

# INDIRA GANDHI DELHI TECHNICAL UNIVERSITY FOR WOMEN

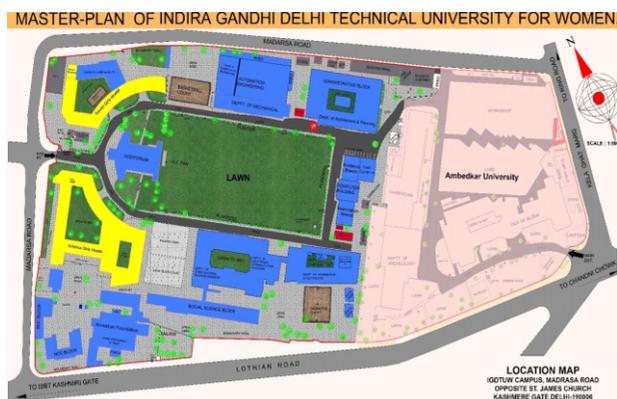


Indira Gandhi Delhi Technical University for Women (IGDTUW) was established in May 2013 vide Delhi State Legislature Act 9, 2012. The University fosters an environment for excellence in professional education and ensures active participation of women in the field of Engineering, Science, Management and Architecture, while striking out a work-life balance. The University is committed to make the student's educational experience multifaceted and holistic.

IGDTUW functions efficiently as a Teaching & Learning, Research-Oriented Centre in various branches of Science, Engineering, Technology, Architecture and Management promoting advancement and dissemination of research led knowledge among women from all over the country. The strategic intent of the University is to foster industry relevant research and innovations and empower the women of our country through value based higher education making them Employable, Self-Reliant, Entrepreneurship

Development, Responsible Citizen of the country with concern for Environment and Society.

The University is committed about developing Sustainable Systems and State-of-the-Art infrastructure to empower the women to become future Leaders, Managers, Researchers, and Productive Team Players in the field of Science, Engineering, Technology, Architecture and Management.





## VISION

- To make India a Knowledge Society and a Knowledge Economy by empowering the women of our country through education in Engineering, Science, Management and Technology and to become a leading technical university in the country known for its value based, quality technical education supported with industry relevant research with focus on environmental and social issues.

## MISSION

- To foster an environment for excellence in professional education and ensure active participation of women in the field of Engineering, Science, Management and Technology while striking out a work-life balance.
- To start new professional courses for women in sun-rise disciplines and forge alliances with industry to impart industry relevant education.
- To emancipate women through pursuit of knowledge enabling them to gain equal status in society through realization of their rights and responsibilities.
- To develop sustainable systems and state-of-the-art infrastructure to enable the Indian women to become the future leaders, managers, researchers and productive team players in the field of science, technology and management.

## UNDERGRADUATE, POSTGRADUATE & DOCTORATE PROGRAMS OFFERED BY UNIVERSITY

S.No.	TITLE OF PROGRAM	LEVEL	DURATION	STUDENT INTAKE
<b>Under Graduate Courses</b>				
1.	B.Tech. (Computer Science & Engineering)	UG	4 Years	227
2.	B. Tech (Computer Science & Engineering- Artificial Intelligence) CS-AI	UG	4 Years	227
3.	B.Tech. (Electronics & Communication Engineering)	UG	4 Years	77
4.	B.Tech. (Electronics & Communication Engineering- Artificial Intelligence) EC-AI	UG	4 Years	152
5.	B.Tech. (Mechanical & Automation Engineering)	UG	4 Years	97
6.	B.Tech. (Mechanical and Automation Engineering) + MBA (Dual degree course)	UG	6 Years	32
7.	B.Tech. (Information Technology)	UG	4 Years	77
8.	B.Tech (Artificial Intelligence and Machine Learning)	UG	4 Years	77
9.	BBA	UG	4 Years	76
10.	B. Arch. (Architecture & Planning)	UG	5 Years	50
11.	KMs/Sports Quota in B.Tech/ DMAM (Supernumerary)	UG	4 Years	03
12.	DASA	UG	4 Years	Variable
<b>Total</b>				<b>1095</b>

<b>Post Graduate Courses</b>				
13.	M.Tech. CSE (Artificial Intelligence)	PG	2 Years	32
14.	M.Tech. (Artificial Intelligence & Data Science)	PG	2 Years	32
15.	M.Tech. ECE (VLSI Design)	PG	2 Years	14
16.	M.Tech. (Cyber Security)	PG	2 Years	14
17.	M.Tech. (Robotics & Artificial Intelligence)	PG	2 Years	14
18.	M.Plan (Urban Planning)	PG	2 Years	13
19.	Master of Business Administration	PG	2 Years	76
18.	Master of Computer Applications	PG	2 Years	76
<b>Total</b>				<b>271</b>

<b>Ph.D.</b>				
20.	Ph.D. (Applied Sciences, Engineering & Technology, Architecture & Management)	Ph.D.		34*
<b>Total</b>				<b>1400</b>

\*The number of seats in Ph.D. is variable and subject to the availability of slots.

## TRAINING & PLACEMENT HIGHLIGHTS - 2022 (CSE, IT, ECE )

The Placement season for the batch 2021-2022 started on a high note and more than 135 companies visited the campus with number of offers for IGDTUW girls of circuit branches, i.e., CSE, IT and ECE, as 458 including full time (FT) offers and dual offers (FT and six-month internship).

### MAJOR HIGHLIGHTS-2022

- Highest Package: National Offer: Rs. 55 LPA by Adobe.
- Highest Package: International Offer: Rs. 1.2 Crores by Amazon Dublin.
- Highest (2 month) Internship Package: Rs. 1.6 LPM by Uber.
- More than 300 students received Paid Summer Internships, at the beginning of the third year in B.Tech. Program.
- More than 70 students of the final year B.Tech./M.Tech. Program, pursued six months paid internships.
- The University is extremely proud to partner with some of the leading names who have extended full time offers for their businesses in India, such as Google, C2FO, Goldman Sachs, Intuit, Uber, Microsoft, Atlassian, Myntra, Urban Company, Servicenow, Adobe, Amazon, Rippling, Zynga, Citrix, Semut, Swiggy, Expedia, Morgan Stanley and many more.
- International offers have been extended by Amazon-Dublin, Barclays- UK, Facebook-META London, Protex AI, Ireland and JPMC London.
- There has been exponential growth in the placement opportunities bagged by IGDTUW girls and the current placement statistics stand true to this testament. We are sure that this trend will continue in the Academic Year 2022-23 and companies continue to reiterate the ever-increasing confidence the industry places upon IGDTUW.



Industry Interaction Meet at Summer Internship 2022



Placement campaign by Amazon-Dublin, Barclays UK



Pre-Placement Company Talk at University Auditorium



Lieutenant Governor of Delhi felicitated IGDTUW students who completed 2 months internship & received PPOs from top companies

Lieutenant Governor of Delhi felicitating students receiving PPOs from Top Companies

## CENTRE OF EXCELLENCE IN ARTIFICIAL INTELLIGENCE

The University has established a number of Centres of Excellence supported by various government agencies in certain research fields for demand driven innovations and translational research. It is a matter of immense pride and honour for the faculty and students of IGDTUW that the University is setting up the following Centres of Excellence (CoEs).

With the assistance of the Department of Science and Technology, GOI, IGDTUW developed COE in Artificial Intelligence. Modern, cutting-edge infrastructure with computing capabilities and research centers are being developed under the benevolent guidance of Dr. (Mrs.) Amita Dev to improve functional efficiency for teaching, research, and innovation purposes. It will encourage, and engage student innovators, young research scholars, and faculty members in developing heuristic knowledge of AI-based technologies. The center helps in creating intuitive technical solutions, conducting high-quality research in AI-related project areas, and reaping the best benefits from AI in answering industrial and societal demands. The Centre meet the needs of Undergraduate, Postgraduate, and Doctorate students in the field of AI, Machine Learning, and Deep Learning, as well as various different applications like as Robotics,

Drones, NLP, and others. The Centre provides the ideal environment, along with the necessary hardware and software infrastructure, for creative minds to address real-world data-driven challenges.

**Some of the Real-Time Projects that have been undertaken under CoE-AI are :**

### Sanskrit Knowledge Accessor

A consortium project on “Sanskrit Knowledge Accessor” under the National Language Translation Mission funded by the Ministry of Electronics and Information Technology (MeitY) is undergoing in the Centre of Excellence - Artificial Intelligence. This project is a consortium of various IITs, NITs, University of Hyderabad and IGDTUW. The main aim of the project is to make available the ancient knowledge stored in Sanskrit language to the researchers and masses.

### Automatic approach for Real-Time Facial Recognition

A project on Facial Recognition under Central Forensic Science Laboratory, Ministry of Home Affairs is undergoing in the Centre of Excellence - Artificial Intelligence. The main aim of the project is to recognize the faces of criminals in real time under various unusual circumstances.



## CENTRE OF EXCELLENCE IN MECHATRONICS

Inspired by the demands of Industrial Automation, the Centre of Excellence (CoE) in Advanced Mechatronics System (AMS) has been setup at the University with support from Delhi Knowledge Development Foundation(DKDF). The CoE is aimed to provide the state-of-the-Art high speed computation facility for sophisticated Laboratories for CAD- (Govt. of NCT, Delhi) Computer Aided Design for Mechatronic Concept Design, Virtual Commissioning, integration with equipment's for Mechatronics Hardware Design for Industry Automation, Digital Twin, Industrial Internet of things, Rapid Prototyping, CNC Programming and Robot Programming to

train and prepare students for Industry 4.0 and also to provide an opportunity for promising innovations and Industry Interactions. Working with a Moto of 'Skill India to Make in India', CoE- is offering Internships, trainings and research guidance for promising innovations to students and working professionals.



## CENTRE OF EXCELLENCE FOR “SCIENCE OF HAPPINESS”

**MoU** was signed between Rekhi Foundation for Happiness and IGDTUW for the establishment of Rekhi Centre of Excellence for the Science of Happiness at IGDTUW, Delhi n 1st April, 2022. The vision of the centre is to develop a platform that would help in imparting the knowledge of happiness and positive psychology and contribute towards developing an eco-system of happy & successful people. Through the development of this centre, Rekhi Foundation aims to promote happiness studies, research and practice. Currently, the Rekhi Centre at IGDTUW is running a course 'Science & Practice of

Happiness' which involves a detailed curriculum including happiness in daily living, creativity & happiness, consumer happiness, communicating happiness and various other topics. It will be directed at helping students learn and acquire the tools for happiness while not necessarily adopting the prescriptive pedagogy.

In the future, other courses may also be floated by the Rekhi Centre of Excellence for the Science of Happiness. Additionally, some of the students may be provided internships by the centre in the domain of well-being pertaining to the research interests of the institution.



*MoU signing ceremony with Rekhi Foundation USA*

## CENTRE OF EXCELLENCE IN INNOVATION (ANVESHAN FOUNDATION-INCUBATION CENTRE)

Indira Gandhi Delhi Technical University for Women (IGDTUW) has promoted and incorporated a Section 8 Company under the Companies Act, 2013 to propagate Entrepreneurial Culture and Ecosystem among Women.

In the last financial year i.e., 2021-22, sanction of INR 06 Crores has been received from the Department of Science and Technology, Government of India, to accelerate the activities of Anveshan Foundation. Now Anveshan is NIDHI-TBI i.e., 'Technical Business Incubator' under a scheme of DST 'National Initiative for Development and Harnessing Innovations'.

All kind of facilitation (pertaining to the start-up ecosystem) in five phases (of complete incubation and venture development) i.e., i) Pre-incubation, ii) Incubation, iii) Acceleration, iv) Post-incubation and v) Virtual Incubation is provided by Anveshan Foundation.

In Pre-incubation, activities related to Motivation, Ideation, PoC, PoV, Innovation, Prototyping, MVP, Feasibility, Prior Art, Intellectual Property Right, Pitch Deck, Business Plan and Presentation skills are provided by Anveshan Foundation. A total of sixty student members are actively working

with the E-Cell (Entrepreneurship Cell) of IGDTUW. Since inception, many activities and events have been organized by the Incubation Center which includes Workshops, Boot-camps, Hackathons, and Industrial Visits, Inter College/University competitions and Start-up Acceleration Programs.

Cisco has established a complete IoT and Robotics Lab 'thingQbator' (worth INR 60 Lakhs) for Innovation under its CSR activity through its partner organization NASSCOM Foundation in support with Defy and Li2. More than 300 students have been benefitted till date in five cohorts.

GiZ India (a German Organization) had signed a Contract with Anveshan Foundation worth INR 27.5 Lakhs for Strengthening Incubation & Start-up Ecosystem specially for Women Entrepreneurs. This initiative and support from GiZ India has benefitted more than five thousand participants and attendees all over the country.

Anveshan has recently received a confirmation of Rs. 7.66 Lakhs grant by the Ministry of Micro, Small and Medium Enterprises (under its Advanced ESDP Scheme) for conducting a Women Acceleration Program.



*Facilities offered by Anveshan Foundation*



*Proud Associations and Funding Agencies*

Anveshan Foundation is conducting regular Internships, Pragmatic workshops and Short-term Courses on

- Start-up Management
- Innovation & Entrepreneurship
- Digital Marketing
- Python
- Family Business & Entrepreneurship and in many more technical and non-technical areas for confidence building among aspiring women entrepreneurs.

Total Twenty-Seven private limited companies are working as start-up 'Incubatees' with Anveshan Foundation. All these incubatees are women enterprises. Details of all these incubatees along with their products & services are available on the website of Anveshan Foundation. Incubation

Center provides facilities for Company Incorporation, fully furnished air-conditioned co-working/ office space, complete ICT and free consultation support to all of its pre-incubatees and incubatees. As mentioned earlier, there is also a provision of Seed Fund against equity for 'Incubatees with Investment' for its incubatees.

IGDTUW Anveshan Foundation has a pool of Consultants and Mentors empanelled with it to formulate and implement growth strategies for the incubatees as an essential part of business acceleration. Support in Product Development, Product Refinement, Marketing, Human Resources, Supply Chain, Franchise Models and Bargaining with Investors is provided by IGDTUW Anveshan Foundation.



