon)
10	Prof. Malay Chatterjee	MAKAUT Nominee
11	Dr. Amalendu Basu	Director of Technical Education (Ex-Officio), Govt. of WB
12	Mr. Jagadish Chanda	WB Govt. Nominee
13	AICTE Regional Officer	Member Representative, AICTE ERO
14	Prof(Dr.) Arun Kr. Mondal	Professor, ECE Dept and COE, Teacher Representative
15	Mr. Adhish Kr. Chakrabarty	Member, Asst. Professor, AEIE Dept., Teacher Representative
16	Prof(Dr.) Asit Guha	Advisor, JIS Group ;Member, Nominated by Trust
17	Mr. S. S. Dutta Gupta	Director, JIS Group
18	Prof(Dr.) Santanu Kr. Sen	Principal & Member Secretary

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: Machine Intelligence Unit, Indian Statistical Institute, Kolkata

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Finance Committee

Anti-Ragging Committee

Grievance Redressal Committee

Disciplinary Committee

Sports Committee

Cultural Committee

R&D Committee

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Women grievance Redressal committee

Publicity/Magazine Committee

Student Welfare Committee

Class monitoring Committee

Publicity and Website Committee

Routine Committee

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