*MoU signing ceremony with HDFC Bank, Edunet Foundation and Mundo Latino to empower students and incubatees*



*Incubatees and Team of Anveshan Foundation*

## CENTRE FOR SUSTAINABLE DEVELOPMENT

The Centre for Sustainable Development (CSD) at IGDТУW constantly works towards increasing social awareness and outreach for the Sustainable Development Goals (SDG) 2030 set by the United Nations (UN). Seven teams are working under CSD and they take up different initiatives to cover 11 different

SDG Goals. Recently, all the teams have launched comprehensive campaigns about pressing issues related to the SDGs and have disseminated knowledge to thousands of students at large. Details of ongoing campaigns and activities conducted are listed below:

S.No.	Campaign Name	SDG Covered	Events Organised	Total Participation
1.	Chale Stree, Stress Free	SDG 11 (Sustainable Cities and Communities)	10	2200
2.	Sab Padhenge, Aage Badhenge	SDG 4 (Quality Education), SDG 5 (Gender Equality), SDG 10 (Reduced Inequalities)	6	2300
3.	Bin Paani Sab Soon	SDG 3 (Good Health and Wellbeing), SDG 6 (Clean Water and Sanitation)	8	2900
4.	Compute to Sustain	SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure)	6	1500
5.	Care, Wear and Repair	SDG 7 (Affordable and Clean Energy), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action)	8	800
6.	Chillao se Chill	SDG 16 (Peace, Justice and Strong Institutions)	8	4400

When the young leaders take on the role of Social Ambassadors then only a robust and collaborative system can be established. Our initiative to create social leaders who are sensitive towards the preservation of the

environment, has in turn, sensitized the general public too, and the team's tremendous accomplishments have brought in results for the achievement of SDG's.



## SOCIETAL INITIATIVES

*"A good plan implemented today is better than a perfect plan implemented tomorrow."*

### Education Mentoring Program:

#### IGDTUW students - as 'Social Ambassador's for Knowledge Dissemination and Hand Holding Initiative

- IGDTUW in association with the Govt. of Delhi has been on a Mission to make Delhi the best in the country for promoting STEM Education among girls.
- With the aim of supporting and guiding the girls studying in Delhi Government Schools, to take up flourishing careers in the STEM fields and also to foster a deeper understanding and confidence in the Government School Students, IGDTUW initiated Education Mentoring Program, to reach the school girls of Delhi with the aim of touching their lives in a positive way.
- This project 'Education Mentoring Program' involves mentoring school girls studying in Delhi Government Schools by the students of IGDTUW to raise their awareness about Science, Technology, Engineering and Mathematics (STEM) education. Each IGDTUW Mentor has guided 5 girls studying in 9th-12th grade and helped them to clear their doubts about careers in STEM, shared strategies for clearing entrance exams, extended support in accessing learning resources and motivated them, as they transit out of their schools to pursue further education and STEM Career.
- To date, more than 5000 girl students have been mentored. e industry places upon IGDTUW.

Now 'Education Mentoring Program' has been made an integral part of the Curriculum, and each & every student of IGDTUW is guiding 5 girl students in shaping up their career in STEM.

### UNNAT Bharat Abhiyan:

The idea behind Unnat Bharat Abhiyan is to use knowledge institutions to improve rural development process and contribute to the construction of an inclusive India. Indira Gandhi Delhi Technical University for Women (IGDTUW) has been a part of Unnat Bharat Abhiyan as a Participant Institute to ensure that the benefits of such interventions reach

directly to the grass root level. Under this initiative, the University has adopted the following 5 villages in Civil Lines Sub-Division area of Central Delhi:

- Kamalpur Majra
- Jhadoda Majra
- Burari Village
- Salempur Majra
- Jagatpur Village

### Major activities conducted in the adopted villages with the help of Local Administration, RWA's and Schools are as follows:

- Awareness Drive on 'Water Conservation',
- Interactions with school students and local community women to promote women participation in STEM,
- Briefing about Unnat Bharat Abhiyan initiatives,
- Painting competition on 'Save Water' theme,
- Sensitising people about usage of water and 'Water Footprint',
- Safe disposal of masks (an awareness campaign during Covid-19 pandemic outbreak),
- Ways to promote healthy lifestyle (an awareness campaign during Covid-19 pandemic outbreak),
- Conducting household and village surveys,
- Celebrating 75th Years of Independence and identifying issues for possible interventions.

### Specially-abled Students of IGDTUW Mentored by ARISE, USA:

It has been postulated that Specially-abled people require unique accommodations in the surroundings to facilitate their mobility and independence. It is also true that many institutes have architectural restrictions that make daily functioning difficult for impaired people. As per the mandate of NEP, ARISE USA (Act to Rise for Innovation in Special Education Impact) is mentoring a group of Specially-abled Students from IGDTUW with the goal of empowering and developing confidence in them. These youngsters are being taught to develop a Self-Learning Life Skill Set through improving their Critical Thinking, Cognitive Skills, Interpersonal Skills, and so on.

## LEARNING BEYOND THE BOUNDARIES OF CURRICULUM FOR HOLISTIC DEVELOPMENT

### FOURTH INTERNATIONAL CONFERENCE - AIST 2022

After the Grand Success of International Conference on Artificial Intelligence and Speech Technology (AIST 2019, 2020 and 2021), Indira Gandhi Delhi Technical University for Women, Delhi hosted its fourth version i.e., 4th International Conference on Artificial Intelligence and Speech Technology (AIST 2022) on December 09-10, 2022 at IGDTUW Campus, Delhi. The last three Conferences witnessed a number of Expert Researchers, Academicians and Industry Practitioners in AI and Speech Domain from premier Institutions in India and abroad, including Japan, Australia, France, Germany, Hungary, Czech Republic, Myanmar, Uzbekistan, Austria, Vietnam and others.

All accepted and presented papers for the Conference by duly registered authors submitted to IEEE Xplore for Publication (IEEE Conference Record Number: 55798).

### INTERNATIONAL CONCLAVE ON MATERIAL, ENERGY AND CLIMATE (ICMEC-2022)

International Conclave on Material, Energy and Climate (ICMEC-2022) was jointly organized by IGDTUW Delhi and IAAM Sweden at IGDTUW Delhi during 12-14 December 2022 with the theme of "Empowering Women for Global Leadership" and "One Earth, One Family, One Future" in the presence of Chief Guest, Shri Prahlad Singh Patel, Hon'ble Minister of State for Food Processing Industries & Jal Shakti, Government of India, Guest of Honor (s) Mr. Muhamed Cengic, Ambassador, Embassy of Bosnia and Herzegovina, India, Dr. Anand S. Khati, Administrative Member, Central Administrative Tribunal, Principal Bench, New Delhi. Prof. Ashutosh Tiwari, Secretary General, International Association of Advanced Materials (IAAM), Sweden, Sh. Rajendra Singh, Chairman, People's World Commission on Drought and Flood, India, Sh. R. K. Tiwari, IAS, Chairman, UP State Road

Transport Corporation, Govt. of UP, Dr. Sanjeev Kumar Varshney, Advisor & Head, International Bilateral Cooperation Division, DST, New Delhi, and Sh. Rajeev Kumar Mehajan, Advisor, SERB, Ministry of Science and Technology, New Delhi. Prof. V. K. Vijay, IIT Delhi, and National Coordinator for Unnat Bharat Abhiyan, MHRD, Govt. of India, Prof. Pravin N. Kondekar, Director, IIIT, Jabalpur and Foreign Delegates, Dr. Mikael and Dr. Arne Svensson, Institute of Advanced Materials, Sweden, Dr. Viktor, Technical University, Lithuania, Dr. Mona Sameh Rabie, Canada, Dr. Nina Louisa Martens, Germany, Dr. Martin Winiecki, Portugal, Ms. Charleotte Qin, Switzerland. The delegates from India and different continents.

### INTERNSHIP PROGRAMMES

Indira Gandhi Delhi Technical University for Women organized various Summer Internship programmes for the meritorious students and aspirant entrepreneurs in Hybrid mode. It was the great opportunity for the students, faculty members, entrepreneurs, professionals, scholars to learn a new skill set along with hands-on on real time projects. Various domains were included during the internship including, Computer Vision and Deep Learning to Start-up Management. These internships were open for beginners to experts in a particular domain such that it includes python training for the beginners and computational intelligence for those who want the advancement of basics. These internships were open for undergraduate/ post graduate/ research scholars' students, faculty members and budding entrepreneurs PAN India.

- Start-up Management
- Digital Marketing & Web Development
- Mapping of Heritage Resources through GIS
- Machine Learning and its application in Cyber Security

- Internet of Things (IoT): Fundamentals and Industry Based Real Time Applications
- CATAI-V5 Fundamental & Structure
- Data Analytics using Advanced Excel and R
- Python & Machine Learning
- Computer Vision & Deep Learning
- Computational Intelligence

### **WORKSHOP, SEMINARS/WEBINARS, FACULTY DEVELOPMENT PROGRAM**

IGDTUW adapts various FDP programmes, Seminars and Workshops to integrate and align with the organizational culture. It includes a variety of opportunities for the staff, including internal and external development, leading committees, writing grants and attending conferences and conducting research projects. In line with this, IGDTUW focuses on creating a sustainable model for faculty development by leveraging campus resources and provides a supportive learning environment. Below mentioned are some of the quality events conducted in IGDTUW.

#### **Conducted by Centre of Excellence-Artificial Intelligence:-**

- 14th National Workshop on Recent Trends in Software Testing” through joint collaboration with National Institute of Technology, Rourkela from 27th December, 2021 to 31st December, 2021
- Expert Talk on “Security Risks in Machine Learning” By Dr. S. Venkatesan Associate Professor IIIT Allahabad on 27th Jan, 2022
- A Five-Day Training Program from 07th February to 11th February, 2022 on NVIDIA DGX A100 GPU Server. The program focused on exhaustive training on GPU that covered 2 days on Hardware (GPU, Docker, Cloud, Edge Device, AI Stacks etc), 2 days on AI, ML and Deep Learning and 1 day on Project Development.
- A Special Guest Lecture Series on

“Autoencoders and its Applications” with the aim to promote research in AI & Data Science on 10th March 2022. The program focused on skill development for the Research Scholar and the Students of the university.

- Special Guest Lecture Series on “Insights into Face Recognition: Fundamental Concepts & Contemporary Techniques” with the aim to promote research in AI & Data Science on 18th April, 2022 and 22nd April, 2022
- The Product Innovation Competition “Atheneum”, shaping the future of Technology was initiated and facilitated in association with ENVOCIS and the Department of AI and Data Science to witness the power of Digital India technology.

#### **Conducted by Centre of Sustainable Development:-**

- “CDS Phase – II” event by inviting all Social Ambassadors for Knowledge Dissemination and Handholding (SAKHI) followed by Briefing for "Desh Ke Mentors" on 11th March, 2022.
- Clothes Donation Drive conducted with an aim to work towards society through its Centre for Sustainable Development (CDS)

#### **Conducted by the Various Academic Departments of IGDTUW:-**

- National Girl Child Day on 24th Jan 2022 organized in collaboration with by the Research Wing.
- Expert Talk on “Living Without Fear and Dreams” by Dr. Rashmi Singh, IAS, Special Secretary cum Director, Department of Women and Child and Social Welfare, GNCTD on 24th Jan 2022.
- Expert talk on the topic “Lifestyle and Cancer Risks” by an eminent speaker Dr. Indu Aggarwal, HOD- Preventive Oncology Department, Rajiv Gandhi Cancer Institute and Research Center, on the occasion of World Cancer Day 2022.

- Expert Talk on Technological Advancement for Better Diagnosis and Treatment of Women Cancers, by Dr. Ruby John Anto on 28th Feb 2022.
- One day workshop on “Fun with Physics Workshop” for the students of different Government Schools and various activities and talks were delivered on the occasion of International Women Day.
- A talk on the topic "To Create Awareness to Promote Fundamental Duties" by Illustrious Speakers such as Dr. Rama R Iyer, (Advocate, Partner at Legal Solutions Founder and Managing Partner at Ayana Legal), Dr. Naveen Prakash, and many more on 30th January, 2022 under the theme "Azadi ka Amrit Mahotsav".
- An Expert Lecture on the topic "Sustainable Operations" by Prof. Vilmar Antonio Tondolo, Professor of Operations management at Federal University of Pelotas (UFPel), Brazil on 17th February 2022
- A workshop on MATLAB and SimLink on 9th March for the scholars and faculty members of the university, giving insight details and practical hand on various topics like
  - a. MATLAB Simulink
  - b. Signal Processing and Communication
  - c. Control Systems and Power Electronics
  - d. Image Processing and Code Generation
- A Short-Term Course on "Free Software and Resources for Technical Education", from 21- 25 March, 2022 for the faculty members of various universities in collaboration with NITTR Chandigarh.
- Q&A Session and Insights on Master Plan of Gorakhpur session with Sh. Aditya Narayan, Consultant, Gorakhpur Development Authority for the students of Master's in Urban Planning. Session proved to be beneficial as students learned about on ground planning of the plan and were made aware with the actual challenges and their solutions.
- An expert lecture entitled “The convergence of Digitalization and sustainability”, conducted by eminent Architect and Environmentalist Ms. Aparajita Dubey, Programme Associate, NUDM, National Institute of Urban Affairs (NIUA). The event witnessed massive participation from students & faculty members joined from various departments of the university.
- Expert Talk on “Cancer Prevention in Females” by Dr. Indu Aggarwal, HoD – Prevention Oncology Department Rajiv Gandhi Cancer Institute of Research Centre on 01st October, 2021.
- Vigyan Jyoti Webinar Series on the Occasion of National Girl Child Day under Azadi ka Amrit Mahotsav, Topic: “Girls with dreams become women with vision” on 24th Jan 2022,
- Patriotic Run and Competitions on the Occasion of 73rd Republic Day to pay tribute to veterans of India who spent their life in protecting the nation along with martyrs who sacrificed their life for Indian soil. The purpose of run was to glorify the moment of nationalism and patriotism.
- A Webinar on "Running Your Own Race" on 10th Feb 2022.
- An Expert Lecture on "Swami Vivekananda and the Role of Youth in Nation Building" on 23rd Feb 2022
- Online Expert Lecture on "Solid Waste Management 1.0" by Dr. H M Kansal on 24th Feb 2022.
- Blood Donation Camp on 1st April 2022 within the campus of the University on the noble cause for Social welfare in collaboration with Deen Dayal Upadhyay Hospital.
- Special Guest Lecture Series on “Health for All” to promote knowledge sharing and life inspiring lecture inclined towards the Sustainable Development Goal – 3 (SDG 3 i.e., Good Health and Well Being). Various eminent speakers such as Dr. Arvind Kaul, Dr. Mukul Jain among many others were called to share their knowledge and expertise.

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- An Informative Session, MoU & Strategies to mould youths to complete at Global level through “Khel Khel Mai Padhai” with Aviation & Space India. Eminent Speakers of the Event were:
  1. Dr. (Mrs.) Amita Dev, Hon'ble VC, IGDTUW
  2. Sh. ST Sampathkumran V.P., Adani Aerospace & Defence
  3. Sh. Ashu Gupta, ED, Aviation & Space Fed.
- An awareness program conducted in collaboration with 'National Intellectual Property Awareness Mission (NIPAM)', KAPILA and AICTE on 29th April 2022 (in line with the theme of World Intellectual Property Day 2022 which is 'IP and Youth Innovating for a Better Future'). Event was organized with the aim to mark the Day and to inform about the role of intellectual property rights in encouraging innovation and creativity. Guest Experts for the sessions were Mr. Rajesh Kumar Meena, Examiner of Patents & Designs' Intellectual Property Office, New Delhi & Mr. Rahul Kumar Jaiswal, Examiner of Patents & Designs' Intellectual Property Office, New Delhi.
- A Session on “How to Earn Dual Degree” in collaboration with JCU, Australia, was organized/taken by Prof. Mohan Jacob, from James Cook University and delivered a detailed talk on opening many avenues for Student to obtain Dual Degree under the Cotutelle Agreement of JCU & IGDTUW.
- Poster Exhibition on Projects for Societal Good in India, Roadmap for next 25 years conducted for a social cause in the Campus.
- A talk-show organized on “Issues of Gender Sensitisation in Higher Educational Institutes” for the students & faculty members of the University.
- An Expert Talk organized on the topic “We Are Powerful” by an Eminent Speaker Dr. Kashika Kathuria on the occasion of “Mother's Day”
- Slogan Writing Contest under the theme on “Beti Bachao, Beti Padhao,” conducted and witnessed active participation from student fraternity.
- One day workshop Self Defence Programme for Women Safety on 31st May 2022.
- An Expert Talk entitled “Urbanization impacts on Environment” conducted by an Eminent Speaker Dr. Bala Mathukumalli on the occasion of World Environment Day 2022.
- Poster making competition on topic “Architect's relationship with environment” on the occasion of World Environment Day.
- Slogan Writing Competition on the topic of “A STEP TOWARDS ENVIRONMENT” on the occasion of World Environment Day.
- Project entitled “Greenovation” envisioned a fun-trivia Q/A Session on the occasion of World Environment Day. The peer participants showcased their concern about how to protect the Nature and the Environment and shared their thoughts on the following ideas which could help implement positive impact for the environment,
  - Planting more saplings in the University
  - Giving water, food and shelter, if possible, to the birds (the monkeys are capable of sustaining themselves by directly taking it away from us)
  - Installing more dustbins
  - Collecting waste paper from students and recycling it
  - Collection of plastic wrappers and up-cycling them by sending it to organizations like Recharkha.

- An expert talk on “COVID-19 Lockdown: Learning for Better Air Quality & Health' conducted on the occasion of World Environment Day.
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- Photography competition organized in view of the creative ability of the students capturing photographs implying its utility as the best medium of communication seizing the time within which pleasantly showcases the present situation of our environment and gives out a message of how beautiful and serene it is while also conveying the need of the hour i.e., to nurture it more and more in the future.
- The competition focused on landscape photography and how nature is an important aspect of photography. Around 75+ entries were received around the University and the top 5 entries were to be displayed in the upcoming exhibition and were also shared on the official Instagram page of Prekshya.
- An expert session on the History of Yoga organized, in honour of the Eighth International Day of Yoga on June 21, 2022. Two experts (Ms. Meenu, a yoga expert, and Ms. Vishesh, a TedX speaker) arrived from Art of Living to present a session on "History of Yoga." Event witnessed massive participation, including faculty members, non-teaching employees, research scholars, post-graduate students, and undergraduate students.
- · 'Dance Yoga' an event conducted on the occasion of International Yoga Day. The event was held on 21st June 2022 in the college ground from 9-10 am. It was a comprehensive program with fusion of dance moves and yoga postures for better health of students. The session incorporated gentle moves, stretching exercise, silent meditation, and relaxation for concentration.
- · A social media campaign #YOGAWITHUS, conducted by Prekshya: The Photography Club owing to the photos of one asana of yoga. The event received about 200+ entries from the students around the University.
- An extensive Group Discussion session was organized on July 21, 2022, in honour of International Yoga Day. The circle's participants had an insightful discussion on two interesting subjects about how traditional yoga has the true spirit of yoga while modern yoga better fits people's present lifestyles. In the modern era, this art style has also been commercialized. The group discussed how incorporating yoga into "trends" and workout routines might help promote the benefits of the practice to a wider audience.
- The International Yoga Day celebrated on June 21, 2022 with a theme-
- “Yoga gives your body a healthy path”
- Yoga Training Program conducted every day from 27th May 2022 to 01st July, 2022 in a direction to promote Fit India Movement. The experts Ms. ShasiBala (Yoga Trainer) addressed the program from the DPSRU (Delhi Institute of Pharmaceutical Sciences and Research). The yoga, its significance in daily life, and strategies for striking a balance between one's physical, mental, spiritual, and interpersonal well-being were all covered by the speaker. Students learned about the many meals that one should eat depending on the season.
- A Webinar on 'Holistic Health for Women' by Dr. Manju Gupta was organized on 16th July 2022. It was a great learning experience with valuable inputs like key importance of work life balance in today's fast pace modern life. She emphasised on emotional, spiritual, mental and physical health. She also normalised the concept of seeking help in times of need and emphasised on the phenomenon that a woman is the flag bearer and support for other women.

- A 'Delhi Inter University IT Quiz' was conducted in order to promote 'Digital India' and to spread 'Digital Literacy'. It witnessed a remarkable representation from all the University from Delhi NCR Region, more than 56 Teams participated. The first, second and third team was given a Certificate and Cash Prize.
- A slogan writing activity on the theme of "Progressive India" conducted to celebrate an intuitive and unique initiative of Azadi ka Amrit Mahotsav. Several students had participated in this activity and sent their slogans in both English & Hindi languages.
- A Calligraphy Activity on the theme of "Mera Bharat Mahaan" conducted under the head of Azadi ka Amrit Mahotsav and witnessed active participation from the student fraternity.
- "Delhi-Inter University Re-visit History Quiz" was organized in order to celebrate Azadi ka Amrit Mahotsav as a mark of tribute to India and to understand the History of India. The event witnessed humungous and immense participation more than 56 teams from Delhi-NCR Region.
- A session on Emotional Stability for women was organised under the able direction of Sister B K Rupa. It was an enlightening session wherein the students were guided in how to deal with their emotional breakdown. She introduced the idea that majority of the problems in our lives arises out of our mishandling of our emotions. If we master them, we indeed can achieve a lot in our lives.
- "Just a Minute Competition" was organized on the trending topics related to current situation of women safety and the measures that can be taken to improve the safety level on 20th July 2022. Around 60 students attended the event and 15 students presented their views. Two students namely, Garima Pahwa B.Tech. (IT) 1st year and Anjali Sharma, B.Tech. (IT) 1st year were given certificates of appreciation.
- A video session on "Awareness about Women Safety (Self-Defence)" organized to witness self-defence techniques conducted by Delhi Police on 20th July, 2022.
- A session regarding Pledge for Women Rights (by National Commission of Women) organized and witnessed a huge participation of the students taking pledge for protecting and promoting rights of all women.
- An Intra College Solo Folk Dance competition, organized for the students of IGDTUW in the spirit of 'JASHN-E-AZADI'. This competition was a multi-cultural festival celebrating the diversity and unity of cultures in IGDTUW through dance. The competition was held on 19th July 2022 in IGDTUW auditorium. Mrs. Anuradha Ray was present as the judge of the competition. Many students from the college participated and showcased their talent. Many students from IGDTUW attended the event. This event was a great initiative to learn about different cultures and different religions of India and a step towards our university's prestige in supporting and promoting such events.
- A lecture was organised on the topic of "Gender Sensitisation" by sister B.K. Kamla from Bramha Kumaris.
- A great initiative on the plantation drive was initiated on 31st July 2022 in an honour to cater the green lush environment of the heritage campus.
- A webinar on the occasion of Independence Week (Har Ghar Tiranga) was organized on 11th August 2022 to know the importance of Tiranga.
- Plantation Drive was directed on the occasion of Independence Week (Har gar ka Tiranga) in order to restore the eco-balance. The event was witnessed huge participation by the students on 11th August 2022 and 13 August 2022 in the IGDTUW premise.
- "Slogan writing Competition on Digital India" conducted on the occasion of Independence Week (Har Ghar Tiranga) on 11th August 2022.

- A painting competition on topic- “Journey to 75th Independence Day” facilitated on the occasion of Independence Week (Har Ghar Tiranga) i.e. 12 August 2022.
- “Azadi ka Amrit Mahotsav” was successfully conducted on 13th August, 2022 at IGDTUW in the presence of the Hon'ble LG of Delhi, Shri Vinai Kumar Saxena as the 'Chief Guest', along with the guests of honour Smt. R. Alice Vaz, Secretary, TTE and Prof. K.K. Aggarwal, Chairman, NBA.
- All departments exhibited their works to the Hon'ble LG. Sir, also felicitated meritorious students of the University.
- An Exhibition witnessed the outstanding display of real-time Research projects based on digital technology for the social benefits on 13th August, 2022. The departments of the University showcased the best practices being followed in their academics besides Research Projects, Innovations, Project Development undertaken by them. The exhibition was visited by more than two thousand students, guest, faculty members and the work under taken by the Department was deeply appreciated.
- A Self-Defence Programme for Women Safety was conducted in association with special police unit for women and children.

### **Conducted by IGDTUW Anveshan Foundation:-**

#### **Mentorship Sessions:-**

- Series 23 on “Intellectual Property Rights in the domain of Information Technology and Computer Science Engineering in India” by Mr. Karan Puri, Associate Vice President at Ennoble IP on 24th July, 2021
- Series 25 on “Entrepreneurship Motivation for University Learners” & “Setting Goals for Budding Entrepreneurs through Self Analysis & Self -Motivation” by Dr. C. S. Singhal, Former Professor Director, Gender Studies & Development, NIRDPR, Hyderabad, Ministry of Rural Development (GoI and CA (Dr.) Prakash G. Valecha, Chief Executive Officer, M/s Optic Exports International, Mumbai and Mauritius on 21th August, 2021.
- Three-month online course on “Innovation & Entrepreneurship & Business informatics: Start-up' perspective” from 23rd Aug., 2021 to 26th Nov.2021.
- Essay Writing Competition on the occasion of Gandhi Jayanti on the topic “Gandhi Young Innovation India- 2021” on 30th Sept. 2021.
- Award Ceremony Event, on the occasion of 73rd Republic Day- 'Republic Day Petrichor in Innovative India – 2022'. It was an award ceremony event in four individual categories as mentioned below:
  - a) Pitch Deck on Innovative Ideas (Technical/ Social), On the grounds of new technology or society-based problems,
  - b) Patriotism Speech (in English),
  - c) Dance on any Indian Classical Styles, and
  - d) Poem/Song Recitation (Self-Written) on Patriotic Theme.
- A three-months (50 Hours) Online Course on 'Spanish communication skills for Beginners' starting from 16th February (Wednesday) to 04th May 2022 for the Students/ Scholars/ Incubatees of IGDTUW in association with Mundo Latino.
- A National Level Workshop on the theme 'Women Empowerment and Enlightenment in the Ecosphere of Innovation Advancement on the Occasion of 'International Women's Day' i.e., 08th March 2022. Further Humongous participation was witnessed from student
- “Slogan writing Competition on Digital India” conducted on the occasion of Independence Week (Har Ghar Tiranga) on 11th August 2022.
- A painting competition on topic- “Journey to 75th Independence Day” facilitated on the occasion of Independence Week (Har Ghar Tiranga) i.e. 12 August 2022.

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- A Self-Defence Programme for Women Safety was conducted in association with special police unit for women and children.
- Investor's Meet' on 22nd April, 2022 for the Incubatees and pre-Incubatees. Following eminent investors attended the event at university campus are as follows:
  1. CA Amit Singal Partner, Fluid Ventures
  2. Mr. Ankur Goel Founder, SkwerUp Capital Partners
  3. Ms. Vandana Tolani CEO & Founder, Convanto
  4. Mr. Shailendra Ahuja Director, Aviant Capital
- An Expert Session on “The New Impact Economy: An Intro to Opportunities and Investment for Tomorrow's Leaders

## G20 Initiatives & Activities



## RESEARCH HIGHLIGHTS

The University has been on a mission to promote high quality scientific research in the frontier areas of Engineering, Science and Humanities. Research is of utmost importance for both the Economic and Social development of a nation. The cognitive and the pragmatic approach of the female gender; blended with sensitivity; to the needs of our society helps in building the knowledge economy of our country. Indira Gandhi Delhi Technical University for Women (IGDTUW) has evolved to become a national flagship, research-led University with a mission to foster an environment for

excellence in professional education and ensure the active participation of women in the field of Engineering, Science, Management and Technology, Arch. thereby attempting to strike out a fine balance between the world of work and life. The University vows to devise sustainable systems and state-of-the-art infrastructure to enable the Indian women to dawn the role of future leaders, managers, researchers and productive team players in the field of Science & Technology. Faculty members are encouraged to submit proposals for sponsored research and undertake research-

### Annual Research Excellence Award Ceremony



## RESEARCH AT THE UNIVERSITY

*"We do not need magic to change the world; we carry all the power we need inside ourselves already : we have the power to imagine better."*

The University is on a Mission to promote high quality Scientific Research with a focus on Engineering, Technology, Science, Architecture, Management and Humanities. Research is of utmost importance for both the economic and social development of a nation. Indira Gandhi Delhi Technical University for Women has evolved to become

a National flagship, Research-Led University with a mission to foster an environment for academic excellence and research excellence in advanced & emerging areas of Technology to meet the commentary needs of the Industry & Society at large.

The major thrust areas of research at the University are

- Artificial Intelligence
- Big Data Analytics
- Speech Translation Systems
- Web Technologies
- Fuzzy Database Management
- Mobile Computing
- Wireless Sensor Network
- Machine Learning
- Internet of Things
- Algorithms Design
- Information Security
- Secure Wireless Networks
- Cloud Computing
- Business Intelligence
- Nanomaterial Fabrication and Engineering
- Thin Film Technologies
- Data Communication Networks
- Data Aggregation in wireless Sensor networks
- Cryptography
- Cyber Security & Cyber Forensics
- Optical Communication
- Digital Signal and Image Processing
- VLSI Design
- Embedded System
- Medical Image Processing
- Renewable Energy Resources
- Microelectronics
- Radio Frequency Circuits
- Mathematical Programming
- Allocation Problems
- Applied Optics
- Analog Integrated Circuits
- Evolutionary Algorithms
- Biomedical Engineering
- Sensors
- Power Electronics
- Machine Design Engineering
- Tribology
- Composite Materials
- Robotics & Automation
- Thermal Science and Engineering
- Green Manufacturing
- Bio-composite materials
- Polymers
- Atmospheric Sciences
- Panoramic and 3-D Imaging
- English Literature
- Communication Studies

### Awards & Schemes

In the recent past, IGDTUW has witnessed a greater focus on building research facilities & research temperament among students, scholars & faculty members. Many new laboratories have been added in various departments during this period. Faculty members are working on various research projects funded by DST, MHRD, MCIT, MeitY, DietY, etc. which have added value to their research and technology.

The University aims to improve overall research performance and promote research activities are undertaken by the students of the University. To strengthen the research culture on the campus and encourage the students to pursue quality research work, various Incentive/ Schemes/ Financial Assistance Schemes have been launched by the University.

To name a few:

- Financial Assistance to Full time Ph.D. Scholars of IGDTUW who are not in receipt of any kind of Financial Assistance from any other sources.
- Financial Assistance to non-GATE M. Tech and M.Plan Students who are not in receipt of any other kind of Scholarship/Stipend etc. from any other sources.
- Research Awards/Incentive to UG/PG Students for Publication of Research Papers in SSCI/SCI/SCIE/Scopus/ESCI Indexed Journals.
- Financial support to the Faculty Members and Students for presenting Research Papers in National and International Conferences.
- IGDTUW incepted JRF/ SRF Schemes for Ph.D. Scholars.

## RESEARCH EXCELLENCE AWARDS

*“Remember to celebrate milestones as you prepare for the road ahead.”*

IGDTUW introduced Research Excellence Awards, to support quality and innovative research and to recognize the achievements of the faculty and student researchers. **The University offers four categories of awards annually to motivate the students, scholars and faculty members:**

- **Outstanding Research Awards with Cash Prize of Rs. 5,00,000/-**
- **Premier Research Awards with Cash Prize of Rs. 1,00,000/-**
- **Commendable Research Awards with Cash Prize of Rs. 50,000/-**
- **Motivational Research Awards with Cash Prize of Rs. 20,000/-**

The primary goal of the Outstanding Research Awards is to recognize faculty who published papers in journals in the outstanding category. The aim of the Premier Research Awards is to recognize the faculty who published papers in reputed journals in the premier category with an impact factor of at least 1.0. The goal of the Commendable Research Awards is to recognize the faculty who published papers in reputed journals in the commendable category with an impact factor of at least two. The purpose of the Motivational Research awards is to recognize the faculty who published papers in reputed

journals in the motivational category with an impact factor of at least 1.0. All the above-mentioned awards would include the category of journals published in SCI/SCI expanded/SSCI publications.

The Awards for Patents have also been introduced under two categories viz:

- Premier Patent Award Category for the grant of a US/UK patent worth Rs. 5,00,000/-
- Commendable Patent award category for the grant of an Indian patent worth Rs. 2,00,000/-

**The first Research Excellence Award ceremony was held on December 24, 2021,** where Research Awards were granted to all the Researchers who qualified the selection criteria in each category of the award. The cash award along with Certificate of merit was given to the Researchers (faculty members and students of IGDTUW) in recognition of importance of the published research work and to motivate individual excellence in research in all the disciplines of the University. The Premier Research Award was given to 17 faculty members and 19 students. Two faculty members and one student got the Commendable Research Award.

# RESEARCH AWARDS

<p style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; margin: 0;">RESEARCH AWARDS</p> <p style="margin: 5px 0;"><b>Outstanding Research Awards</b> ₹ 5,00,000/-</p> <p style="margin: 5px 0;"><b>Premier Research Awards</b> ₹ 1,00,000/-</p> <p style="margin: 5px 0;"><b>Commendable Research Awards</b> ₹ 50,000/-</p> <p style="margin: 5px 0;"><b>Motivational Research Awards</b> ₹ 20,000/-</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; margin: 0;">PATENT AWARDS</p> <p style="margin: 5px 0;"><b>Premier Patent Awards</b> ₹ 5,00,000/-</p> <p style="margin: 5px 0;"><b>Commendable Patent Awards</b> ₹ 2,00,000/-</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; margin: 0;">SRF/JRF/UGC SCHOLARSHIP</p> <p style="margin: 5px 0;"><b>For SRF + HRA Per Month</b> ₹ 35,000/-</p> <p style="margin: 5px 0;"><b>For JRF + HRA Per Month</b> ₹ 31,000/-</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; margin: 0;">INCENTIVE/SCHOLARSHIP</p> <p style="margin: 5px 0;"><b>Incentive to M.Plan Students</b> ₹ 75,000/-</p> <p style="margin: 5px 0;"><b>Scholarship / Stipend to Ph.D. Students</b> ₹ 10,000/-</p>
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## PATENTS

A patent grants its owner an exclusive right to prevent others from taking advantage of the owner's creative idea or goodwill that the owner has developed for the products and processes by making, importing, offering for sale, selling, or using the owner's patented invention.

IGDTUW encourages university teachers and students to translate their ideas into patents by providing technical and financial assistance. Few of the patents published in recent past are as below:

S.NO.	PATENT TITLE	INVENTOR'S NAME
1.	Smart Disease Transmission Prevention System	Dr Amita Dev, Dr Viveak Kumar Chawla, Jaya Arpit Nishi Jha, Ritika
2.	Wearable Sleeping Lumbar Pillow, under class 2-01 (corset)	Dr. Manoj Soni, Dr. Amita Dev
3.	A Fuzzy Entropy-based Method for Classification and Selection of Multi-Faceted Test case of Software	Dr. Arun Kumar Sharma, Manoj Kumar, Rajesh Kumar
4.	Adjustable Pedal Assembly for Vehicles	Prof. Dr. Amita Dev, Prof. Dr. R.K. Singh, Dr. Viveak Kumar Chawla, Ms. Khushi Rajput, Ms. Rinki Gupta, Ms. Ritika Aggarwal
5.	Automatic Loading and Unloading of Containers for Transport Vehicles	Prof. Dr. (Mrs) Amita Dev, Dr. Viveak Kumar Chawla, Dr. V.K. Arora, Ms. Sonal Mehta, Ms. Charu, Ms. Tanya Paul, Ms. Shreya Vajpayee
6.	Web Application based Intelligent & Secured Image Retrieval Model	Prof. Poonam Bansal
7.	Ink Mismatch Detection in Hyperspectral Document Images	Garima Bansal, Dr. Arun Sharma, Dr. Amita Dev, Dr. Sumit Kumar Yadav
8.	TomCrop: A Deep Learning Architecture for Tomato Leaf Disease Detection	Dr. Ritu Rani, Dr. Rashmi Gandhi, Dr. Amita Dev, Dr. Arun Sharma
9.	Prognosis and Monitoring of Comatose Patients	Ms. Shinjini Biswas, Ms. Pragya Choudhary, Ms. Lipika Rustagi, Lavanya, Ms. Ruchika Bala, Prof. Nidhi Goel, Dr. Amita Dev
10.	A System and a Method to Detect Periodic and Non-seizure EEG Events using Generated Metadata	Palak Handa, Prof. Nidhi Goel, Dr. Amita Dev
11.	Single Foggy Image Restoration Method and System Based on Principal Component Analysis	Pooja Pandey, Dr. Nidhi Goel, Monika Mathur, Inderdeep Kaur, Dr. Rashmi Gupta, Dr. Amita Dev

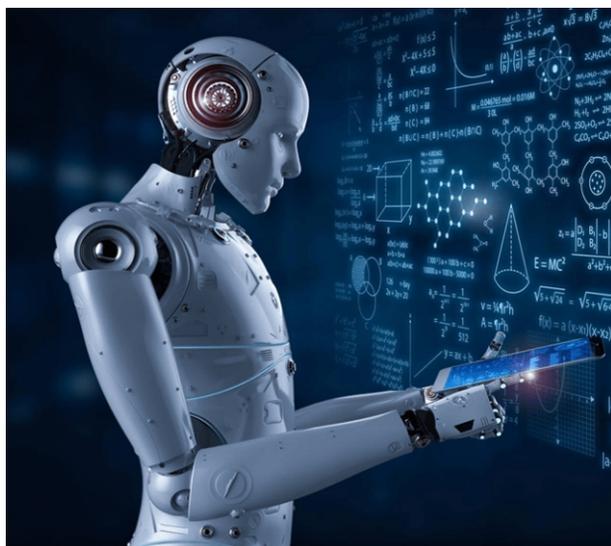
S.NO.	PATENT TITLE	INVENTOR'S NAME
12.	A Method of Classifying the Fish Species in Underwater Scenario	Monika Mathur, Dr. Nidhi Goel, Pooja Pandey, Dr. Amita Dev
13.	CLAY-CNT Nanocomposite for Heavy Metals Removal from Wastewater and Process Thereof	Prof. Ranu Gadi, Mr. Vijay Bahadur Yadav, Mr. Sippy Kalra Chauhan
14.	A System to fabricate Two-port Hexagon shaped MIMO Microstrip Antenna with Double Stop Bands	Mukesh Kumar Khandelwal, Prof. Jasdeep Kaur Dhanoa, Megha Agarwal, Dr. Amita Dev
15.	A system to Fabricate Two-port MIMO Antenna with Triple Notch Bands	Mukesh Kumar Khandelwal, Prof. Jasdeep Kaur Dhanoa, Megha Agarwal, Dr. Amita Dev
16.	A Vision Enhancement Method for Underwater Images	Ms. Monika Mathur, Dr. Nidhi Goel, Dr. Amita Dev"
17.	Realtime Lane and Vehicle Detection Method	Dr. Poonam Bansal, Ms. Pooja Kherwa, Ms. Nishtha Trehan, Ms. Kritik Sachdeva, Dr. Amita Dev"
18.	Method and System for Learning Sanskrit Language	Ms. Nandini Sethi, Dr. Poonam Bansal, Dr. Amita Dev
19.	A Device of Voice Based Exam Writing for Spinal Cord Injured People	Ms. Surbhi Khurana, Dr. Amita Dev, Dr. Poonam Bansal"
20.	Voice-Enabled Assistive Tool for The Blind and Elderly	Dr. Amita Dev, Ms. Pooja Gambhir, Dr. Poonam Bansal"
21.	Intelligent Hybrid AC/DC Microgrid	Ms. Ritu Kandari, Dr. Pankaj Kumar, Prof. Ashwani Kumar Dr. Amita Dev
22.	A Metamaterial Based Circularly Polarized FourPort MIMO Diversity Antenna Embedded with SlowWave Structure	Mr. Mukesh Kumar Khandelwal, Prof. Jasdeep Kaur Dhanoa, Ms. Megha Agarwal, Dr. Amita Dev
23.	A Compact Two-Port Throne Shaped Antenna Device with Dual Stop Bands	Mr. Mukesh Kumar Khandelwal, Prof. Jasdeep Kaur Dhanoa, Ms. Megha Agarwal, Dr. Amita Dev

## SPONSORED RESEARCH PROJECTS

S.No.	Title of Project	Funding Agency	Fund Received (in Lakhs)
1.	Web based Mobile Architecture and Programming (MEK-1)	Nokia University Relation, Finland	13,00,000/
2.	Development of embedded system Course Curriculum	Intel (India)	1,50,000/
3.	Development of embedded system Course Curriculum	ITRA MHRD	21,20,000/
4.	Web based Mobile Architecture and Programming (MEK-2)	Nokia University Relation, Finland	22,14,935/
5.	Web based Mobile Architecture and Programming (MEK-3)	Nokia University Relation, Finland	23,40,000/
6.	Design & Innovation Center	Ministry of Human Resource and Development	66,15,000/
7.	Intel IOT Centre for excellence	Intel (India)	4,00,000/
8.	Intel Real Sense	Intel (India)	2,20,000/
9.	Spartio-temporal Variability of Aerosols over National Capital Region of India	Ministry of Electronics and & Information Technology	58,29,410/
10.	Special Manpower Development Program Chip to System Design (III Phase)	Ministry of Electronics and & Information Technology	53,47,164/
11.	Capacity Building in Information Security Education Awareness Project (ISEA)	Department of Electronics and Information Technology, Mcity	27,32,365/
12.	Fabrication and Application of Polymeric Nanoshots as Drug Delivery Agent for Cancer Imaging and Therapy	Department of Science & Technology	12,00,000/
13.	Design and development of customized mandibular joint prosthesis for patient suffering from end stage TM disorders	Department of Science & Technology	16,10,000/
14.	Vigyan Jyoti Pilot Project	Department of Science & Technology	15,00,000/-
15.	Consolidation of University Research for Innovation and Excellence in women Universities (CURIE)	Department of Science & Technology	3,48,00,000/
16.	Consolidation of University Research for Innovation and Excellence in women Universities (CURIE) for AI – 1st Phase	Department of Science & Technology	70,00,000/-
17.	Detection of life-threatening diseases by examining the human genome in Microarray data using distributed implementation of algorithms	Department of Science & Technology	14,31,000/-
18.	Vidya - IGD TUW	Ppyrus, Little more Innovations Intel	15,00,000/-
19.	Consolidation of University Research for Innovation and Excellence in women Universities (CURIE) for Artificial Intelligence (AI) – 2nd Phase	Department of Science & Technology	6,40,33,509/
20.	Centre of Excellence - Advanced Mechatronics Systems	Delhi Knowledge Development Foundation (DKDF)	8,67,68,000/-
21.	Intelligent Information system for research schemes and career for women in science and technology	Department of Science & Technology	12,01,200/
22.	Automative approach for Real-Time Facial recognition using Deep Neural Network (RTFR-DNN)	Directorate of Forensic Science Services (DFSS)	8,17,500/-
23.	Development of Framework for abnormality identification in quality-assessed small bowel capsule endoscopy video frames	Department of Science & Technology	16,23,774/-

**Total Research Grant of more than INR 28 Crores under Various Central & State Government Schemes**

# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING



The Department of Computer Science and Engineering offers a Bachelor's Degree (B. Tech in CSE) a Master's Degree (M. Tech CSE-Artificial Intelligence) and Ph.D. in all emerging areas of Computer Science & Engineering.

CSE Department has a talented pool of sincere and committed faculty who works with professional excellence. Besides teaching, faculty is actively involved in research, patent writing, consultancy and organization of workshops, conferences and expert lectures. Many faculty members are also members of editorial board of Journals, Expert Committee members of professional committees at National and International levels.

Department has Exceptional IT enabled infrastructure. The classrooms are well equipped with digital podium, multimedia projector, Smart interactive display boards, Multimedia touch display white board, Green board and Dustless usable chalk board.

Department has established Research-based Laboratories with latest softwares for Data Analytics, Cognitive and Advance AI and Machine Learning namely Mobile Design and Innovation Lab, Embedded System Design Lab, Machine Learning and Deep Learning Lab, Networking Lab, DBMS Lab, Software Engineering Lab, Artificial Intelligence Lab and Cloud Computing Lab.

## Programs Offered:

B.Tech. (CSE)	4 Yrs.	Intake : 227
M.Tech. CSE (AI)	2 Yrs.	Intake : 32
Ph.D.		

## VISION

To develop highly skilled professional workforce by innovation based teaching which can work at global academic and professional standards, thus creating an impact on global forums in area of Computer Science and Engineering.

## MISSION

- To provide excellent infrastructure and software tools to students that will accelerate their learnings.
- To provide highly academic and research oriented environment in department.
- To organize frequent co-curricular activities like expert lectures/ workshops / symposia / conference to providing best holistic learning environment.
- To inculcate good human values in students and to make them adopt the attitude of serving the nation.

## OBJECTIVES

- To promote convergence of knowledge, information, technology and skills. To develop learning and knowledge enhancement platform for students with global perspective.
- To ensure total personality development of would-be engineers.
- To work in collaboration with other academic institutions / large industries.
- To impart specialized knowledge and skills to the students in the field of Computer Science and Engineering..



## FACULTY LIST

Prof. Arun Sharma,  
Professor  
Head of Department

Prof. Ila Kumar  
Professor

Prof. D.K. Tayal  
Professor &  
Chief Proctor

Prof. S.R.N. Reddy  
Professor

Prof. Seeja K.R.  
Professor

Mr. B. Indra Thannaya  
Assistant Professor

Ms. Vibha  
Assistant Professor

Ms. Najme Zehra Naqvi  
Assistant Professor

Dr. Vivekanand Jha  
Assistant Professor

Ms. Monika Choudhary  
Assistant Professor

Dr. Arunima Jaiswal  
Assistant Professor

Ms. Ravinder M.  
Assistant Professor

Ms. Khyati Ahlawat  
Assistant Professor

Ms. Karuna Kadiyan  
Assistant Professor

Ms. Bhawna Jain  
Assistant Professor

Dr. Vijay Kumar Yadav  
Assistant Professor

## Laboratories

- DBMS Lab
- Networking Lab
- Embedded Systems Lab
- Machine Learning & Deep Learning Lab
- Artificial Intelligence Lab
- Design and Innovation Lab

## Technical Projects

- Vidya Project funded by INTEL
- DST funded project on "Detection of Cause of Life Threatening Disease by Examining the Human Genome in Microarray Data Using Distributed Implementation of Algorithms"

## Societies

- Computer Society of India
- Google Developer Student Club

## Premier Research Awards

- Premier Research Award is presented to Prof. Devenra K Tayal and Dr. Sonakshi Vij for their publication "A Machine Learning Approach for Automated Evaluation of Short Answers Using Text Similarity Based on WordNet Graphs", Wireless Personal Communications, 111, 1271-1282, 2020
- Premier Research Award is presented to Prof. Devenra K Tayal and Dr. Anupma Kaushik for their publication "A Comparative Analysis on Effort Estimation for Agile and Non-agile Software Projects Using DBN-ALO", Arabian Journal for Science and Engineering, 45, 2605-2618, 2020
- Premier Research Award is presented to Prof. Devendra K Tayal and Dr. Kanak Meena for their publication "A new MapReduce solution for associative classification to handle scalability and skewness in vertical data structure", Future Generation Computer Systems, 103, 44-57, 2020
- Premier Research Award is presented to Prof. Seeja K.R. and Ms. Pallavi Pandey for their publication "Subject independent emotion recognition system for people with facial deformity: an EEG based approach", Journal of Ambient Intelligence and Humanized Computing, 12, 2311-2320, 2021

## Special Interest Groups

AI and Intelligent Computing  
Data Analytics  
Mobile & Pervasive Computing  
Mobile & Pervasive Computing  
Internet of Things



## Premier Research Awards

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING			
Year 2021			
1	Sunita K. Chaurasia S.R.N. Reddy	State-of-the-art survey on activity recognition and classification using smartphones and wearable sensors	Multimedia Tools and Applications, 81,1077–1108, 2021
2	Punam Kumari Seeja K.R.	A novel periocular biometrics solution for authentication during covid-19 pandemic situation	Journal of Ambient Intelligence and Humanized Computing, 12, 10321–10337, 2021
3	Punam Kumari Seeja K.R.	An optimal feature enriched region of interest (ROI) extraction for periocular biometric system	Multimedia Tools and Applications 80, 33573–33591, 2021
4	Rajni Sharma M. Ravinder Nitin Sharma Kanchan Sharma	An optimal remote sensing image enhancement with weak detail preservation in wavelet domain	Journal of Ambient Intelligence and Humanized Computing 13, 1941–1952, 2021
Year 2022			
1	Punam Kumari, Seeja K. R.	Periocular biometrics: A survey	Journal of King Saud University Computer and Information Sciences 34, 1086–1097, 2022
2	Pallavi Pandey, Seeja K.R.	Subject independent emotion recognition from EEG using VMD and deep learning	Journal of King Saud University Computer and Information Sciences 34, 1730–1738, 2022

## Commendable Research Awards

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING			
Year 2022			
1	Nidhi Agarwal, Devendra K. Tayal	FFT based ensemble model to predict ranks of higher educational institutions	Multimedia Tools and Applications 81, 34129–34162, 2022
2	Nidhi Agarwal, Devendra K. Tayal	A new model based on the extended COPRAS method for improving performance during the accreditation process of Indian Higher Educational Institutions	Computer Applications in Engineering Education 2022
3	Devendra Kumar Tayal, Sumit Kumar Yadav, Divya Arora	Personalized ranking of products using aspect-based sentiment analysis and Plithogenic sets	Multimedia Tools and Applications 82, 1261–1287, 2022

4	Vivekanand Jha, Rashika Sharma	An energy efficient weighted clustering algorithm in heterogeneous wireless sensor networks	The Journal of Supercomputing 78, 14266-14293, 2022
5	Vijay Kumar Yadav, Nitish Andola, Shekhar Verma & S. Venkatesan	PSCLS: provably secure certificateless signature scheme for IoT device on cloud	The Journal of Supercomputing 2022.

### Motivational Research Awards

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING			
Year 2022			
1	Garima, Vivekanand Jha, Rakesh Kumar Singh	A novel dynamic bandwidth allocation scheme for XGPON based mobile fronthaul for small cell CRAN	Optical Switching and Networking 45, 100674, 2022

### UG/PG Incentive Awards

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING			
Year 2022			
1	Naaima Suroor, Arunima Jaiswal, Nitin Sachdeva	Stack Ensemble Oriented Parkinson Disease Prediction Using Machine Learning Approaches Utilizing GridSearchCV-Based Hyper Parameter Tuning	Critical Reviews in Biomedical Engineering 50, 39-58, 2022

# DEPARTMENT OF ARTIFICIAL INTELLIGENCE & DATA SCIENCE



Artificial Intelligence is transforming business, industries, & governments, causing social interaction and researches. The growth of artificial intelligence and data science as disciplines has been rapid in the last decade. It is becoming clear that a wide gamut of traditional scientific research stands to benefit from advances in these areas. The newly established Department of Artificial Intelligence and Data Science (AI&DS) in the university aims to focus on a four-tiered strategy of Education, Research, Development and Innovation (ERDI Strategy) in the field of AI, Machine Learning, Deep Learning and Data Sciences. To leverage the department with latest tools and technologies with high computation, University has established a “Centre of Excellence – Artificial Intelligence” with a grant of Rs.8 Cr. from Department of Science and Technology, Government of India. Currently department is running 4 years Under Graduate programs B.Tech – CSE(AI), which is specially designed to enable students to build intelligent machines, software, or applications with a cutting-edge combination of machine learning, analytics and visualization technology. This course aims at providing not only the core computing subjects such as Data Structure, DBMS, Networking, Algorithms etc. but also gives intensive inputs in areas of Artificial Intelligence, Machine Learning, Deep Learning and Big Data Analytics along with strong application domains such as NLP, Computer Vision, Robotics and others. Department has established Research-based Laboratories with latest softwares for Data Analytics, Cognitive and Advance AI and Machine Learning namely Mobile Design and Innovation Lab, Embedded System Design Lab, Machine Learning and Deep Learning Lab, Networking Lab, DBMS Lab, Software Engineering Lab, Artificial Intelligence Lab and Cloud Computing Lab.

## VISION

To achieve excellent standards of quality education through latest tools and technologies with a focus on enhancing problem solving skills, research, development and innovation culture in the domain of AI and data sciences.

## MISSION

- To provide technology based education to the students to enhance their niche expertise in the field of Artificial Intelligence and Data Sciences.
- To educate the students with latest technologies for the development of expert systems in the domains of NLP computer vision, robotics and others so as to develop low cost innovative quality solutions for the betterment of the society.
- To guide students in research and innovation on AI and Data science, with aim of having an ethical impact on society by tackling societal challenges.

## OBJECTIVES

- Graduates will have the ability to adapt, contribute and innovate new technologies and systems in the key domains of Artificial Intelligence and Data Sciences.
- Graduates will be able to successfully pursue higher education in reputed institutions with AI & DS Specialization.
- Graduates will have the ability to explore research areas and produce outstanding contributions in various areas of Artificial Intelligence and Data Sciences.
- Graduates will be ethically and socially responsible solution providers and entrepreneurs in the field Artificial Intelligence & Data Science



## Programs Offered :

B.Tech. (CSE-AI)	4 years	Intake : 227
M.Tech. (AI & DS)	2 years	Intake : 32
Ph.D.		

## FACULTY LIST

Dr. Poonam Bansal,  
Professor &  
Head of Department

Dr. Shailesh D. Kamble,  
Associate Professor

Ms. Kiran Malik,  
Assistant Professor

Ms. Ritika Kumari  
Assistant Professor

Dr. Himanshu Mittal  
Assistant Professor

## Laboratories

- Computer Center
- Software Design Lab
- Information Security Lab
- Distributed Computing Lab
- Cyber Forensics and IOT Lab

## Fourth International Conference-AIST 2022

After the Grand Success of International Conference on Artificial Intelligence and Speech Technology (AIST 2019, 2020 and 2021), Indira Gandhi Delhi Technical University for Women, Delhi is all set to host its fourth version i.e. 4th International Conference on Artificial Intelligence and Speech Technology (AIST 2022) on 9-10th December, 2022 at IGDTUW Campus, Delhi. Last three Conferences witnessed a number of Expert Researchers, Academicians and Industry Practitioners in AI and Speech Domain from premier Institutions in India and abroad including Japan, Australia, France Germany, Hungary, Czech Republic, Myanmar, Uzbekistan, Austria, Vietnam and others.

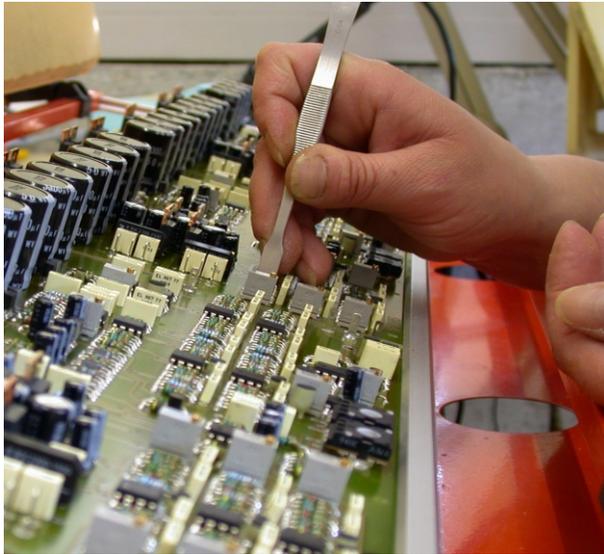
All accepted and presented papers for the Conference by duly registered authors will be submitted to IEEE Xplore for Publication (IEEE Conference Record Number : 55798).

## Faculty Development Programmes

Department of AI and Data Science, IGDTUW organized a two-day workshop on "Outcome Based Education (OBE) and NBA Accreditation" on 2nd-3rd June 2022. The Workshop was organized for the faculty members of the University to apprise all on the principles of Outcome based Education and how we can further elucidate this outcome-based assessment to achieve NBA Accreditation.



# DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



The Department of Electronics and Communication Engineering (ECE) in the existing scenario of rapid and sophisticated development in the field of Electronics and Communications and its allied fields, the Department's intent and focus has always been to globally produce competitive and socially sensitized engineering for graduates and post-graduates. The department also focuses to bring out quality research in the emerging areas of Electronics and Communication Engineering.

The Department is committed to provide quality and contemporary education in the domain of Electronics and Communication Engineering through latest curriculum, state-of-the-art laboratory facilities, collaborative ventures with industries and effective teaching-learning practices. Considering the latest trends in industry and research, the Department has recently revised the UG & PG curriculum as per Choice Based Credit System (CBCS) guidelines to enhance the employability of students.

The Department offers strong research orientated platform to the students in the areas of Communication Systems, Signal & Image Processing, Embedded systems, Microelectronics and VLSI Design.

The faculty members, besides teaching, are active in conducting research which is evident from their list of publications in International/ National conference proceedings/Journal.

## Programs Offered :

B.Tech. (ECE)	4 years	Intake : 77
B.Tech. (ECE-AI)	4 years	Intake : 152
M.Tech. ECE (VLSI)	2 years	Intake : 14
Ph.D.		

## VISION

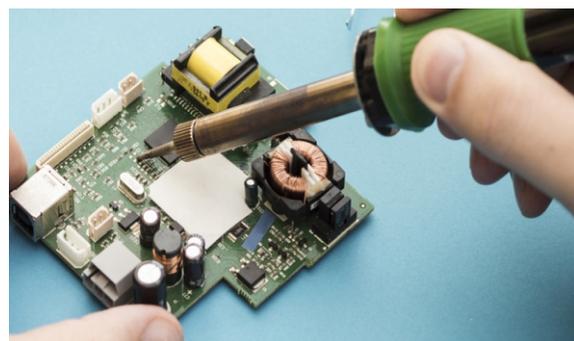
To develop highly skilled professional workforce by innovation-based teaching which can work at global academic and professional standards, thus creating an impact on global forums in the area of Electronics and Communication Engineering.

## MISSION

- To establish centre of excellence in the diverse and allied areas of Electronics and Communication Engineering.
- To develop highly academic and research-oriented environment where young Electronics and Communication engineering professionals can groom their technical skills up to highest level.
- To organise frequent co-curricular activities like expert lectures/workshops symposia/conference/short-term training program/ faculty development program/industry invited expert talks to provide students best holistic learning environment in electronic equipment.
- To inculcate good human values, develop entrepreneur skills to make students adopt attitude of serving the nation thus contributing to nation building.

## OBJECTIVES

- To create centre of excellence for providing knowledge, education, training and research facilities of high order in the field of Electronics and Communication Engineering.
- To understand and apply the subject specific knowledge to the practical problems in the areas of Electronics and Communication Engineering.
- To provide socially relevant, ecologically sustainable, and cost-effective solutions to the problems in the subject area.
- To create a well conversant, socially and ethically responsible individuals with excellent communication skills.
- To enhance of competence in engineering modelling and experimental capabilities to pursue independent/collaborative research and related higher education in the field of engineering and management.



## FACULTY LIST

Prof. Nidhi Goel  
Head of Department  
Prof. Ashwni Kumar  
Pro Vice-Chancellor

Prof. Jasdeep Kaur Dhanoa  
Dean (Academic Affairs)

Prof. Vandana Niranjana  
Professor

Dr. Akash Tayal  
Associate Professor

Dr. Maria Jamal  
Assistant Professor

Dr. Shobha Sharma  
Assistant Professor

Dr. Richa Yadav  
Assistant Professor

Dr. Pankaj Gupta  
Assistant Professor

Dr. Kanchan Sharma  
Assistant Professor

Mr. Ejaz Alsam Lodhi  
Assistant Professor

Dr. Greeshma Arya  
Assistant Professor

Ms. Neha Singh  
Assistant Professor

## Laboratories

- Computer Vision and Image Processing Lab
- VLSI Design and Digital Signal Processing Lab
- Basic Electrical Engineering Lab
- Network Analysis and Synthesis Lab
- Microprocessors & Microcontroller Lab
- Communication System Lab
- Analog Electronics Lab
- Linear Integrated Circuits Lab
- Microwave Techniques Lab

## Special Interest Groups

- VLSI Design Group
- Computer Vision and Image Processing Group
- Communication Engineering Group
- Power Systems & Renewable Energy Group

## Sponsored Projects

- Special Manpower Development Programme (SMDP)
- Project Vigyan Jyoti sponsored by Department of Science, Govt. of India

## Students Chapter

- The Institute of Electrical and Electronics Engineers (IEEE)
- Women in Engineering (WIE) Chapter

## Faculty Development Program

- The Department organized a One Week Online AICTE Training and Learning (ATAL) Faculty Development Programme (FDP) on "Foundation of Data Science and its Application (Elementary)" from 26<sup>th</sup> July to 30<sup>th</sup> July 2021.

## Award for Grant of Patent

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING		
Year 2022		
S. No.	Inventors' Name	Title of Invention
1.	Pooja Pandey, Nidhi Goel, Monika Mathur, Inderdeep Kaur, Rashmi Gupta, Amita Dev	Single Foggy Image Restoration Method and System Based on Principal Component Analysis, 2022.

## Premier Research Awards

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING			
Year 2021			
1	Parnika Kansal Ashwni Kumar M. Gangadharappa	An Efficient Composite two-tier Threshold Cooperative Spectrum Sensing Techniques for 5G Systems	Arabian Journal of Science and Engineering, 47, 2865-28791, 2021
2	Megha Agarwal Jasdeep K. Dhanoa	Two-port hexagon shaped MIMO microstrip antenna for UWB applications integrated with double stop bands for WiMax and WLAN	International Journal of Electronics and Communications AEU, 138, 153885, 2021
3	Pooja Pandey Rashmi Gupta Nidhi Goel	A fast and effective vision enhancement method for single foggy image	Engineering Science and Technology, an International Journal, 24, 1478-1489, 2021
4	Annu Dagar Pankaj Gupta Vandana Niranjana	Microgrid protection: A comprehensive review	Renewable and Sustainable Energy Reviews, 149, 111401, 2021
5	Kanchan Sharma	Optimization of throughput for free space optical communication system in presence of atmospheric turbulence and pointing error	Journal of Ambient Intelligence and Humanized Computing, 2021
6	Kanchan Sharma	A new ABER approximation of FSO system using PPM-GMSK hybrid modulation scheme under weak turbulence	Optik, 248, 168129, 2021
7	Suman Yadav Ashwni Kumar Richa Yadav Manjeet Kumar	A novel approach to design optimal 2-D digital differentiator using vortex search optimization algorithm	Multimedia Tools and Applications, 80, 5901-5916, 2021
8	Pragya Srivastava Richa Yadav Richa Srivastava	Robust circuit implementation of 4-bit 4-tube CNFET based ALU at 16-nm technology node	Analog Integrated Circuits and Signal Processing, 109, 127-134, 2021

## Commendable Research Awards

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING			
Year 2021			
1	Parnika Kansal, Ashwni Kumar M. Gangadharappa	Optimized Extreme learning Machine for Intelligent Spectrum Sensing in 5G systems	Journal of Communications Technology and Electronics, 66, 322-332, 2021

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**Year 2022**

1.	Reshma Sinha, Jasdeep Kaur Dhanao	Analyzing the Impact of Different Composite Dielectrics on Performance Parameters of a Magnetic Tunnel Junction Memory Device	Journal of Electronic Materials 51,5686-5703, 2022
2.	Megha Agarwal, Jasdeep Kaur Dhanao, Mukesh Kumar Khandelwal	Construction of compact two-port throneshaped antenna with dual stopbands and high isolation for Ultrawideband Multiple-Input Multiple-Output wireless communicationsystems	International Journal of Communication Systems 35, 1-19, 2022
3.	Manik Dangi, Raghendra sahai saxena, Vandana Niranjan	An improved source follower per detector ROIC for HgCdTe infrared photodiodes	Microsystem 28, 2755-2764, 2022
4.	Ruby Mann, Sonam Rewari, Praveen Pal, Shobha Sharma R.S. Gupta	Radiation-sensitive AlGaIn/GaN MOS-HEMT-Based dosimeter	Journal of Electronic Materials 51, 5609-5616, 2022
5.	Shilpa Garg, Richa Yadav, Manjeet Kumar	Discrete cosine transform interpolation based design of two-dimensional FIR fractional order digital differentiator	Multidimensional Systems and Signal Process 33, 1-20, 2022
6.	Nidhi Goel, Samarjeet Kaur, Deepak Gunjan and S.J.Mahapatra	Investigating the Significance of Color Space for Abnormality Detection in Wireless Capsule Endoscopy Images	Biomedical Signal Processing and Control 75, 103624, 2022
7.	Nidhi Goel, Samarjeet Kaur, Deepak Gunjan and S.J.Mahapatra	Dilated CNN for Abnormality Detection in Wireless Capsule Endoscopy Images	Soft Computing 26, 1231-1247, 2022
8.	Palak Handa, Nidhi Goel	Peri-ictal and non-seizure EEG event detection using generated metadata	Expert System, 39, 2021
9.	Parnika Kansal, M Gangadharappa, Ashwini Kumar	Long Boosted Memory Algorithm for Intelligent Spectrum Sensing in 5G and Beyond Systems	Journal of Network and Systems Management 30, 41, 2022

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING			
Year 2022			
1.	Reshma Sinha, Jasdeep Kaur Dhanoo	Analyzing the Impact of Different Composite Dielectrics on Performance Parameters of a Magnetic Tunnel Junction Memory Device	Journal of Electronic Materials 51, 5686–5703, 2022
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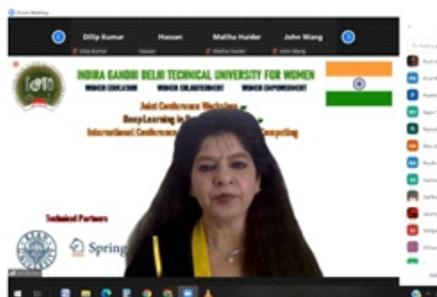
### Motivational Research Awards

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING			
Year 2022			
1.	Neeraj, Anubha Goel, Shobha Sharma, Sonam Rewari, Radhey Shyam Gupta	SiC-based analytical model for gate -stack dual metal nanowire FET with enhanced analog performances	International Journal of Numerical Modelling 35, 1-15, 2022

2.	Neeraj, Shobha Sharma, Anubha Goel, Sonam Rewari, Radhey Shyam Gupta	Temperature sensitive analytical analysis of gate-stack dual metal nanowire-field effect transistor (4H-SiC)	International Journal of Numerical Modelling 35, 1-15, 2022
3.	Annu Dabas, Richa Yadav, Maneesha Gupta	Improved performance recycling folded cascode OTA using multipath positive feedback and pseudo differential pair for biasing	Sadhana 47, 2022
4.	Bushra Abbas, Kanchan Sharma	Organic light emitting transistors: performance analysis and high performance device	Analog Integrated Circuits and Signal Processing 113, 383-391, 2022

### UG/PG Incentive Awards

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING			
Year 2022			
1.	Greeshma Arya, Aaishani De, Renu Singh	Blurred Image Classification	TELEMATIQUE 21, 7297-7320, 2022
2.	Bandana Pal, Shruti Jain	Novel Discrete Component Wavelet Transform for detection of cerebrovascular diseases	SADHANA 47, 2022



# DEPARTMENT OF MECHANICAL & AUTOMATION ENGINEERING



The Department of Mechanical & Automation Engineering (MAE) offers B. Tech in Mechanical & Automation Engineering, M. Tech in Robotics Automation & Ph.D. in different specializations.

The Department has highly qualified and experienced faculty and Staff members. The faculty is actively involved in various research and professional activities along with dedicated teaching.

A number of MNCs have been collaborating with the Department and have contributed in Research & Development. Every year meritorious students secure admission to the programs offered by the Department. The Ph.D. scholars have been applying for government grant for research projects and have also received favorable response.

The students and faculty members have been actively participating in National and International Conferences and have contributed in areas such as Design Engineering, Robotics, CAD/ CAM/ CIM, Mechatronics, Automation, Computational Engineering, Advance Manufacturing Systems, Automotive and IC Engines.

The Department has a very active student Chapter under the aegis of Society of Automotive Engineers (SAE) and American Society of Mechanical Engineers (ASME). Students of MAE department have been participating in many car design competitions such as Baja, Supra, Effi-cycle and Shell Eco Marathon and have been bringing laurels to the University. Industrial visits, workshops and expert lectures are regularly organized and receive active students' participation.

## VISION

The Department strives for excellence in education to develop highly skilled world class work force in area of Mechanical & Automation Engineering and target research themes in emerging areas with the aim to produce leaders among the engineers.

## MISSION

- The Mechanical & Automation Engineering Department strives to impart quality education to the students by enhancing their skills to make them globally competitive.
- To develop and maintain state-of-the-art laboratories with equipment and softwares to foster visualization of known Art and Knowledge
- To create research facilities in order to provide the students and the faculty with the opportunities to create, apply and disseminate knowledge.
- To develop linkages with the Industry and educational institutions in order to maintain excellence in teaching and research.
- To maintain a supportive environment that encourages and rewards teamwork and inculcates good human values in students to make them responsible and respectable nation builders.

## OBJECTIVES

The desired learning outcomes of our program are:

- To prepare our graduates for successful professional practice by providing both the fundamental and the advanced education in Mechanical and Automation Engineering
- To inculcate the habit in students and faculty to remain updated with latest developments & technology by promoting research and development by the faculty and the students and promoting participation of students in various design and development competitions in areas of Mechanical and Automation Engineering.
- To inculcate qualities in the students to enable them to act in a professional and ethical manner and prove as responsible leaders in the society.

### Programs Offered :

B.Tech. (MAE)	4 years	Intake : 97
M.Tech. (MAE)+MBA	5 years	Intake : 32
M.Tech.-MAE (Robotics and AI)	2years	Intake : 14
Ph.D.		

## FACULTY LIST

Prof. N. R. Chauhan,  
Head of Department &  
Training & Placement Officer

Prof. Manoj Soni,  
Professor & Registrar

Prof. Arvind Kumar Jayant  
Professor &  
Head of Department  
(Management)

Dr. O.K. Singh  
Associate Professor

Dr. Subhash Singh  
Associate Professor &  
Dy. Registrar (Academic Affairs)

Dr. Pankaj Tomar  
Assistant Professor

Dr. Shipra Aggarwal  
Assistant Professor

Dr. Vivek Kr. Chawla  
Assistant Professor

Dr. Pooja Bhati  
Assistant Professor

Dr. Deepti Chhabra  
Assistant Professor &  
Incharge Public Relations

Dr. Tina Choudhari  
Assistant Professor

Ms. Deepti Jaiswal  
Assistant Professor

Mr. Ravinder Kumar  
Assistant Professor

Mr. Urfi Khan  
Assistant Professor

## Laboratories

- Robotics And Mechatronics Lab
- Computer Aided Design Lab
- Computer Aided Manufacturing Lab
- Metal Cutting And Tool Design Lab
- Kinematics / Dynamics Of Machines Lab
- Strength of Materials
- Engineering Graphics Lab
- Automobile Lab
- Fluid Mechanics And Hydraulic Machine Lab
- Thermal Engineering Lab
- Workshop
- Heat Transfer Lab
- Engineering Mechanics Lab
- Refrigeration and Air conditioning Lab
- Material Science

## Students Chapter

- American Society of Mechanical Engineers (ASME) Student Chapter
- SAE Collegiate Club



Automobile Lab



Robotics Lab

## Premier Research Awards

DEPARTMENT OF MECHANICAL AND AUTOMATION ENGINEERING			
Year 2021			
1.	Aasiya Parveen Nathi R. Chauhan M. Suhaib	Influence of process parameters and reinforcements on aluminium hybrid composite developed by powder metallurgy process	Physics of Metals and Metallography ,122, 1007-1013, 2021
2.	O.K. Singh	Development of a solar cooking system suitable for indoor cooking and its Exergy and Enviroeconomic analysis	Solar Energy, 217, 223-234, 2021

DEPARTMENT OF MECHANICAL AND AUTOMATION ENGINEERING			
Year 2022			
1.	Md. Zakir Hussain, Sabah Khan, Urfi Khan	Optimization of MWCNTs/AI nano composite fabrication process parameters for mass density and hardness	Proceedings of the Institutions of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science 236, 2022

## Commendable Research Awards

DEPARTMENT OF MECHANICAL AND AUTOMATION ENGINEERING			
Year 2022			
1.	Ekta Yadav & V. K. Chawla	Fault detection in rotating elements by using fuzzy integrated improved local binary pattern method	Journal of the Brazilian Society of Mechanical Sciences and Engineering 44, 1-18, 2022
2.	Krishnakant Sahu, S.C. Sharma, N.R. Chauhan	Misalignment and Surface Irregularities Effect in MR Fluid Journal Bearing	International Journal of Mechanical Sciences 221, 107196, 2022
3.	Mohd. Azmal Hussain, Asiya Parveen, Nathi Ram Chauhan, Mohd. Suhaib, Mohammad Waseem	Statistical analysis and ANN modelling of tribological performance of aluminium hybrid composites fabricated by PM method	Surface Topography: Metrology and Properties 3, 2022
4.	Deepti Chhabra & Rajesh Kr Singh	Analyzing barriers to green logistics in context of Circular Economy and Industry 4.0 in the Indian manufacturing industry	International Journal of Logistics Research and Applications 2022

## Motivational Research Awards

DEPARTMENT OF MECHANICAL AND AUTOMATION ENGINEERING			
Year 2022			
1.	V.K. Chawla , A.K. Chanda, S. Angra and A. Bonyadi	Coexistent scheduling in the tandem flow path configuration of a flexible manufacturing system by using an advanced grey wolf optimizer	Scientia Iranica, Sharif University 29, 3404-3417, 2022
2.	Neha Deepak Saxena, Nathi Ram Chauhan	Modelling and Analyzing the Performance of Journal Bearing with TiO <sub>2</sub> and CuO Nanoparticle as Lubricant Additives	Petroleum Chemistry, Pleiadas publishing 2022

# DEPARTMENT OF INFORMATION TECHNOLOGY



The Department of Information Technology, founded in 2010 is the fastest growing Department. The Department has shown incomparable innovation, research aptitude, intellectual talent, technical skills and problem solving skills through active participation of faculty, research scholars and students at National and International level. Since its inception, the Department started a four year B.Tech. (IT) program in 2010 and a three year postgraduate program in Computer Applications (MCA) in 2011 to nurture talent in the field of Information Technology through IT solution development.

With Information Technology at the peak , there also comes a need of securing the IT environment, hence the Department launched a Post-Graduate program in Information Security Management M.Tech.- ISM in 2013 (now renamed as M.Tech. – IT (Cyber Security))to provide knowledge base and work force with requisite expertise to cater to the needs of industry and Information Technology in enhancing the security dimension of IT and Cyber World. To exemplify R&D activities , the Department started the Ph.D. program in 2014.

The Department believes in continuous learning and therefore, hosts various Work shops , Faculty Development Program, Conference, Seminars and expert talk sessions on regular basis . The Department encourages the students to participate in the various conferences , work shops and other competitions to hone their technical expertise. Technical events conducted by the Department under the aegis of ACM Chapter since 2011.

## VISION

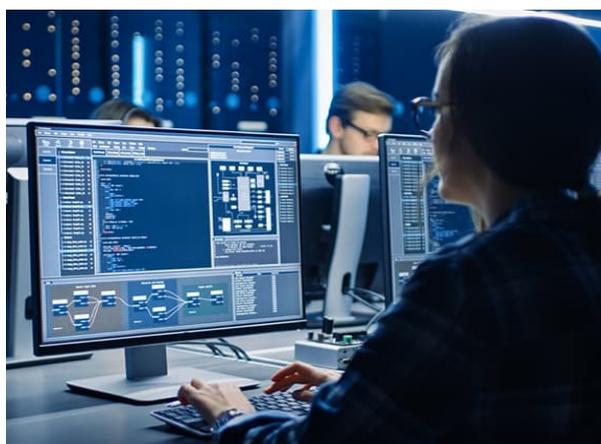
To impart world class training and quality education for building highly skilled and globally competitive engineers, innovators, researchers and entrepreneurs in Information Technology to meet the demands of industry, research and society.

## MISSION

- To provide technologically enriched environment for learning that will inculcate professionalism, effective team work, and communication and leadership skills to create competent engineers of global standards to serve the society collaboratively and ethically.
- To advance knowledge and impart hands on experience to all students through interdisciplinary research projects, industry training and consultancy work.

## OBJECTIVES

- To create an environment of excellence in teaching and research by raising the quality and standards of education and make it globally competitive and locally relevant.
- To converge as an open, evolving community invested in creating, preserving and translating knowledge.
- To manage IT as a strategic resource.
- apply Artificial Intelligence in the area of cyber security, Internet of Things and other allied fields related to citizen centric services.



## Programs Offered :

B.Tech. (IT)	4 years	Intake : 77
B.Tech. (AI & ML)	4 years	Intake : 77
M.Tech.-IT Cyber Security	2 years	Intake : 14
MCA	2 years	Intake : 76
Ph.D		

## FACULTY LIST

Prof. A. K. Mohapatra  
Head of Department

Prof. R. K. Singh,  
Professor & Dean (SW)

Prof. Arun Sharma, Dean (EA)  
Managing Director (AF) &  
Head of Department (CSE)

Prof. Brijesh Kumar,  
Professor & Director (Planning)

Prof. Naveen Prakash,  
Adj. Professor

Dr. Nonita Sharma  
Associate Professor &  
Manager (International Affairs)

Dr. Deepak Kumar Sharma  
Associate Professor

Dr. Kalpana Yadav  
Assistant Professor

Dr. Rishabh Kaushal  
Assistant Professor

Dr. Nisha Rahee  
Assistant Professor

Dr. Niyati Baliyan  
Assistant Professor

Dr. Saurabh Bharti  
Assistant Professor

Dr. Mohona Ghosh  
Assistant Professor

Dr. Charu Gupta  
Assistant Professor

Ms. Nidhi Arora  
Assistant Professor

Dr. Gaurav Indra  
Assistant Professor

Dr. Ankita  
Assistant Professor

Dr. Bhawna Narwal  
Assistant Professor

Dr. Alongbar Wary  
Assistant Professor

## Laboratories

- Artificial Intelligence & Machine Learning Lab
- Cyber Security & Cloud Computing Lab
- Software Engineering & Programming Lab
- Data Structure & DBMS Lab
- Computer Networks Lab
- Research Lab
- Cyber Forensics Lab & Software Development Cell

## Special Interest Groups

- Cyber Security Group
- Software Engineering Group
- Artificial Intelligence and Machine Learning Group
- Data Communications and Network Group
- Data Communications and Network Group

## Sponsored Projects

ISEA Project sponsored by Ministry of Electronics & IT Govt. of India

Intelligent Information System for Research Schemes and Career Growth for Women in Science and Technology sponsored by Department of Science & Technology

Automated approach for Real Time Facial Recognition using Deep Neural Network sponsored by Central Forensic Laboratory, Ministry of Home Affairs, Govt. of India.

## Students Chapter

- Association for Computing Machinery (ACM) Society
- Celestial Biscuits
- LEAN IN Society
- Geeks for Geeks Student Chapter



Publicis Sapient  
Jumpstart'2022: Charvi Jain  
from 5th Semester was  
selected to attend the event  
after clearing the online quiz  
and the coding round.



## Awards for Grant of Patent

DEPARTMENT OF INFORMATION TECHNOLOGY		
Year 2022		
S.No.	Inventors' Name	Title of Invention
1.	Ritu Rani, Rashmi Gandhi, Amita Dev, Arun Sharma	Tomcrop: A Deep Learning Architecture for Tomato Leaf Disease Detection

## Premier Research Awards

DEPARTMENT OF INFORMATION TECHNOLOGY			
Year 2021			
1.	Garima Jaiswal Arun Sharma Sumit K. Yadav	Critical insights into modern hyperspectral image applications through deep learning	Wires Data Mining and Knowledge Discovery, 11, 2021
2.	Bhawna Narwal Amar K. Mohapatra	A survey on security and authentication in wireless body area networks	Journal of System Architecture, 113, 101883, 2021
3.	Bhawna Narwal Amar K. Mohapatra	SAMAKA: secure and anonymous mutual authentication and key agreement scheme for wireless body area networks	Arabian Journal for Science and Engineering 46, 9197–9219, 2021
4.	Saumya Bansal Niyati Baliyan	Shill Detector: a binary grey wolf optimization technique for detection of shilling profiles	Journal of Ambient Intelligence and Humanized Computing, 2021
5.	Kritika Verma Niyati Baliyan	Grey wolf optimization with fuzzy logic for energy-efficient communication in wireless sensor network-based Internet of Things scenario	International Journal of Communication Systems, 34, 2021
6.	Shivi Garg Niyati Baliyan	Android security assessment: A review, taxonomy and research gap study	Computers & Security, 100, 102087, 2021
7.	Shivi Garg Niyati Baliyan	Comparative analysis of Android and iOS from security viewpoint	Computer Science Review 40, 100372, 2021
8.	Shivi Garg Niyati Baliyan	M2VMapper: Malware-to-Vulnerability mapping for Android using text processing	Expert Systems with Applications 191, 116360, 2021

**DEPARTMENT OF INFORMATION TECHNOLOGY**

**Year 2022**

1.	Dimple Sethi, Sourabh Bharti, Chandra Prakash	A comprehensive survey on gait analysis: History, parameters, approaches, pose estimation, future work	Artificial Intelligence in Medicine 129,102314,2022
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## Commendable Research Awards

**DEPARTMENT OF INFORMATION TECHNOLOGY**

**Year 2022**

1.	Karan Gupta, Deepak Kumar Sharma, Koyel Datta Gupta, Anil Kumar	A Tree Classifier based Network Intrusion Detection Model for Internet of Medical Things	Computers and Electrical Engineering 102, 108158, 2022
2.	Deepak Kumar Sharma, Utsha Sinha, Aditi Gupta & Manju Khari	Modified minimum spanning tree based vertical fragmentation, allocation and replication approach in distributed multimedia databases	Multimedia Tools and Applications 81, 37101–37118, 2022
3.	Deepak Kumar Sharma, Jahanavi Mishra, Aeshit Singh, Raghav Govil, Gautam Srivastava, Jerry Chun-Wei Lin	Explainable Artificial Intelligence for Cybersecurity	Computers and Electrical Engineering 103, 108356, 2022
4.	Nonita Sharma, K. P. Sharma, Monika Mangla and Rajneesh Rani	Breast cancer classification using snapshot ensemble deep learning model and t-distributed stochastic neighbor embedding	Multimedia Tools and Applications 82, 4011–4029, 2022
5.	Apoorva Dhawan, Malvika Bhalla, Deeksha Arora, Rishabh Kaushal, Ponnurangam Kumaraguru	FakeNewsIndia: A benchmark dataset of fake news incidents in India, collection methodology and impact assessment in social media	Computer Communications 185, 2022
6.	Garima Jaiswal, Arun Sharma, Sumit Kumar Yadav	DFD <sup>-</sup> SS: Document Forgery Detection using Spectral – Spatial Features for Hyperspectral Images	Journal of Visual Communication and Image Representation 89, 103690, 2022
7.	Garima Jaiswal, Arun Sharma, Sumit Kumar Yadav	Deep feature extraction for document forgery detection with convolutional autoencoders	Computers and Electrical Engineering 99, 107770, 2022

8.	Saumya Bansal, Niyati Baliyan	Remembering past and predicting future: a hybrid recurrent neural network based recommender system	Journal of Ambient Intelligence and Humanized Computing 1-12, 2022
9.	Gaurav Indra, Vidyotma Thakur	Cryptographically secure privacy- preserving authenticated key agreement protocol for an IoT network: A step towards critical infrastructure protection	Peer-to-Peer Networking and Applications Vol. 15, 206 -220, 2022

## Motivational Research Awards

DEPARTMENT OF INFORMATION TECHNOLOGY			
Year 2022			
1.	Garima, V N Jha, R K Singh	A novel dynamic bandwidth allocation scheme for XGPON based mobile fronthaul for small cell CRAN	Optical Switching and Networking 45, 100674, 2022
2.	Garima, V N Jha, R K Singh	Comprehensive performance analysis of dynamic bandwidth allocation schemes for XG-PON system	Optical Switch and Networking, 47, 2022
3.	Ankita Singh, Nanhay singh	Gravitational search algorithm-driven missing links prediction in social networks	Concurrency and Computation: Practice and Experience 2022
4.	Monika Singh, Anviksha Khunteta, Mohona Ghosh, Donghoon Chang, Somitra Kumar Sanadhya	FbHash-E: A time and memory efficient version of FbHash similarity hashing algorithm	Forensic Science International: Digital Investigation 41, 301375, 2022

## UG/PG Incentive Awards

DEPARTMENT OF INFORMATION TECHNOLOGY			
Year 2022			
1	Srishti Maheshwari, Shubhangi Aggarwal, Rishabh Kaushal	A novel SMS spam dataset and bi-directional transformer based short-text representations for SMS spam detection	Journal of Information and Decision Sciences 2022
2	Siddhi Mishra, Abhigya Verma, Kavita Meena, Rishabh Kaushal	Public reactions towards Covid-19 vaccination through twitter before and after second wave in India	Social Network Analysis and Mining 12, 2022
3	Manmeet Kaur, Priyanka Daryani, Megha Varshney, Rishabh Kaushal	Detection of fake images on whatsapp using socio-temporal features	Social Network Analysis and Mining 12, 2022

# DEPARTMENT OF APPLIED SCIENCES & HUMANITIES



The Department provides and imparts quality education in the area of Physics, Chemistry, Mathematics, Soft Skills Communication and Management to the future technocrats of all streams. Strong engineering background supported with sound knowledge in basic and applied sciences equips graduates with many skills that would contribute to their success in their careers in academics, research and industry.

The Department of Applied Sciences and Humanities has highly qualified faculty known for their academic excellence and enthusiastic for research in thrust areas leading to a large number of research publications in reputed international and national journals.

The Department has undertaken several sponsored projects funded by CSIR, DST and UGC etc. There are currently twenty registered research scholars involved in active research under different faculty members of the department. Many Research Scholars have successfully completed their Ph.D. degrees under the guidance of faculty supervisors in Chemistry and Physics.

The Department has well equipped laboratories with the latest equipment to support teaching and research activities for undergraduate, post-graduate and doctoral programs. and expert lectures are regularly organized and receive active students Participation.

## Programs Offered :

Ph.D

(Physics/Chemistry/Mathematics/ English )

## VISION

The important vision of the Department is to prepare and train B. Tech students in Physics, Chemistry, Mathematics and Communication skills with an applied approach. To cater our students to pursue both intellectual growth and professional development, balance both depth and breadth in learning experience, practice both thoughtful reflection and active application.

## MISSION

- To enable the students to analyze and apply mathematical and scientific techniques in engineering, technology and interdisciplinary streams.
- To teach our students to question critically, think logically, communicate clearly, and live ethically. These skills serve as the foundation for living the examined life and succeeding in an increasingly global, ever-changing workplace.

## OBJECTIVES

A strong high-rise building can be built only on a strong foundation, which signifies the importance of the Department of Applied Sciences. The important objective of the Department is to prepare and train the first year B. Tech students in Physics, Chemistry, Mathematics and Communication skills with an applied approach. allied fields related to citizen centric services.



## FACULTY LIST

Prof. (Dr.) Shalini Arora  
Professor & Head of Department

Prof. Ranu Gadi  
Dean (IRD & R&C),  
Director, Anveshan Foundation

Prof. Chhaya Ravi Kant  
Professor & First Appellate  
Authoirty

Dr. Dinesh Ganotra  
Associate Professor

Dr. Geeta Sachdev  
Assistant Professor  
Assistant Registrar (Academics)

Dr. Bhavani Prasad  
Assistant Professor  
Coordinator IRD Cell

Dr. Bhavya Raj  
Assistant Professor

Dr. Shivani  
Assistant Professor,  
Coordinator R&D

## Societies

Tarannum  
Rotary Club-IGDTUW  
Synergy- Sports Club  
Instinct  
Techno literati  
Greens phere  
Spic Macay

## Laboratories

- Raman Lab (Material Engineering and Nano Tech Oriented Research)
- Digital Image and Speech Processing Lab
- Advanced Instrumentation Centre(AIC)
- Carbon Lab (Creative and Advanced Research Based on Nanomaterials)
- Nano-materials and Thin Films Research Lab
- Environmental Studies Lab
- Applied Physics Lab
- Applied Chemistry

## Technical Projects

- Information Security, ISEA project
- Intelligent Information System for Research Schemes and Career
- Growth for Women in Science and Technology
- Automated Facial Recognition Project
- Association for Computing Machinery (ACM) Society
- Celestial Biscuits
- LEAN IN Society
- Geeks for Geeks Student Chapter

## Students Chapter

- OSA (Optical Society of America) IGDTUW CHAPTER

Research Wing and Department of Applied Sciences & Humanities

CELEBRATE  
**WORLD ENVIRONMENT DAY 2022**  
and organize an expert lecture on

COVID-19 Lockdown: Learning for Better Air  
Quality & Health

by an eminent academician and environmentalist

**Dr. Ravindra Khaiwal**

MRSC, FHEA  
Professor of Environment Health,  
Department of Community Medicine and School of  
Public Health,  
Postgraduate Institute of Medical Education and  
Research (PGIMER),  
Chandigarh



INDIRA GANDHI DELHI TECHNICAL  
UNIVERSITY FOR WOMEN

75  
Azadi Ka  
Amrit Mahotsav

IGDTUW Hostels and Department of  
Applied Sciences and Humanities

**Emotional Stability for Women**

**Sister B K Rupa**  
M.B.A (Self Management & Crisis  
Management)  
Associated with Brahma Kumaris for  
over 20 years



Date : 23 July 2022  
Time : 3:00 pm to 4:00 pm

Meeting link:  
[https://meet20.webex.com/meet20/j.php?  
MTID=mfc009c71fee0b770c9eff593fbc794a](https://meet20.webex.com/meet20/j.php?MTID=mfc009c71fee0b770c9eff593fbc794a)  
Meeting number: 2555 645 0501  
Password: IGDTUW  
Host key: 792890

INDIRA GANDHI DELHI TECHNICAL  
UNIVERSITY FOR WOMEN

75  
Azadi Ka  
Amrit Mahotsav

IGDTUW Hostels and Department of  
Applied Sciences and Humanities

**Holistic Health For Women**

**Dr. Manju Gupta**  
Head Department of Nursing  
Home in Hindu Rao Hospital,  
MCD Delhi  
Additional MHO, TB in MCD  
Delhi



Date : 16 July 2022  
Time : 3:00 pm to 4:00 pm

Meeting link:  
[https://meet20.webex.com/meet20/j.php?  
MTID=m2e310afcd84cda3a9824484e58b237d7](https://meet20.webex.com/meet20/j.php?MTID=m2e310afcd84cda3a9824484e58b237d7)  
Meeting number:  
2551 109 1263  
Password:  
IGDTUW

## Premier Research Awards

DEPARTMENT OF APPLIED SCIENCES AND HUMANITIES			
Year 2021			
1	Shivani Ranu Gadi	Oxidative potential of ambient fine particulate matter for ranking of emission sources: an insight for emissions reductions	Air Quality, Atmosphere & Health, 14,1149–1153, 2021
2	Ritu Chaudhari Chhaya R. Kant Alka Garg	Bismuth tri-iodide-polystyrene composite for X-rays switching applications at room temperature	Radiation Physics and Chemistry, 186, 109538, 2021
3	Sitakshi Gupta Chhaya Ravi Kant	One-pot wet chemical synthesis of reduced graphene oxide-zinc oxide nanocomposites for fast and selective ammonia sensing at room temperature	Sensors and Actuators A: Physical, 331, 112965, 2021
4	Aishwarya Singh Bhavani Prasad	Facile synthesis of Te-doped ZnO nanoparticles and their morphology-dependent antibacterial studies	Chemical Paper, 75, 4317-4326, 2021

## Commendable Research Awards

DEPARTMENT OF APPLIED SCIENCES AND HUMANITIES			
Year 2022			
1	Ritu Jangirh, Shivani, Ranu Gadi et al.	Gridded distribution of total suspended particulate matter (TSP) and their chemical characterization over Delhi during winter	Air Quality, Atmosphere & Health 14,114–1153, 2021
2	Ritu Goel, Ranjana Jha, Chhaya Ravikant	Synergistic effect of Urea and Potassium Sulphate during hydrothermal synthesis of NiO nanospheres with reduced crystallite size and enhanced electrical conductivity	Inorganic Chemistry Communications 141, 109563, 2022
3	Ritu Goel, Ranjana Jha & Chhaya Ravikant	Solution-processed spin coated multilayer structured nickel oxide thin films for anodic electrochromism	Journal of Applied Electrochemistry 2022
4	Ritu Chaudhari, Chhaya Ravikant & Alka Garg	Polymer-BiI <sub>3</sub> composites for high-performance, room-temperature, direct X-ray detectors	MRS Communications 12, 358–364, 2022
5	Ritu Chaudhari, Chhaya Ravikant	A review on BiI <sub>3</sub> perovskites and composites for direct X-ray detection	Sensors and Actuators A: Physical 346, 113863, 2022
6	Aakanksha Singh, Ritu Arora, Shalini Arora	Bilevel transportation problem in neutrosophic environment	Computational and Applied Mathematics 41, 1-25, 22
7	Deeba R. Naqvi, Rajkumar Verma, Abha Aggarwal, Geeta Sachdev	Solutions of matrix games involving linguistic interval-valued intuitionistic fuzzy sets	Soft Computing 27, 783-808, 2022

8	Aishwarya Singh, Bhavani Prasad Nenavathu, Khushboo Dasauni, Tapan Kumar Nailwal	ROS-Mediated Aquaculture Wastewater Remediation Using TeO <sub>2</sub> -Deposited ZnO Nanotubes	Water Air Soil Pollution 233, 1-12, 2022
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## Motivational Research Awards

DEPARTMENT OF APPLIED SCIENCES AND HUMANITIES			
Year 2022			
1	Shobhna Shankar, Ranu Gadi, S. K. Sharma & T. K. Mandal	Identification of Carbonaceous Species and FTIR Profiling of PM <sub>2.5</sub> Aerosols for Source Estimation in Old Delhi Region of India	MAPAN 37, 529–544, 2022
2	Deeba R. Naqvi, Geeta Sachdev, and Izhar Ahmad	Matrix Games Involving Interval- valued Hesitant Fuzzy Linguistic Sets and Its Application to Electric Vehicles	Journal of Intelligent & Fuzzy Systems, IOS 1-22 (Pre-press) 2022



*Applied Physics Lab*



*Environmental Sciences Research Lab*

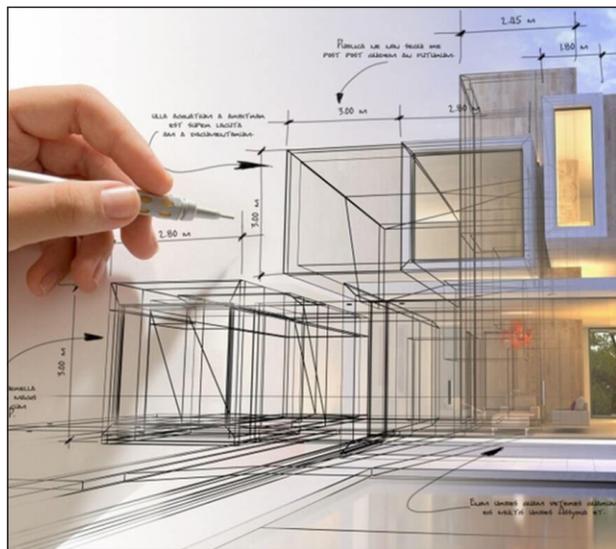


*Applied Chemistry Lab*



*RAMAN Lab*

# DEPARTMENT OF ARCHITECTURE & PLANNING



The Department of Architecture & Planning (approved under Council of Architecture) provides a Bachelor's Degree program in Architecture (B.Arch.) with an intake of 50 young creative minds each year. The students have to qualify JEE Mains (Paper 2) and apply through JAC for admission. The Department has also introduced a two year full-time Postgraduate Master of Planning (Urban Planning) program from 2019.

The Department has a remarkable infrastructure with well-lit Classrooms, Design Studios, well-equipped Labs in Climatology, Surveying and Levelling, and a Computer Centre with latest software tools. The teaching pedagogy involves indoor and outdoor teaching, academic tours and industrial visits, hands-on working and learning experience in the departmental workshops for carpentry and metal, model making and also a construction yard.

The Department is known for breaking new grounds and generating unexpected outcomes. Students are encouraged to discover new ways of thinking and problem solving.



## VISION

Development of the individual girl as a responsible member of peaceful, pluralist and inclusive society by learning to explore and practicing quality, sustainable form of architecture.

## MISSION

The Department of Architecture and Planning in IGDTUW aspires to be the leading voice for excellence in the field of Architecture and Planning in our country, demonstrating how design enhances the quality of life, while addressing important issues of society through responsible architecture. The department aspires to become a distinguished centre of architectural thought, research, learning, innovation, capacity building and scholarly inquiry aiming towards becoming a globally recognised Department and University.

## OBJECTIVES

- To provide architectural education to empower students to become protagonist of positive change by exploring, learning and practicing a sustainable and inclusive form of architecture.
- To develop the capacity of the women students to practice architecture which is humane and sustainable by developing understanding of
- Sustainability which encompasses not just environmental variables but also socially-economically- culturally responsive architecture.
- How peace and inclusion can be fostered in society through domains of architecture and planning.
- To foster innovation and creativity through promotion of holistic learning environment, a flexible and distinctive pedagogy that leverages use of latest technology, hands on activities in the form of field visits, peer learning, etc. which instils a notion of lifelong learning.
- To promote a learning environment that welcomes and honours women from diverse cultures for involving themselves in intellectual inquisitiveness, explore knowledge dimensions for future application in industry, profession and life.

### Programs Offered :

B.Arch	5 years	Intake : 50
M.Plan. (Urban Planning)	2 years	Intake : 13
Ph.D		

## FACULTY LIST

Dr. Rashmi Ashtt  
Professor & Head of Department  
Dy. Dean (Student Welfare)

Ar. Preeti Chauhan  
Associate Professor;  
& Additional Registrar (GA)

Ar. Vishal Rai  
Associate Professor &  
Nodal Officer (EMP)

Ar. Monali Wankar  
Associate Professor &  
Dy. Registrar (Academic Branch)  
Chief Warden

Ar. Sneha Maji  
Assistant Professor

Ar. Venus Kashyap  
Assistant Professor

Ar. Jahnabi Kalita  
Assistant Professor

Ar. Kshitij Kr. Sinha  
Assistant Professor  
Incharge Stores &  
Nodal Officer (EMP)

Ar. Rupesh Kumar  
Assistant Professor &  
Estate Officer

Ar. Jai Prakash  
Assistant Professor

## Laboratories

- Climatology Lab
- Surveying and Levelling Lab.
- Building Material Lab
- Surveying and Levelling Lab.

## GIS Summer Internship

A Six Week Summer Internship on GIS for historic resource mapping of Shahjahanabad was held at the Department in June July 2022. Various students and professionals enrolled for the same. The internship was conducted by Prof Dr Rashmi Ashtt and Ar Monali Wankar, Associate Professor along with subject experts.

## Amrit Jal Sarovar Mission

Arab ki Sarai Baoli is a Water Body located inside premises of world heritage site "Humayun's tomb". Hauz-i-Shamshi is a water reservoir located in Mehrauli. Under AICTE's ASM (Amrit Sarovar Mission) an internship on rejuvenation of these water bodies along with about 350 other water bodies all over the Country was conducted. The team included 15 students from masters of planning and bachelors architecture department for each water body. Prof Dr. Rashmi Ashtt and Ar Monali Wankar were the Nodal officers while Ar Preeti Chauhan, Ar Vishal Rai, Ar Sneha Maji and Ar Venus Kashyap were the associate nodal officers.



Summer Internship in GIS in DAP



 **WORKSHOP ON FUTURE CITIES** 

ORGANISED BY  
DEPARTMENT OF ARCHITECTURE & PLANNING  
INDIRA GANDHI DELHI TECHNICAL UNIVERSITY FOR  
WOMEN  
IN COLLABORATION WITH  
GOETHE INSTITUT, GERMANY  
HELD ON 21/22/23<sup>RD</sup> OCTOBER 2021  
ORGANISERS & EXPERTS LECTURERS AND MODERATORS- FUTURE CITY  
WORKSHOP



Amrit Sarovar Mission AICTE & MOUHA

# DEPARTMENT OF MANAGEMENT



University has started Department of Management under the Faculty of Business Studies in 2019. We offer management education based on moral principles; ethical and human values; directed towards the changing needs of the professionals, society, industry and Nation. The Department is currently running BBA (full time) program and two-year MBA (full time) program in order to cater to the growing needs for Management professionals with sound technical background and industry acumen. Department of Management of IGD TUW has been actively engaged in enhancing not only the academics of the students, but it has also engaged them in co-curricular activities for an all-round competency development.

MBA Full Time is aimed to develop holistic women managers who internalize a synthesis of conventional and modern management – thinking and who can comfortably adapt to changing global business requirements. The program provides the students with various routes to the industry, matching its requirements with their skills and predispositions. Every student gets the opportunity to take courses in major-streams: Finance, HRM, Operation & Supply Chain Management, Marketing, IT, Knowledge Management. Along with the functional areas of specialization, the students also get a cross functional perspective. All the academics & extra-curricular activities are managed by the students themselves along with the valuable cooperation of the faculty members. Those who are running these groups, shoulder responsibility which grooms them for future roles as successful managers in the competitive business environment of thinking and problem solving.

## VISION

To be recognized as a centre of excellence in management education globally by imparting a cross-functional value-based management education driven by high impact research to develop future women leaders and entrepreneurs who can manage competitive business organizations effectively.

## MISSION

- To provide high-quality and values-based management education to nurture business leaders with global outlook.
- To conduct cutting edge research to contribute to the body of knowledge in management.
- To offer innovative management solutions to society and industry by integrating technology and management for a sustainable development.

## OBJECTIVES

- To offer management education based on principles and ethical and human values directed towards the changing needs of the professionals, society, industry and Nation.
- To provide a learning environment to the generations to meet the challenges of changing environment and encouraging continuous innovation and learning.
- To equip the young minds with skill-based practical business management knowledge and analytical skills and develop entrepreneurial capabilities to facilitate in emerging as business leaders. Be the workplace with strong ethical values.



### Programs Offered :

BBA	3/4 years	Intake : 76
MBA	2 years	Intake : 76

## FACULTY / MENTOR

Prof. Arvind Jayant  
Professor & Head of Department

Dr. Dhanjay Yadav  
Assistant Professor &  
BBA Coordinator

Dr. Hansika Singhal  
Assistant Professor &  
Academic Coordinator

Mr. Ankit Verma  
Assistant Professor

Mr. Avdhesh Bhargava  
Assistant Professor

Prof. Bushan Manchanda  
Assistant Professor

Ms. Chhavi Parabhakar  
Assistant Professor

Dr. Pratibha Aggarwal  
Assistant Professor

Dr. Akshay Kumar  
Assistant Professor

Ms. Rabia Khan  
Assistant Professor

Ms. Priyamvada Mathur  
Assistant Professor

Dr. Shikha Gupta  
Assistant Professor

Dr. Shivangi Bhatia  
Assistant Professor

## Laboratories

- Zosh (marketing) Society
- Huumanoid (HR) Society
- Samanvay (The Economic) Society
- Mudra (₹) - The Finance and Investment Society
- Vartta Society
- The Fine You - Mental and Physical Health Society
- The Public Retaions Cell (PR Cell)
- Industry Interection Cell (IIC)



*Seminar on Data Analytics*



*Workshop on Public Relations*